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О РЕАЛИЗАЦИИ КВАЛИМЕТРИЧЕСКОГО ПОДХОДА В РЕШЕНИИ ПРОБЛЕМЫ ОЦЕНИВАНИЯ УЧЕБНЫХ ДОСТИЖЕНИЙ СТУДЕНТОВ ВУЗА

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Ключевые слова и фразы: качество обучения; квалиметрия; квалиметрический подход; оценивание учебных достижений; рейтинговая система; шкала.

Аннотация: В статье рассматривается проблема оценивания учебных достижений студентов вуза, решение которой требует разработки адекватной теоретико-методологической стратегии оценивания и вытекающего из нее подхода к оцениванию. В этом плане наиболее продуктивным представляется квалиметрический подход.

Анализ теоретико-методологических основ повышения качества обучения в вузе показывает, что вопросам оценивания учебных достижений в современной науке уделяется значительное внимание. Подготовку конкурентоспособного специалиста сегодня связывают с обновлением механизмов оценивания его индивидуальных учебных достижений, понимаемых как успехи в когнитивной области, измеренные и оцененные в пределах соответствующего уровня обученности, продвижение обучающихся в процессе учебной деятельности, поскольку именно эти достижения – основной результат обучения. Вместе с тем, эффективность процесса оценивания является весьма невысокой, что во многом объясняется отсутствием научно обоснованного подхода к его планированию и организации. Многогранность данной проблемы требует разработки адекватной теоретико-методологической стратегии оценивания и вытекающего из нее подхода к оцениванию. В этом плане, наряду с личностно-ориентированным, системно-деятельностным и другими подходами, наиболее продуктивным представляется квалиметрический подход, заключающийся в использовании идей квалиметрии для технологического обеспечения процесса оценивания учебных достижений студентов вуза. Оценивание нами понимается как системообразующий компонент управления качеством обучения, предполагающий установление степени соответствия норм качества между его целью и результатом.

Квалиметрия, как научное направление, в настоящее время развивается достаточно активно и представляет собой область научного знания, изучающую методологию и проблематику разработки комплексно-системных количественных механизмов оценок качества предметов, явлений, процессов. Сфера приложения инструментария квалиметрии достаточно широка и позволяет оценивать не только качество объектов, но и качество труда, эффективность управленческих решений. Суть измерения качества в квалиметрии состоит в том, что для каждого вида продукции учитываются свои специфические уровни качества, зафиксированные в стандартах, выбирается эталон качества, достигнутое качество сопоставляется с эталоном, то есть качество может соответствовать эталону, быть выше или ниже эталона. Если ранее квалиметрия применялась для оценки качества промышленных и продовольственных товаров, то появление в педагогической литературе понятия «педагогическая квалиметрия» означает обращение к проблеме качества обучения. Квалиметрия в педагогической литературе рассматривается как количественная оценка качества обучения, как теория измерения качества обучения, как создание оценочных шкал. Предмет педагогической квалиметрии – качество, которое трактуется как категория ценности, меры, эффективности затрат и результата, средство выявления соответствия

стандарту. При оценивании учебных достижений в педагогической квалиметрии рассматривается соответствие образовательным стандартам, применению, скрытым потребностям обучаемого, что раскрывает сущность развивающих целей образования.

Говоря об оценке качества обучения, выделяют три группы его результатов: одни определяются количественно, в абсолютных значениях; другие невозможно легко и явно обнаружить, так как они относятся к глубинным переживаниям обучаемого; третьи можно определить «квалиметрически, то есть качественно, описательно, в виде балльной шкалы, где любому баллу соответствует определенный уровень проявления какого-либо качества, причем этот уровень должен быть настолько подробно описан, чтобы им можно было корректно пользоваться» [4]. Показатель качества обучения – соответствие знаний, умений и навыков обучаемого образовательным стандартам, проблемой же является не столько выявление этого соответствия, сколько измерение его степени в абсолютных значениях и оценка в баллах. Поэтому для измерения качества обучения необходимо квалиметрическое обеспечение, под которым в данном контексте понимается создание оценочных шкал, разработка и совершенствование которых могут выполнять функцию разумной стандартизации целей образования, придания им свойств диагностичности и проверяемости.

Теоретической базой организационно-педагогических основ оценивания учебных достижений выступает синтетическая квалиметрия – наука об измерении и оценке качества любых объектов и процессов с расширенным пониманием предмета квалиметрии на основе обобщения категорий «шкалирование», «измерение», «оценивание». Всякое правило приписывания чисел определенным сторонам объектов или событий создает некоторую измерительную шкалу. Шкалирование – определение состояний объекта диагностики по изучаемому предмету. Для выявления качества и количества качеств, присущих эмпирическим объектам, объекты сопоставляются, соотносятся и сравниваются. В результате выделяются основания, по которым объекты можно классифицировать, упорядочивать по возрастанию или убыванию свойственных им количественных характеристик. Измерения можно проводить на четырех уровнях, каждому из которых соответствует своя шкала. Это шкалы наименований, порядковая, интервальная, отношений. Большая часть шкал, применяемых в педагогических исследованиях, являются шкалами порядка [1]. Пример порядковых оценочных шкал – рейтинговая система оценивания.

Процедуры измерения предполагают наличие знаний о качестве исследуемой предметной области, основных гносеологических свойств процедуры измерения и ее результатов, определенных переходом от качества к количеству в познании [5]. Измерение в педагогике рассматривается как познавательный процесс, когда на основании ранее полученной числовой системы экспериментально определяют числовые значения величин, характеризующих некоторые признаки педагогических объектов или явлений. Привлечение теории измерений к оцениванию учебных достижений способствует решению такой сложной проблемы, как количественное описание качественных показателей.

На сегодняшний день в педагогической теории и практике выявлены проблемы и раскрыты внутренние противоречия в оценочной деятельности. Это отсутствие разделения функций преподавателя по обучению и оценке его результатов, полная зависимость студента от назначенного ему преподавателя и недерминированность его будущей оценки по изучаемому предмету, допускающая в отношения пары «студент-преподаватель» как неоправданный либерализм, так и часто нескрываемый деспотизм преподавателя в отношении студента, многократные пересдачи зачетов и экзаменов. Это и многое другое стало основанием для переосмысления традиционной системы оценивания, которая в условиях вариативности типов учебных заведений и учебных программ уже не может обеспечить достоверности и сопоставимости оценок, поэтому вопрос выбора основы квалиметрического обеспечения остается открытым.

В мировой педагогической науке и практике уже накоплен опыт использования различных оценочных шкал. Однако при использовании в оценивании той или иной шкалы важно определить не только количество баллов в шкале оценок, но и критерии оценивания. Российскими учеными также предлагаются новые концепции и новое философское обоснование шкал оценки и соответствующие им уровни обученности. В учреждениях профессионального образования России, в связи с необходи-

мостью преобразований в соответствии с Болонской декларацией, которая предполагает внедрение в вузы системы зачетных единиц в качестве меры трудоемкости учебной работы студентов, в последние годы пересматриваются подходы к оцениванию учебных достижений. Рейтинговая технология оценивания в сочетании с взаимной дисциплинированностью преподавателей и студентов, нормированием их учебной работы – один из элементов этой системы и переходное звено к ней, поэтому ее дальнейшее совершенствование становится одним из ключевых направлений развития отечественной высшей школы, позволяя реализовывать механизмы обеспечения качества и оценки результатов обучения. В вузовской практике рейтинг – это некоторая числовая величина, выраженная по многобалльной шкале и интегрально характеризующая успеваемость студента по одному или нескольким предметам в течение определенного периода обучения. Рейтинговая система оценивания определяется как совокупность правил, методических указаний и соответствующего математического аппарата, обеспечивающая обработку информации по количественным и качественным показателям индивидуальной учебной деятельности студентов для присвоения им персонального рейтинга в разрезе учебной дисциплины или по ряду дисциплин. Исследователи связывают перспективы многобалльных систем оценивания с рядом факторов: их строгим научным обоснованием; наличием адекватного инструментария оценивания; конструированием количественной оценочной шкалы сообразно обоснованным принципам; разработкой действенного механизма перевода суммарных баллов в отметки официальной шкалы оценивания.

Рейтинговая система оценивания учебных достижений студентов, как инструмент педагогической квалиметрии, успешно реализуется в Забайкальском государственном гуманитарно-педагогическом университете. Использование системы направлено на стимулирование равномерной и результативной аудиторной и внеаудиторной работы студентов в течение семестра, обеспечение повышения объективности, непрерывности процесса оценивания учебных достижений за текущий этап обучения, создание условий для проявления творческих способностей студентов, предоставление возможности каждому выбрать для себя уровень подготовки. В ходе такого оценивания удается получить информацию о персональных академических достижениях обучающихся, увидеть продвижение каждого из них в процессе обучения, снизить роль случайных факторов при проведении итоговой аттестации по дисциплинам, определить их дальнейший путь обучения в системе многоступенчатой подготовки, «организовывать цикличное управление по обратной связи с регуляцией хода управляемого процесса со стороны управляющей системы» [3]. Итоговая оценка, получаемая студентом по предмету, является предсказуемой, так как он сознательно подходит к ее достижению. Оценивание в рейтинговой системе распространяется не только на знания, умения, но и на уровень творческого мышления, степень сформированности мировоззрения обучающихся. Процесс оценивания в этом случае сливается с процессом обучения, являясь актом самого обучения, а не дополнением к нему. Наконец, рейтинговая система наиболее адекватна процессу профессиональной подготовки студентов в вузе как форма субъект-субъектных отношений, поскольку связана с оцениванием по процессу. С целью создания оценочных технологий на кафедрах вуза разрабатываются комплексы программно-методических и контрольно-измерительных материалов разных уровней сложности для разных видов диагностики, технологические карты учебных дисциплин, учетные карточки студентов, модульные программы, календарные графики учебного процесса по дисциплинам различных циклов, методические рекомендации к выполнению учебных заданий.

Таким образом, оценивание учебных достижений – важнейшая психолого-педагогическая проблема, требующая разработки специального обеспечения, технологий оценивания как совокупности методологических, организационно-методических процедур подбора, конструирования и использования необходимого инструментария для осуществления оценочной деятельности. При этом квалиметрическое обеспечение исследуемого процесса, понимаемое как создание оценочных шкал и внедрение научно обоснованных многобалльных систем оценивания при наличии достаточно профессиональной культуры педагогов, способствует преодолению противоречия между растущей вариативностью образования и его стандартизацией, усовершенствованию процесса обучения и его оценочного компонента.

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On the Implementation of Qualitative Approach in the Assessment of Educational Progress of University Students

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Key words and phrases: quality of training, measurement of quality, the qualitative (quantitative measurement of quality) approach, estimation of educational progress, rating system, a scale

Abstract: The problem of assessment educational progress of university students is considered in the article, the solution of this problem requires the development of adequate theoretical-methodological strategy of assessment and the approach to assessment is resulting from it. The qualitative (quantitative measurement of quality) approach is the most productive.

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СПОСОБЫ ПСИХОФИЗИЧЕСКОЙ РЕГУЛЯЦИИ СТУДЕНТОВ ТВОРЧЕСКИХ СПЕЦИАЛЬНОСТЕЙ

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Ключевые слова и фразы: аутогенная тренировка; мышечная релаксация; психофизическая регуляция; саморегуляция; психоэмоциональное напряжение; студенты творческих специальностей; утомление.

Аннотация: В статье рассматриваются вопросы формирования умений управлять собственным поведением, своим психическим состоянием студентами творческих специальностей. Даются методические рекомендации по изучению способов психофизической регуляции, приводятся фрагменты упражнений, формулы самовнушений, которые помогут студентам восстановить силы после длительных эмоциональных перегрузок, благотворно повлияют на общее самочувствие.

В учебной деятельности студенты творческих специальностей подвергаются большим эмоциональным нагрузкам. Это объясняется чувством опустошенности и усталости, вызываемым творческой, исполнительской деятельностью. Чем сильнее человека одолевают проблемы, тем большее напряжение он испытывает. «Психологическая напряженность ведет к физической; возникают спазмы магистральных сосудов, а также мышц, скелета и внутренних органов, включая мозг. Это «эмоциональная эпилепсия». Состояние напряженности длится пока сохраняются силы; когда же они истощаются, орган, находящийся под воздействием энергии эмоций, ослабевает и обычно вызывает целую цепь психосоматических проявлений» [1, с. 321]. Выполняемая человеком при заданной нагрузке работа существенно зависит от его индивидуальных особенностей, от реально затрачиваемых им усилий, от умения выполнять данную работу. Целостность человеческой личности проявляется во взаимосвязи психических и физических сил организма. Гармония психофизических сил повышает резервы здоровья, создает условия для творческого самовыражения. Для приобретения простейших навыков психической саморегуляции и восстановления психоэмоционального равновесия необходимо 8–12 раз в месяц заниматься психофизической тренировкой.

Психофизическая тренировка – это метод самовоздействия на организм при помощи смены мышечного тонуса (релаксации), регулируемого дыхания, формирования самообладания и адекватной реакции на раздражители. По мнению К.В. Динейки, тренировка эмоциональной устойчивости и адекватной реакции на различные житейские ситуации усиливает сопротивляемость организма стрессовым воздействиям и способствует общему оздоровлению.

Умение управлять собственным поведением, своим психическим состоянием необходимо каждому студенту творческих специальностей. От того, насколько он владеет собственным самочувствием, зависит успешность учебной, творческой и исполнительской деятельности, длительное сохранение его работоспособности и здоровья.

Для того, чтобы студенту творческих специальностей научиться справляться с собственным самочувствием, нужно овладеть способами саморегуляции. Естественное бодрое состояние равновесия между раздражением и тормозными процессами можно определить как специфическое творческое состояние студента. «При выполнении человеком физической или умственной работы его органы и системы организма переходят в необходимое для выполнения работы активное состояние. Это состояние характеризуется степенью напряжения функций и отражается в изменении различных физиологических и психических показателей» [5, с. 84]. Студентам творческих специальностей необходимо: сформировать представление

о возможностях управления своим рабочим самочувствием, способах его создания; ознакомиться с элементами техники аутогенной тренировки; воспитать потребности заниматься психофизической саморегуляцией, мышечной релаксацией.

«Утомление – состояние организма, вызываемое производимой работой, тяжесть которой превышает возможности восстановления нормальных параметров в процессе самой работы. Утомление выражается в объективных показателях: понижение работоспособности, уменьшение мышечной силы, изменение состава крови и других показателей физиологического обеспечения работы, а также в субъективных ощущениях» [5, с. 86–87]. Нервно-психическое утомление приводит к снижению трудоспособности. Может усиливаться депрессия, беспричинная тревога, пониженная активность, раздражительность и неуравновешенность. У организма, лишенного достаточного отдыха после утомительной работы, могут развиться даже заболевания.

Очень важно студентам творческих специальностей рационально научиться переносить большие нагрузки и не допускать плохого настроения, обращаться к юмору, быть оптимистом, доброжелательным. Необходимое условие для развития этих качеств – глубокое осознание студентом социальной роли своей профессии, развитое чувство долга, эмоциональная отзывчивость, стремление к самоанализу и адекватной самооценке. Почти любая эмоция вызывает целый комплекс изменений различных функций. Эмоции вызывают незначительные или иногда чрезвычайно сильные изменения частоты сердечных сокращений, артериального давления, содержания гормонов, мышечных сокращений и изменения тонуса лицевых мышц, голосовых связок и мышц различных участков тела.

Для формирования умения снимать излишнее напряжения, улучшить работоспособность и производительность умственного труда, студентам творческих специальностей следует ознакомиться с методами аутогенной тренировки, предложенной еще в 1932 г. австрийским психиатром И. Шультцем. Аутогенная тренировка состоит из специальных упражнений, направленных на формирование навыков сознательного воздействия на различные функции организма – навыков самовнушения. «Умственная работа, в которой преобладают эмоциональные компоненты, вызывает значительные реакции вегетативной нервной системы и может отражаться на настроении человека (ощущениях радости, гнева, печали)» [5, с. 85].

Самовнушение наиболее эффективно протекает на фоне общего мышечного расслабления и психического покоя – релаксации. Поэтому аутотренинг обычно состоит из двух частей: расслабление (вход в состояние релаксации), самовнушение на фоне состояния релаксации. Сознательная релаксация, т.е. снятие напряжения тела, ума и души, имеет два больших преимущества: привносит равновесие в суетливые и напряженные будни, является предпосылкой сконцентрированной и эффективной работы.

Известно, что мышечная деятельность связана с психическим состоянием. При нервно-психических нагрузках интенсивность энергетического обмена возрастает. Эмоциональное напряжение сопровождается напряжением мышц, готовящих организм к предстоящей деятельности. Регулировать самочувствие можно, снимая мышечное напряжение. Чтобы лучше ощутить состояние релаксации, следует научиться напрягать отдельные группы мышц и затем их расслаблять.

Для того, чтобы человек справился с нагрузкой, необходима перестройка физиологических функций организма. Эта перестройка зависит от величины нагрузки, работоспособности, эффективности деятельности. Работоспособность зависит от мотивации к выполнению работы, состояния здоровья, тренированности, врожденных и приобретенных умений и навыков выполнения данной работы. Во многих случаях во время эмоциональных перегрузок вегетативная нервная система реагирует как и при выполнении физической работы: увеличивается частота сердечных сокращений, усиливается кровоток в коже. Изучение физиологических реакций при умственной работе гораздо сложнее, чем при физической. При эмоциональных нагрузках у людей наблюдаются реакции как и при умственной работе: страх, возбуждение, учащение пульса.

Удивительно, что при всей сложности процессов, обеспечивающих эмоции, сравнительно простые методы психофизической регуляции могут обеспечить нормальное эмоциональное состояние человека. Однако использование этих методов требует рационального понимания индивидуальных особенностей студентов, а

также знания особенностей воздействия на их эмоциональную сферу, обусловленных психоэмоциональным напряжением.

Чем чаще студенты будут использовать навыки психофизической тренировки, тем быстрее подсознание сможет настроиться на соответствующую технику расслабления. Тело запомнит свое состояние в период релаксации и сможет вызвать нужную реакцию быстрее. Многие методы расслабления, такие как аутотренинг и прогрессирующее расслабление мускулатуры, основаны на использовании определенной схемы последовательности действий, которую тело быстро запоминает. При выборе метода расслабления действует простое и важное правило: самым эффективным окажется понравившийся способ расслабления. Регулярная психофизическая релаксация благотворно влияет на весь организм, подарит глубокий отдых и восстановление. Она станет надежным источником сил, которые помогут спокойнее реагировать на ситуации стресса, перенести состояние длительного напряжения и острого кризиса.

«Если Вы будете ежедневно уединяться хотя бы на несколько минут для того, чтобы применить один из этих методов релаксации, Вы почувствуете его благотворное действие, которое вернет Вам равновесие между внутренним и внешним миром. Вы скользнете в так называемое состояние «альфа»: Ваш мозг начнет генерировать уже не бета-волны, характерные для состояния активного бодрствования (свыше 14 колебаний в секунду), а альфа-волны (7–14 колебаний в секунду). И это состояние не будет сном – Вы просто будете пребывать в «легком парении», именно в том состоянии, в котором обычно находитесь в течение первых двадцать минут непосредственно после засыпания» [2, с. 77–78].

Если сознательно вводить себя в это состояние, можно испытать чудесное облегчение от будничного стресса и ощутить прилив новых сил. В настоящее время доказано, что в состоянии «альфа» мозг работает лучше. Можно без усилий использовать собственные творческие способности, нагружать память, упражнять свой ум – концентрация в этом состоянии обеспечена. «Неслучайно существует так много научных данных, книг, обучающих курсов на тему «Более легкое обучение в состоянии релаксации» – все это может составить серьезную конкуренцию традиционным методам школьного обучения» [2, с. 78].

В расслабленном состоянии творческие способности и фантазия работают на полную мощность, без внешних помех. Обязательными условиями достижения положительного эффекта психофизической релаксации являются вера в метод и настойчивость. Можно достичь желаемого результата лишь долго тренируясь, проведя иногда десятки сеансов. Необходима и специальная подготовка к каждому сеансу, продумывание формулировок и текста аутотренинга. Во время сеанса следует волевыми усилиями вызывать в себе требуемые образы.

При проведении сеанса аутотренинга необходимо расслабление. Лучше всего это сделать в положении лежа, но в условиях рабочего времени возможно глубокое расслабление и сидя, в позе «кучера» (на стуле, касаясь его спинки, туловище перпендикулярно сиденью, ноги на ширине плеч перпендикулярно полу, руки предплечьями на середине бедра, одна рука касается другой, голова опущена), сделать вдох и спокойный продолжительный выдох. На выдохе нужно почувствовать общее расслабление, подкрепляя его внутренним голосом и вызывая нужные ощущения следующими фразами: /мое тело приятно, спокойно расслабляется/, /мой лоб расслаблен/, /расслабляются мышцы глаз/, /мои глаза полностью расслаблены/, /расслабляются щеки, щеки полностью расслаблены/, /разжаты зубы … губы расслаблены/, /мое лицо полностью расслаблено/, /расслабление приятно успокаивает меня/, /расслабляются мышцы правой руки/, /расслабляются мышцы пальцев, кисти/, /моя левая рука расслаблена/, /обе руки расслаблены/, /мои ноги расслабляются/, /мои ноги расслаблены … стопы … голени … бедра/, /шея, затылок расслаблены/, /расслаблены грудь и живот/, /все тело полностью расслаблено/.

После полного расслабления следует вызвать у себя следующие ощущения: тепла, тяжести частей тела, тепла в области живота, прохлады лба, ровного сердцебиения, спокойного дыхания. Внушение ощущений тепла и тяжести проводятся по частям тела в такой же последовательности: правая рука (кисть, предплечье, плечо), левая, правая нога (стопа, голень, бедро), туловище.

Процесс самовнушения осуществляется путем многократного повторения определенных словесных формулировок – формул само-

внушения. «Чтобы процесс самовнушения прошел успешно необходимо:

– до начала аутогенной тренировки наметить четкую цель работы над собой и в соответствии с намеченной целью подобрать формулы самовнушения (составить программу самовнушения);

– в состоянии релаксации проговорить формулы, внедряя в свое сознание установку, способствующую положительному изменению вашей деятельности и поведения» [4, с. 18].

Для составления формул самовнушений необходимо определить цель работы над собой, руководствуясь определенными правилами:

– формула должна быть чекой и лаконичной;

– формула не должна содержать отрицательную частицу «не»;

– соблюдение определенной последовательности формул: хочу – могу – буду – есть (я хочу быть спокойным, я могу быть спокойным, я буду спокойным, я спокоен).

Для преодоления последствий стресса, восстановления сил, после релаксационного блока могут быть применены следующие формулы самовнушений: /все отдыхает и восстанавливает силы/, /отдыхает каждая мышца, каждая клеточка организма/, /отдыхает каждый нерв, глубоко и спокойно отдыхает нервная система/, /все в организме отдыхает и восстанавливает свои силы/, /благодаря прекрасному восстановлению я буду способен на интенсивную деятельность в течение следующего дня/, /энергия переполняет меня/, /я – как стальная пружина, хочется действовать/, /чувствую прилив сил/, /мышцы наливаются энергией, голова свежеет/, /я прекрасно отдохнул/, /я открываю глаза, быстро встаю/. Полезно сделать несколько интенсивных упражнений.

Упражнения выбраны неправильно, если приходится постоянно заставлять себя их выполнять. Совсем плохо, если после нагрузки возникает тягостное чувство и излишнее напряжение. Тренировка должна приносить радость, чувство свежести и легкости. Чувство радости способствует плодотворной деятельности мозга. Характерно, что положительные эмоции дают нам возможность почувствовать наивысшую радость – радость творчества. «Это особое субъективное переживание, вызываемое не только благоприятными ситуациями, но и внутренним настроением, зависящим от мироощущения и от состояния здоровья. Вот почему психофизическая тренировка, увеличивающая резервы здоровья, является прочным фундаментом для обретения истинной радости в труде и творчестве» [3, с. 23].

Изучение способов психофизической регуляции – средство противодействия ежедневному стрессу, оно поможет студентам восстановить силы после длительных эмоциональных перегрузок. Благодаря этому способу самовоспитания и самосовершенствования студенты творческих специальностей овладеют искусством управления своими духовными и физическими силами, что будет способствовать их росту. Под влиянием психофизической тренировки формируется гармонически развитая личность, основными чертами которой являются духовное богатство, моральная чистота и физическое совершенство.

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Means of Psychophysical Regulation for Art Students

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Key words and phrases: psychophysical regulation; students of creative specialties; muscular relaxation; fatigue; self-control; psychoemotional pressure; autogenic training.

Abstract: This article is concerned with the problems of forming the skills of art students to control their behaviour and mental state. The paper comprises the guideline for the means of psychophysical regulation research, elements of practice and auto-suggestion formulae useful for recovering from long-lasting overstrain and influencing general condition positively.

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ВЛИЯНИЕ УРОВНЯ ГРУНТОВЫХ ВОД НА СВОЙСТВА И ПЛОДОРОДИЕ ПОЧВ

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Ключевые слова и фразы: гидроморфизм; катена; плодородие; свойства почв; типы почв.

Аннотация: Показано, что дополнительное грунтовое увлажнение сопровождается трансформацией физических, физико-химических и химических свойств почв. Изменение хода почвообразовательного процесса неизбежно отражается на почвенном плодородии и продуктивности сельскохозяйственных культур.

Введение

Начиная со второй половины XX века, отмечается существенное изменение гидрологической обстановки агроландшафтов, избыточное накопление влаги и, как следствие, увеличение площади полугидроморфных почв во многих регионах. Гидроморфизм почв Каменной степи начал проявляться с конца 50-х годов, когда относительно стабильно наметился подъем уровня грунтовых вод (**УГВ**). С этого времени стали появляться влажнолуговые почвы не только по верховьям лощин, но и на верхних частях склонов, в которых стали проявляться процессы засоления и осолонцевания.

Объекты и методы

Цель нашей работы – выявить влияние уровня грунтовых вод на свойства почв и их плодородие. В качестве объектов нами были выбраны генетически сопряженные по катене почвы Научно-исследовательского института сельского хозяйства Центрально-черноземной полосы имени В.В. Докучаева Российской академии сельскохозяйственных наук (**НИИСХ ЦЧП имени В.В. Докучаева**) Таловского района Воронежской области (Каменная степь). Катена заложена на слабо пологом склоне восточной экспозиции между лесополосами 110 и 114 на севере, 111 и 112 на юге, 131 на востоке и 40 на западе. На водоразделе выделены черноземы обыкновенные, в средней части склона – лугово-черноземные, в нижней – черноземно-луговые почвы. На каждом участке катены закладывались разрезы и буровые скважины на глубину 150 см. Образцы отбирались сплошной колонкой каждые 10 см, в которых определялись гранулометрический состав, плотность сложения, валовой и лабильный гумус, состав обменных катионов, pH водной вытяжки, солевой состав [1].

Результаты и обсуждения

Преобладающими фракциями *гранулометрического состава* в изучаемых почвах являются илистая и крупнопылеватая, составляющие в сумме около 65 %. В сопряженном ряду рассматриваемых типов наиболее тяжелый гранулометрический состав имеют черноземно-луговые почвы, которые характеризуются максимальным количеством илистой фракции в верхнем горизонте (30 %). Далее по убыванию физической глины и ила следуют лугово-черноземные почвы и черноземы обыкновенные, которые классифицируются как тяжелосуглинистые. Расчетные данные коэффициентов дифференциации профилей по илу, коэффициентов оглинивания, баланса ила [3] свидетельствуют, что гранулометрический состав сопряженного ряда однонаправленно изменяется в сторону утяжеления при нарастании степени гидроморфизма. В этом же направлении отмечается нарастание *плотности сложения* в верхней части профилей почв, что объясняется, очевидно, увеличением содержания илистой фракции. В подгумусовой толще (ниже 70–80 см) значения плотности сложения выравниваются во всех типах почв, достигая в породе 1,50 г/см^3.

Результаты исследований *физико-химических свойств* свидетельствуют о том, что для лугово-черноземных и в особенности черноземно-луговых почв, в отличие от черноземов обыкновенных, характерно снижение содержания обменного кальция в составе почвенно-поглощающего комплекса и увеличение доли обменного магния. Об этом свидетельствует их отношение, которое составляет в черноземах 6,3–7,6, а в черноземно-луговых почвах 2,5–4,2. Кроме того, с ростом степени увлажнения заметно изменяется в щелочную сторону величина pH почвенной суспензии, что объясняется заметным соленакоплением в верхних горизонтах в условиях десукционно-испарительного режима влаги.

Содержание и распределение *валового гумуса* неодинаково и имеет существенные различия. В автоморфных почвах в верхней части профиля содержится 6,3 % гумуса, при этом его количество плавно снижается в пределах профиля. В лугово-черноземных почвах отмечается повышенное содержание органического вещества в слое 0–30 см, что характерно для данного типа почв и обусловлено лучшей обеспеченностью влагой растительности и, следовательно, дополнительным поступлением в почву опада. Ниже по профилю содержание гумуса в этих почвах выравнивается. В почвах нижней части катены гумуса меньше, характерно более резкое снижение его с глубиной. Это, в сочетании с некоторой растянутостью почвенного профиля, свидетельствует о подвижности органического вещества в условиях переувлажнения. Та же тенденция характерна и для распределения выделяемой 0,1н раствором NaOH *лабильной фракции гумуса,* которая является первым резервом элементов питания растений. Для черноземно-луговых почв характерно наименьшее ее содержание в исследуемом ряду. Кроме того, в средней и нижней частях гумусового профиля данных почв количество этой фракции имеет тенденцию к возрастанию, что, по-видимому, маркирует особенности водного режима и характер почвообразовательного процесса.

Результаты исследования *солевого состава* показали, что по содержанию сухого остатка все исследуемые почвы относятся к незасоленному типу [2]. Однако с ростом увлажненности в исследуемом ряду типов отмечается увеличение его количества с 0,05 % в черноземах до 0,09 % в черноземно-луговых почвах, что свидетельствует о накоплении в них легкорастворимых солей. Кроме того, в составе ионов полугидроморфных и, особенно, гидроморфных почв доминирующее значение приобретают ионы Na^+ и HCO_3^-, в то время как в автоморфных – Ca^{2+} и HCO_3^-. Как известно, ионы Na^+ и HCO_3^- могут связываться в соду $NaHCO_3$ и вызывать осолонцевание почв. Помимо химически токсичного для растений действия, почвы с заметным содержанием соды отличаются плохими водно-физическими и физико-механическими свойствами. В сухом состоянии они плотные, во влажном – вязкие, липкие, сильно набухают. Кроме того, они характеризуются низкой водопроницаемостью и резким снижением количества доступной для растений влаги.

Выводы

В пределах генетически сопряженного ряда почв с различным уровнем залегания грунтовых вод усиливаются признаки гидроморфизма. Они проявляются в утяжелении гранулометрического состава и в увеличении плотности сложения. С возрастанием гидроморфизма в составе почвенного поглощающего комплекса (**ППК**) снижается доля кальция и увеличивается доля магния, что оказывает влияние на коагуляцию почвенных коллоидов, на структуру почвы, подщелачивается реакция почвенной среды, наблюдается тенденция миграции валового и лабильного гумуса. В гидроморфных почвах увеличивается содержание водорастворимых ионов, в особенности натрия и гидрокарбонатов. Изменения основных свойств почв под влиянием дополнительного увлажнения сказываются на питательном и воздушном режимах почв. В частности существует вероятность засоления, осолонцевания, ощелачивания, уплотнения, уменьшения количества доступной влаги, снижения интенсивности процессов гумусообразования и гумусонакопления.

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Influence of Groundwater Level on Properties and Fertility of Soils

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Key words and phrases: hydromorphism; catena; fertility; properties of the soils; types of soils.

Abstract: It is shown, that additional soil moistening is accompanied by transformation of physical, physicochemical and chemical properties of soils. Change of a course soil formation process is inevitably reflected in soil fertility and efficiency of agricultural crops.

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ОСОБЕННОСТИ ФОРМИРОВАНИЯ БРОНХИАЛЬНОЙ АСТМЫ У ДЕТЕЙ, РОДИВШИХСЯ НЕДОНОШЕННЫМИ, В ЗАВИСИМОСТИ ОТ РЕЖИМОВ ИВЛ

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Ключевые слова и фразы: бронхиальная астма (**БА**); недоношенные дети.

Аннотация: Статья посвящена анализу раннего неонатального периода недоношенных детей и формированию в дальнейшем бронхиальной астмы у этих детей. Такие причины, как особенности вскармливания, тяжесть перинатального поражения центральной нервной системы, режимы искусственной вентиляции легких, коррелируют с тяжестью течения бронхиальной астмы в дальнейшем.

Актуальность

На сегодняшний день БА является глобальной проблемой здравоохранения во всем мире, но данных об особенностях течения данного заболевания у недоношенных детей сравнительно немного.

В результате увеличения числа перинатальных центров, отделений реанимации и интенсивной терапии новорожденных, возросшего числа квалифицированных неонатологов и неонатологов-реаниматологов, увеличилось количество выживших глубоко недоношенных и маловесных детей. Такие дети, как и недоношенные вообще, часто нуждаются в длительной искусственной вентиляции легких, которая не может пройти незаметно для бронхолегочной системы в дальнейшем. У недоношенных детей, чьи легкие не сформированы полноценно, вероятность бронхолегочной дисплазии (**БЛД**) высока, вентиляция нарушена, сурфактант восстанавливается медленно, иммунная система не зрелая – все это способствует относительной легкости развития БА в будущем [1; 3]. Также одной из причин развития хронических бронхообструктивных заболеваний легких у детей, находившихся в раннем постнатальном периоде на ИВЛ, рассматривают сниженную растяжимость легких, повышенную резистентность и гиперреактивность дыхательных путей. Дети, перенесшие респираторную патологию в неонатальном периоде, в последующем в 2–3 раза чаще болеют пневмониями, бронхитами, острыми респираторными заболеваниями, причем самая высокая заболеваемость отмечена у детей, которым проводились реанимационные мероприятия с применением искусственной вентиляции легких (**ИВЛ**) [1; 5]. Грозным осложнением данной терапии является БЛД.

Цель работы

Выявить особенности формирования БА у детей, родившихся недоношенными, в зависимости от характера течения раннего неонатального периода.

Материалы и методы

Объектом исследования были дети обоего пола, страдающие БА, в возрасте от 4 до 8 лет (6,16 ± 0,42 лет). Основную группу составили 58 детей, родившихся недоношенными, со сроком гестации 27–37 недель, контрольную – 60 детей с гестационным возрастом 38–40 недель.

Результаты исследования

Основная и контрольная группы были сопоставимы по полу и возрасту, 14 детей (24,1 %) основной группы – дети из двоен. Однако 42 (72,4 %) ребенка основной группы, по сравнению с контрольной группой 28 (46,6 %), значимо чаще страдали персистирующей БА

средней и тяжелой степени ($p < 0,05$). В основной группе дети имели массу тела при рождении от 850 г. до 2 550 г (1 996 ± 427 г), в группе контроля массу тела менее 2 550 г (2 422 ± 43 г) имели 6 (10 %) детей ($p < 0,01$). Оценивалось клиническое состояние новорожденных по шкале Апгар, время начала и длительность применения ИВЛ в периоде новорожденности, характер и режим вскармливания, физическое и нервно-психическое развитие на первом году жизни, степень тяжести и стаж заболевания БА.

Сравнительный анализ анамнеза детей основной и контрольной групп показал, что на степень тяжести БА влияли различные неблагоприятные факторы антенатального и раннего неонатального периода. Так, в семьях основной группы значимо чаще наблюдались вредные привычки: курение и злоупотребление алкоголем ($p < 0,05$); поздняя постановка на учет в женской консультации ($p < 0,05$); осложненное течение беременности: хроническая фетоплацентарная недостаточность ($p < 0,001$), тяжелый гестоз ($p < 0,05$), операция кесарева сечения ($p < 0,001$); аллергические заболевания среди ближайших родственников ($p < 0,001$). В основной группе 47 (81 %) новорожденных родились в асфиксии, у них значимо чаще, чем у новорожденных контрольной группы, выявлялись клинические проявления синдрома дыхательных расстройств (**СДР**) ($p < 0,05$). Среди экстрагенитальных заболеваний матерей основной группы значительно чаще выявлялись обострения хронического пиелонефрита ($p < 0,001$) и аллергические заболевания: бронхиальная астма, нейродермит, аллергический ринит, поллиноз, пищевая аллергия ($p < 0,01$). Таким образом, неблагоприятное течение антенатального и интранатального периодов способствовало рождению недоношенных детей, тем самым задерживая рост и дифференцировку легких и бронхов, что предрасполагает к различным заболеваниям бронхо-легочной системы в дальнейшем [4]. Новорожденным основной группы в 60 % (35 детей) потребовалось проведение ИВЛ, тогда как в контрольной группе ИВЛ применялось только у 2 (3,3 %) новорожденных. Основная причина проведения ИВЛ в основной группе – респираторный дистресс-синдром, тогда как в контрольной – аспирация околоплодных вод у 1 ребенка и церебральная ишемия у 3 детей. У 28 (48,2 %) детей основной группы исследования и у 3 (5 %) детей контрольной группы ИВЛ производилась на первые сутки жизни, причем у новорожденных основной группы требовалась более длительная ИВЛ и более высокие концентрации кислорода во вдыхаемой смеси. Анализ вскармливания показал, что в раннем неонатальном периоде 39 (67,2 %) детей основной группы уже получали адаптированные смеси, 6 (10,3 %) – находились на естественном вскармливании, 13 (22,4 %) детей – на смешанном. В контрольной группе 49 (81,6 %) детей получали естественное вскармливание, 11 (18,3 %) детей – искусственное. В основной группе у 54 (93 %) детей регистрировались умеренные проявления атопического дерматита, у 4 детей – выраженные. У всех детей признаки пищевой непереносимости в виде атопического дерматита проявились в первые 6 месяцев жизни. В контрольной группе проявления пищевой аллергии выявлены у 12 (20 %) детей, причем 8 находились на искусственном вскармливании, первые проявления зарегистрированы во втором полугодии жизни и были умеренно выражены. В возрасте до 1 года дети, перенесшие тяжелую и умеренную гипоксию в раннем неонатальном периоде, болели чаще. Наличие бронхообструктивного компонента наблюдалось у детей в возрасте до 6 месяцев, среди них преобладали мальчики (58 %). Также дети с высокой степенью недоношенности в анамнезе значимо чаще имели клиническую картину более тяжелой степени перинатального поражения центральной нервной системы (**ЦНС**) (внутрижелудочковые кровоизлияния II и III степени), что усугубляло течение БА в дальнейшем. У 8 (13,8 %) детей основной группы исследования в возрасте до 4 месяцев была диагностирована БЛД, причем степень недоношенности у них была выше, и применялась длительная ИВЛ в раннем неонатальном периоде. Изучение анамнестических данных, семейный и личный аллергологический анамнез показали, что в большинстве случаев имеется наследственная отягощенность в обеих группах детей, причем аллергические заболевания по линии матери играют более значимую роль, чем по линии отца. У детей основной группы достоверно чаще выявлялись сопутствующие аллергические заболевания (аллергический ринит, атопический дерматит, пищевая и медикаментозная аллергия), чем у детей контрольной группы исследования ($p < 0,01$).

Таким образом, длительная ИВЛ в жестких режимах у недоношенных детей (концентрация

кислорода выше 60 % с положительным давлением на вдохе 10–30 мм водного столба) способствует более раннему формированию (4,6 ± 0,75 г) и более тяжелому течению бронхиальной астмы в дальнейшем. Наличие вредных привычек, отягощенный акушерско-гинекологический анамнез и неблагоприятное течение беременности матери способствуют развитию у ребенка отклонений, требующих проведения ИВЛ в раннем неонатальном периоде. Тяжесть перинатального поражения ЦНС у недоношенных детей прямопропорциональна тяжести течению бронхиальной астмы в катамнезе.

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The Peculariaties of Bronchial Asthma of Born Depending Children Forming Prematurely on Conditions of Artifical Ventilation of Lungs

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Key words and phrases: bronchial asthma; prematurely born.

Abstract: The article is devoted to the analysis of early neonatal period of prematurely born children and the further formation of bronchial asthma of these children. The causes of the peculiarities of nursing, the heaviness of damage to the central nervous system, the conditions of artificial ventilation of lungs correlate with the seriousness of bronchial asthma.

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ИНФОРМАЦИОННО-ОБРАЗОВАТЕЛЬНАЯ СРЕДА В ВЫСШЕМ ИНЖЕНЕРНОМ ОБРАЗОВАНИИ

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Ключевые слова и фразы: дидактическое проектирование; информационно-образовательная среда; компетентностный подход; профессиональные компетенции; техническое образование.

Аннотация: В статье подняты проблемы дидактического проектирования информационно-образовательной среды в техническом вузе. Рассматриваемые проекты проанализированы на основе положительного отечественного и зарубежного теоретического и практического опыта его структурной организации. Приведен перечень целей, проблем и задач, способов деятельности, а также возможных видов взаимодействия.

Информационно-образовательная среда в педагогических исследованиях традиционной системы образования определяется как системно-организованная совокупность баз данных информационных сетей, реализующих образовательную деятельность. В трудах современных исследователей отмечается, что современная информационно-образовательная среда, обусловленная двусторонним взаимообратным процессом обучения и познавания в высших учебных заведениях, является многоуровневой, иерархической, сложной системой.

Осмысление феноменов «информационно-образовательное пространство», «информационная среда», «информационно-образовательная среда» до сих пор присутствует в педагогической литературе и находит свое отражение в научной полемике российских и зарубежных педагогов. *Информационно-образовательное пространство* включает информацию, средства ее хранения и производства, методы и технологии работы, обеспечивающие получение образования субъектами образовательного процесса. *Информационная среда* – совокупность информационных объектов, средств коммуникации, способов получения, переработки, использования, создания информации, которая включает коллективные (социальные) и индивидуальные субъекты, наделенные определенными мотивами и потребностями.

Информационно-образовательная среда является открытой и предполагает возможность активного взаимодействия субъектов образовательного процесса с внешней средой за счет использования информационно-коммуникационных технологий. Поступление информации извне в среду позволяет создать ее как релевантное отражение естественного информационного пространства, способствует ее изменению не только под влиянием деятельности субъектов, но и внешней информационной среды, а также обеспечивает ее переход в новое качественное состояние.

Информационно-образовательная среда в дидактике понимается также как система влияний и условий формирования личности, а также возможностей для ее развития, содержащихся в социальном и пространственно-предметном окружении. Если понятие «информационно-образовательное пространство» рассматривается безотносительно к конкретной личности, то понятие «среда» обязательно включает в себя личность. Информационно-образовательное пространство в какой-то мере складывается стихийно, без учета потребностей конкретного человека, а информационно-образовательная среда специально создается им. Начиная действовать в среде, человек одновременно и приспосабливается к ней, старается изменить ее, адаптировать к своим потребностям. Важной характеристикой информационно-образовательной среды является ее направленность на создание целостности педагогических условий для решения задач обучения, воспитания и

развития обучающихся.

По мнению ряда ученых (Р.П. Мильруд, Е.И. Пассов, И.А. Зимняя) *образовательная среда* – это система условий, создаваемых в целях достижения конкретного уровня учебной компетенции, включающая предпосылки для личностного развития обучающихся, обусловленная социальным и пространственно-предметным окружением, используемыми в учебно-воспитательном процессе средствами, а также приемами и технологиями обучения.

В последние годы усилиями ряда отечественных и зарубежных ученых в целом созданы научные и методические основы развития информационно-образовательной среды. Однако их анализ вскрывает и ряд противоречий. *Первое* из них связано с тем, что в значительном большинстве работ в качестве основной предпосылки исследований выступает не столько изучение потребностей развития образовательного процесса, сколько ориентация на возможный дидактический потенциал компонентов информационно-образовательной среды. В результате этого используются в основном возможности, которые наиболее просто реализуемы: повышение наглядности, оперативный контроль, тренинг типовых умений, повышение интерактивности.

Следующее противоречие вытекает из того, что среда – это не только субъекты и объекты (средства обучения и инструменты деятельности – «инструментальные оболочки среды»), но и их содержательная основа, так называемый «контент» («content»), «информационное наполнение». Именно оно в конечном итоге является важнейшим фактором эффективности любого электронного ресурса. Однако анализ литературы, диссертационных исследований показывает, что, рассматривая информационно-образовательную среду, авторы в основном сосредоточиваются на инструментах, средствах деятельности и коммуникаций, источниках информации, т.е. на операциональном компоненте, и мало анализируют ее содержательное наполнение. Более того, исходят при этом не из необходимости достижения принципиально новых образовательных результатов. Как следствие, новая среда повышает эффективность старых методик и педагогических технологий и ориентирована на традиционные образовательные результаты.

Необходимо обосновать новые качества информационно-коммуникационной образовательной среды, тенденции ее дальнейшего развития с позиций оптимизация состава и развития функций отдельных компонентов, обусловленные необходимостью ориентации системы высшего профессионального образования на формирование профессиональной компетентности.

В трудах современных педагогов – ученых отмечается обширное различие во взглядах к проектированию образовательной среды, обусловленное дифференциацией внимания исследователей к различным ее компонентам. В работе Р.Ю. Гурниковской [1] обоснован переход от концепции «образовательного процесса, характеризующегося линейной логикой и технологическим способом развертывания», к категории «среды, характеризующейся сложным нелинейным взаимодействием между всеми участниками образовательной деятельности и сетевой моделью коммуникации». Кроме того, введено в научный оборот понятие «нелинейной открытой коммуникативной информационно-образовательной среды», в большей степени соответствующей задачам модернизации отечественного высшего образования (*нелинейность* – как атрибут любой профессионально-значимой ситуации, *открытость* – как базовый принцип любого информационного взаимодействия и *коммуникативность* – как свидетельство качества взаимопонимания и взаимодействия субъектов). Мы разделяем позицию автора и в качестве развития принципа нелинейности дидактического проектирования информационно-образовательной среды закладываем механизм сетевого взаимодействия образовательных учреждений инженерного образования, будущих инженеров и работодателей.

В педагогических исследованиях С.А. Назарова [3] делается вывод о том, что информационные технологии являются обязательным условием подготовки специалистов, которое способствует интеграции различных образовательных систем в единое образовательное пространство, позволяет значительно повысить оперативность представления образовательных программ, а также организовать обмен образовательными ресурсами, что в целом соответствует развивающейся концепции мобильных специалистов. Автор связывает использование компьютерных средств и технологий в высшем образовании с развитием познавательной и творческой активности субъектов образовательного процесса, определяя данный процесс

как «катализатор умственного развития обучающихся». Уточняется понимание информационно-образовательной среды в контексте технического образования, предлагаются этапы ее проектирования, научно обоснована концептуальная модель личностно-развивающей информационно-образовательной среды технического вуза, выделены педагогические условия ее функционирования, смоделированы педагогические технологии личностного развития студентов в процессе изучения курса «Информатика» и определены уровни освоения учебного материала на основе модульной его подачи.

В диссертационном исследовании Е.В. Лобановой [2] актуализирована необходимость создания нового поколения информационно-образовательных ресурсов и способов передачи знаний студентам. Выявлены условия оптимизации процесса дидактического проектирования информационно-образовательной среды. Обоснована необходимость в качестве системообразующих факторов процесса проектирования применения традиций высшего профессионального образования в России и инновационных процессов высшего профессионального образования.

Разделяя точку зрения автора, мы считаем, что дидактическое проектирование информационно-образовательной среды в инженерном образовании должно опираться на результаты изучения «лучшей педагогической практики» – положительного отечественного и зарубежного как теоретического, так и практического опыта организации эффективной информационно-образовательной среды в вузах. Процесс дидактического проектирования необходимо структурировать в контексте применения педагогических технологий, использующих информационные сети и базы данных на основе современной компьютерной техники и программного обеспечения. Так, например, внедрение информационных технологий вида *электронное портфолио* необходимо поддерживать разработкой программной среды, позволяющей интеграцию дополнительных запросов со стороны пользователей. Такой программный продукт должен позволять учитывать динамику запросов со стороны потенциальных работодателей будущих инженеров при возможных структурных изменениях потребностей рынка труда.

Кроме того, при дидактическом проектировании информационно-образовательной среды высшего инженерного образования требуется организовать ее как многоуровневую комплексную деятельность различных групп разработчиков, согласованную по целям и задачам. Процедуры применения в педагогическом процессе инженерного образования локальных элементов информационно-образовательной среды необходимо дифференцировать адекватно поставленным педагогическим целям, учитывая иерархию уровней проектирования, их преемственность и взаимосвязь. Кроме того необходимо реализовать процесс дидактического проектирования информационно-образовательной среды адекватно развивающимся информационным технологиям, средствам и способам сбора, хранения, обработки, генерации информации.

Связав изложенные рекомендации с внедрением компетентностного подхода в инженерном образовании, необходимо отметить, что компетентностный подход в единстве с концепцией информационно-образовательной среды фактически «подталкивает» педагогическую практику к большей индивидуализации обучения будущих инженеров, включая их возрастающую вовлеченность в самостоятельную учебную деятельность и личную ответственность за ее результаты.

В зарубежных исследованиях концепция информационно-образовательной среды представлена как некоторое информационное «облако» [6] (рис. 1). Адаптируем в рамках этой концепции существующие подходы к тезаурусу и ключевым положениям нашего исследования в контексте внедрения компетентностного подхода в инженерном образовании.

При проектировании информационно-образовательной среды предполагается внедрение электронных учебно-методических комплексов в педагогическую практику, включающих совокупность средств по самостоятельной работе будущих инженеров (объекты для изучения). Особое внимание необходимо обратить на отбор содержания для профессионально-ориентированной проектной работы в рамках специальных дисциплин с позиций реализации в данных проектах межпредметных связей.

Это не отменяет включения в состав электронных учебно-методических комплексов электронных мультимедийных учебников, электронных задачников с удаленным доступом, систем тестирования справочников с интерактивной работой с формулами, графиками

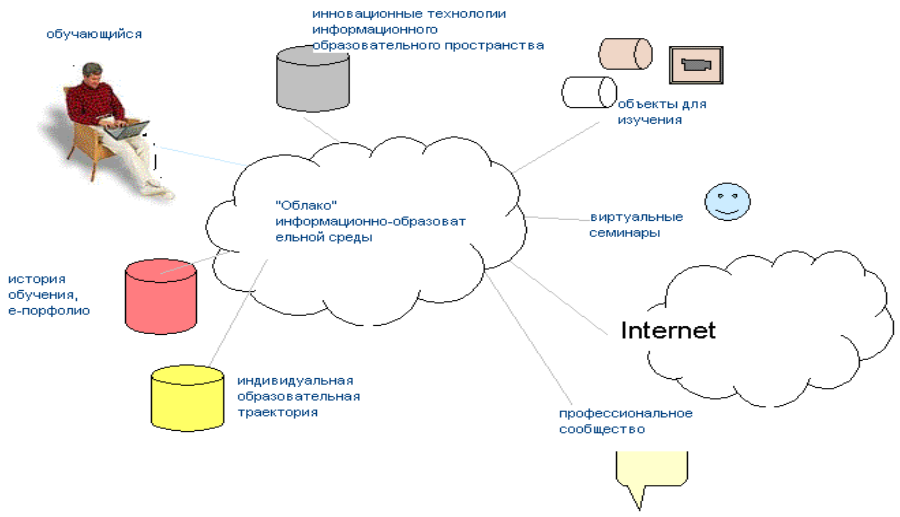

Рис. 1. «Облако» информационно-образовательной среды

и таблицами, лабораторных практикумов. Информатизация образования должна быть направлена, в первую очередь, на определение того, что нужно изучать в конкретных условиях, на обеспечение поиска, извлечения, передачи и представления знаний в педагогической системе инженерного образования [4].

Таким образом, можно выделить несколько этапов дидактического проектирования информационно-образовательной среды инженерного образования. На концептуальном этапе обосновывается модель обучения, определяемая принятыми целями, планируемыми образовательными результатами (формированием ключевых компетенций) и характером предполагаемых совместных действий педагога и обучаемых в учебном процессе, где главная роль принадлежит обучающимся. Этап проектирования связан с разработкой проекта образовательного процесса. Определяя процессуальную сторону предстоящей деятельности, педагог обосновывает последовательность своих действий, содержание отдельных звеньев.

Рассматривая структуру информационно-образовательной среды, возьмем за основу концепцию Е.В. Чернобай [5]. Экстраполируя ее в систему инженерного образования, констатируем, что информационно-образовательная среда складывается из пяти блоков:

– ценностно-целевого;
– программно-методического;
– информационно-знаниевого;
– коммуникационного;
– технологического.

Ценностно-целевой блок включает совокупность целей и ценностей педагогического образования, которые могут быть значимы для достижения поставленных целей обучения. Программно-методический блок содержит всю необходимую информацию относительно возможных стратегий, форм и программ обучения. Информационно-знаниевый – систему знаний и умений составляющих основу его учебной деятельности, а также определяющие свойства познавательной деятельности, влияющие на ее эффективность. Коммуникационный – формы взаимодействия между участниками педагогического процесса. Технологический – средства обучения, используемые в информационной образовательной среде (в частности, использование новых информационных технологий, в том числе телекоммуникационных сетей).

Разрабатываемый проект информационно-образовательной среды содержит перечень целей, проблем и заданий, способов деятельности, а также возможных видов взаимодействия. В зависимости от характера проектируемой информационно-образовательной среды и организационных форм образовательного процесса необходимо планировать адекватное использование средств и ресурсов коммуникационных технологий. Проект совместной деятельности относится к методической части информационно-образовательной среды. Он может быть помещен в базу данных в виде определенной схемы с разной степенью детализации. Обучаемый

в случае необходимости, возникающей, например, при использовании зачетно-модульной системы обучения, может обратиться за нужной информацией и самостоятельно воспользоваться разработанной методикой, которая может быть дифференцирована в зависимости от уровня предшествующей подготовки учащихся, их познавательных возможностей. В этом случае реализуется диагностическая функция информационно-образовательной среды.

Итак, структурная организация информационной образовательной среды зависит от структуры той образовательной системы, для которой она спроектирована. Особенности организации учебного процесса российских вузов в зарубежных программных продуктах не учтены. В настоящее время разработано большое количество программных продуктов, которые широко используются в зарубежных вузах для организации информационной образовательной среды. Применительно к зарубежной системе образования можно утверждать, что возможности, предоставляемые информационной образовательной средой, являются широко востребованными, вне зависимости от выбранного варианта технической реализации данного проекта.

Информационно-образовательную среду трактуют как синергетическую, актуализирующую субъектную позицию студента, базирующуюся на моделировании профессиональных ситуаций использования информационных технологий, являющуюся релевантным отражением естественной информационной среды по основным параметрам и используемым технологиям и обеспечивающую асинхронную организацию самостоятельной работы.

В настоящее время знания, умения и навыки работы в динамично развивающейся компьютеризированной производственной и информационной среде относятся к обязательным показателям профессиональной компетентности специалиста. Работа будущих инженеров в информационной среде, единой для учебного и производственного процессов по большому числу параметров моделирует их будущую производственную деятельность.

Анализ существующей педагогической практики и опыта софтверных компаний позволил нам на основании изучения основных проблем, возникающих при интеграции информационно-образовательной среды, сформулировать ряд рекомендаций по проектированию непосредственно программных компонентов среды. Так, при дидактическом проектировании информационно-образовательной среды инженерного образования необходимо «заложить» некоторые тактические, операционные характеристики:

– обеспечение единого интерфейса для обучающихся с целью оптимизации процесса обучения в условиях информационно-образовательной среды;

– внедрение дифференцированной системы навигации в курсе, учитывающей различные способы передвижения при изучении курса, повторении материала, а также при подготовке к сдаче отчетностей;

– отход от демонстрационного характера лабораторных практикумов в сторону экспериментального, требующего творческого участия обучающегося в процессе проведения экспериментов;

– превентивная разработка и внедрение стратегии использования наукоемкого программного обеспечения;

– использование в процессе обучения метода проектов, являющегося аналогом курсового проектирования в традиционной образовательной системе, и методическая поддержка на уровне примеров его использования в педагогическом процессе;

– доведение до стандарта системы контроля с методической поддержкой примеров ее использования.

Вектор деятельностного и компетентностного подхода в условиях информационно-образовательной среды инженерного образования целесообразно направить на переподготовку профессорско-преподавательского состава технических вузов, разработки новых программ подготовки докторантов, аспирантов и магистрантов, внесение изменений в государственные стандарты подготовки специалистов и бакалавров. Таким образом, обучение в информационно-образовательной среде на качественном уровне возможно только при соответствующей разработке ее инновационного содержания посредством создания проблемно-ориентированной педагогической подготовки субъектов образовательного процесса.

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Informational Educational Environment in the Higher Engineering Education

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Key words and phrases: didactic designing; information-educational environment; competence approach; professional the competence; technical education.

Abstract: The paper discuses problems of designing of informational educational environment in technical college. The considered projects are analysed on the basis of positive domestic and foreign theoretical and practical experience of its structural organization. The list of purposes, problems and tasks, types of activity, as well as possible kinds of interaction are presented.

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РОЛЬ УНИВЕРСИТЕТА В ИННОВАЦИОННОМ РАЗВИТИИ РЕГИОНА

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Ключевые слова и фразы: вузовская наука; инновационная деятельность; инновационное развитие; региональные университеты.

Аннотация: В ходе выполнения программы развития инновационной инфраструктуры (по Постановлению Правительства № 219) проанализирована деятельность Тверского государственного университета по реализации региональной долгосрочной целевой программы «Развитие инновационной деятельности в Тверской области на 2009–2013 гг.».

Введение

Одной из основных целей российской государственной политики в области науки и технологий является инновационное развитие государства путем адаптации научно-технического комплекса к условиям рыночной экономики, повышения эффективности его результатов. Немаловажное место в этом процессе отведено высшим учебным заведениям. Развитие современного общества меняет цели и задачи высшего образования, приводит к освоению новых направлений деятельности, ранее не характерных для университетов, что связано с необходимостью утверждения ими своей новой роли в формирующемся обществе. Подготовка специалистов нового уровня для современной экономики становится особенно актуальной на этапе модернизации инновационного развития общества [1; 2]. Экономический рост и модернизация отраслей российской экономики возможны только при обеспечении ускоренного развития высокотехнологичных отраслей и превращении их в один из ключевых факторов экономического роста.

Наряду с целевой подготовкой специалистов, в интересах действующих инновационных производств становится важным вести на опережение активную подготовку кадров в области биотехнологий, нанотехнологий, программирования и IT-технологий, фармакологии и других приоритетных направлений развития мировой науки и техники.

Одним из наиболее важных аспектов обеспечения устойчивого роста инновационной составляющей является формирование эффективной системы управления инновационными процессами. Можно отметить тенденцию – акцент в области управления инновационными программами постепенно смещается с федерального на региональный уровень, что связано с необходимостью учета специфических особенностей региона при определении приоритетных направлений инвестиционной политики, направленной на формирование и реализацию инновационного потенциала субъектов Российской Федерации.

Тверской государственный университет в регионе

В современном обществе наука становится определяющим фактором развития университетского образования, в основе которого лежат:

– современные методы, технологии и формы обучения;

– подготовка в процессе обучения команд молодых инноваторов, готовых к освоению новых технологий, реализации наукоемких проектов на отечественных и зарубежных рынках;

– широкое привлечение студентов к выполнению прикладных научно-технических работ;

– сохранение высокого уровня качества классического университетского образования;

– привлечение отечественных и зарубежных ученых и специалистов к образовательному процессу;

– особое внимание и поддержка талантливой молодежи;

– активное использование потенциала таких структур, как попечительский совет, ассоциация выпускников для утверждения имиджа университета и участия в совершенствовании учебного процесса;

– привлечение бизнеса и работодателей к разработке учебных программ.

При этом в современных условиях университеты, как производители и распространители знаний, являются не только поставщиками высококвалифицированных специалистов, но и становятся главным системообразующим звеном в поднятии экономики регионов, разработчиками новых продуктов, материалов, технологий. Достижения в сфере науки и инноваций – важнейший показатель деятельности научно-педагогического коллектива университетов в условиях новой экономики и становления инновационного общества в России [1; 3].

Тверской государственный университет – это классический университет, со всеми достоинствами и недостатками структуры и возможности развития образовательного, научного и научно-производственного процесса. Из 15 факультетов только 6 имеют естественно-научное и физико-математическое направление. Учебный процесс (и подавляющую часть научных разработок) на этих факультетах обеспечивают 210 сотрудников (профессорско-преподавательский состав) из 680 преподавателей университета. В 2010 г. университетом выло выполнено бюджетных научно-исследовательских и опытно-конструкторских работ (**НИОКР**) и хоздоговорных работ на сумму более чем 73 млн руб. и более 53 млн руб. пришлось на долю естественно-научных и физико-математических факультетов. Университету сложно вести научно-техническую политику, направленную на разработки для реального сектора экономики, т.к. сказывается недостаток площадей и оборудования, недостаточная мотивация в научно-производственных разработках и ориентация на фундаментальные научно-исследовательские работы (**НИР**). Выигранный конкурс по Постановлению № 219 (с программой «Университетский технопарк в инновационной среде региона») в какой-то мере дает импульс именно производственному развитию – развивается инфраструктура университета, прежде всего научно-производственная. В настоящее время создано 3 предприятия на основе патентов и ноу-хау, выполняются услуги Центром коллективного пользования, ведется подготовка специалистов для инновационных отраслей промышленности.

Анализ существующих на территории Тверского региона проектов создания и развития предприятий показал, что, несмотря на то, что практически все они предусматривают создание производств высокотехнологичной, конкурентоспособной продукции, оснащенных самым современным оборудованием и технологиями, отвечающими мировому уровню, среди них практически нет проектов, которые могли бы быть отнесены к сферам высокотехнологичных отраслей высшего уровня. Однако именно в такие отрасли, как фармацевтика, производство лекарств, биотехнологической продукции и уникальной медицинской техники, бизнес экономически развитых стран (учитывая запросы людей, их готовность оплачивать эти высокотехнологичные услуги) вкладывает в исследования и научные разработки, в постоянный поиск новых знаний десятки миллиардов долларов. Широкое представительство в этих отраслях, а также в таких приоритетных направлениях экономики, как энергетика, аэрокосмическая промышленность, производство компьютеров и программной продукции, электроники, телекоммуникационных сетей, является лучшим подтверждением готовности регионов и страны в целом к инновационному обществу [4].

Учитывая существующую классификацию инновационно-инвестиционных проектов в зависимости от направлений вложений инвестиций и целей реализации (производственные, научно-технические, коммерческие, финансовые, экологические, социально-экономические), можно отметить, что на территории региона практически не реализуются научно-технические проекты, направленные на разработку и создание новой высокоэффективной продукции с новыми свойствами, новых высокоэффективных машин, оборудования, технологий и технологических процессов, хотя непременным условием процветания является реализация прежде всего производственных и научно-технических инвестиционных проектов.

Совместное взаимодействие административных, учебных, научных и общественных организаций Тверского региона в рамках решения новых современных задач, стоящих перед экономикой, является важным для эффективного перевода экономики региона на инновационный путь развития. Региону необходимо более эффективно использовать научно-технический, образовательный и экономические потенциалы.

Для университета и региона новым эффективным инструментом движения вперед, в настоящее время получающим распространение в России, может стать использование технологических платформ – групп технологий с широкой основой для практического применения на определенных приоритетных направлениях. Университет уже включился в работу в качестве участника формирования технологических платформ по следующим направлениям: информационные и коммуникационные технологии, создание новых материалов, химия и фармацевтика, природные ресурсы, здравоохранение и наука о жизни и др. Технологические платформы разрабатываются университетом совместно с бизнесом, академической и корпоративной наукой, и каждый из участников по-своему заинтересован в достижении успеха. В перспективе выбранная технологическая платформа призвана определять на отдельный период ближайшего будущего направления совместных научных исследований, решение в порядке опережения образовательных задач, позиционирование университета и других участников в научно-образовательном пространстве России.

Еще одним важным инструментом органичного сотрудничества университета с бизнесом, наукой на предприятиях и другими заинтересованными организациями являются региональные научно-технические кластеры, в разработке которых университет обладает определенным опытом и знаниями, располагая базой данных кластерных систем, созданных за последние годы в России. Университет ведет работу по формированию и функционированию ряда кластеров по приоритетным направлениям развития, в том числе:

– региональный научно-технический кластер кристаллических материалов для оптики и электроники;

– региональный научно-технический кластер полимерной химии;

– региональный научно-технический кластер программирования и IT.

Существенным параметром развития университета и региона является вхождение в международное образовательное и научное пространство. Позиционирование в нем университета в числе основных участников партнерских отношений с зарубежными университетами и бизнесом определяется как одна из основных задач развития университета. Подлежат разработке и освоению наиболее действенные формы международного сотрудничества в сфере науки и образования: проведение совместных исследований и разработок по приоритетным направлениям развития науки и образования; создание совместных центров, предприятий, технопарков; активная мобильность, привлечение для участия в учебном процессе и НИР профессорско-преподавательского состава ведущих зарубежных университетов, использование зарубежного опыта при обучении аспирантов, ведение студенческого обмена.

Расширение деятельности университета в регионе

Активная позиция государства по переходу на инновационное развитие затрагивает и вузы. Постановления Правительства от 9 апреля 2009 г. № 218, 219, 220 определили учебные заведения, работающие с ведущими учеными по организации современных лабораторий (26 вузов), с предприятиями по разработке и выпуску высокотехнологичной продукции (78 вузов). Тверской государственный университет получил поддержку (в составе 56 учебных заведений) в конкурсе по отбору программ развития инновационной инфраструктуры, включая поддержку малого инновационного предпринимательства. С целью реализации программы в схему работ привлечена администрация – департамент экономики Тверской области – для выработки совместных решений в плане развития университета, развития инфраструктуры университета, создаваемой в течение программы, а также взаимодействия этой инфраструктуры с предприятиями и организациями региона. Итогом выполнения программы видится достижение качественно нового уровня развития университета как системообразующего ин-

новационного центра высшей школы и региона. Большую роль в этом может сыграть реализуемая в области долгосрочная целевая программа «Развитие инновационной деятельности в Тверской области на 2009–2013 гг.», основная стратегическая цель которой – создание эффективного управления инновациями, условий для развития инновационной деятельности в Тверской области и продвижения инновационной продукции «сделано в Тверской области».

Для реализации программы развития университета определены основные направления и тематика совместно проводимых исследований. Основные требования – анализ характерных тенденций развития инновационной среды региона и ее представление в числе других производительных сил в составе валового внутреннего продукта, анализ вклада научно-образовательного комплекса как ведущего фактора социально-экономического и научно-технического развития региона; определение влияния менталитета общества на развитие и стимулирование инновационных процессов на всех уровнях.

Научная и практическая ценность таких работ с административными органами региона заключается в следующем:

– выбор критериев, инструментов, конкурентного преимуществ для инновационных регионов России;

– опыт участия высшей школы в разработке проблемы и решении задач, обеспечивающих инновационный прорыв регионов;

– представление основных механизмов активной региональной инновационной политики с целью широкого использования достигнутых результатов другими субъектами РФ.

Основные направления совместных исследований и разработок по проблеме направлены на совместное развитие инновационной инфраструктуры региона и университета в соответствии с критериями, установленными Государственной программой развития инновационной инфраструктуры в федеральных образовательных учреждениях высшего профессионального образования, выигранной университетом и включают:

– создание и развитие объектов инновационной инфраструктуры, создание хозяйственных обществ и развитие малого наукоемкого бизнеса в университетской среде;

– эффективное управление интеллектуальной собственностью;

– коммерциализация результатов инновационной деятельности;

– подготовка инновационных менеджеров и усиление кадрового состава малого наукоемкого бизнеса;

– развитие инструментальной базы науки на основе развития центра коллективного пользования оборудованием;

– международный консалтинг зарубежных специалистов и стажировки сотрудников в университетах других стран;

– развитие сферы научно-технических, инжиниринговых, информационных, организационных, социально-психологических и других видов услуг, оказываемых в объемах, соизмеримых с образовательными услугами;

– разработка и развитие технопарковых зон и формирование инновационной среды региона.

Заключение

Работа такого уровня, в котором университет выступает в роли основного координатора и разработчика проблемы, позволяет на достаточно высоком уровне представлять возможности и инновационные ориентиры Тверского государственного университета. С учетом региональной поддержки и взаимодействия во всех сферах ожидаемые социально-экономические итоги развития вуза могут определиться на ближайшую перспективу в следующих аспектах:

– долгосрочное сотрудничество с инновационными организациями и предприятиями в сфере разработки современной конкурентоспособной продукции и технологий;

– развитие потенциала и конкурентоспособности вуза как исследовательской (конструкторской, инжиниринговой) организации;

– усиление технической и технологической ориентации проводимых научных исследований и развитие инновационной активности университета;

– расширение перечня конкурентоспособной продукции и активное представление продукции на российском и международном уровне;

– развитие международных научных связей университета и его утверждение на международном научно-инновационном рынке;

– развитие инновационного научно-образовательного комплекса университета, способного развивать объекты инфраструктуры на этапах создания, становления, развития и продвижения на отечественные и международные рынки.

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The role of University in the Innovation Development of the Region

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Key words and phrases: university science; innovation activity; innovation development; regional universities.

Abstract: The paper presents the analysis of the Tver State University activity aimed at the implementation of the regional long-term target program “Development of innovation activity in Tver region in 2009–2013” implementing the innovation infrastructure development (in accordance with the Government Resolution No 219).

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ГОСУДАРСТВЕННАЯ ПОДДЕРЖКА НЕЗАЩИЩЕННЫХ КАТЕГОРИЙ НАСЕЛЕНИЯ В СОВРЕМЕННОЙ РОССИИ

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Ключевые слова и фразы: государство; государственная поддержка; незащищенные категории населения; социальная политика; социально уязвимые группы.

Аннотация: В статье рассмотрены основные виды государственной поддержки, оказываемой незащищенным слоям населения. Проанализировано ее современное состояние, определены основные цели. Систематизированы рекомендации для совершенствования проводимой государством поддержки социально уязвимых групп людей.

Государственная поддержка населения всегда являлась одной из самых дискуссионных тем среди политиков, социологов, исследователей и в настоящее время еще не выработано четкое определение данного термина. Ее принято отождествлять и с социальной защитой, и с социальной поддержкой, и с социальным обеспечением, и с социальным страхованием и т.д. Но на самом деле это является не совсем корректным, так как понятие государственной поддержки гораздо шире. Оно как раз включает в себя все перечисленные выше составляющие, причем работать они должны именно в комплексе, дополняя друг друга. Таким образом, мы можем говорить о том, что государственная поддержка населения представляет осуществляемую государством социальную политику, которая охватывает все население страны и реализует экономические, правовые и социальные гарантии для всех граждан, обеспечивая соблюдение их прав и свобод, а также доступность общественно значимых ценностей и идеалов. Но при этом такая государственная социальная политика не должна сводиться только к каким-то «мелким» и разовым мероприятиям социальной направленности. В развитых странах она является важнейшей частью внутренней политики государства и проводится на основе из серьезных оснований, продуманных на теоретическом уровне и проверенных на практике [13, с. 57].

Как отмечает финский ученый П. Кууси, в связи с развитием общества, сама природа государственной поддержки меняется. Если ранее она представляла интересы лишь «слабых» и «нуждающихся», то теперь она ориентирована на всю нацию и превратилась в «национальное достояние» [11, с. 106]. В российской реальности поддержка незащищенных слоев населения выражает «целенаправленную деятельность государства по гармонизации социальных отношений в обществе» [4, с. 31] и работает на повышение качества и условий жизни каждого человека, обеспечивая определенную часть их жизненных потребностей (в виде пособий по безработице, льгот на оплату жилого помещения и коммунальных услуг, различных компенсаций, выплат и др.).

В ежегодном обращении Президента Федеральному Собранию 12 ноября 2009 г. были определены стратегические цели и задачи на последующий год, которые должны стать ориентирами в работе государственных структур. Так вот именно поддержка людей, оказавшихся по каким-либо причинам в трудной жизненной ситуации, является приоритетным направлением для всего государства. Президент особо подчеркнул, что все основные социальные обязательства государства выполняются и будут и дальше выполняться в полном объеме (в первую очередь это касается пенсий, жилья для ветеранов, пособий по безработице, программ поддержки занятости населения) [10].

По данным Министерства финансов РФ на 1 января 2010 г., из бюджета было выделено 217,9 млрд руб. на поддержку рынка труда, социальное обеспечение населения и другие меры социальной политики. Из них – субсидии бюд-

Таблица 1. Результаты опроса: «Как вы думаете, кто должен в первую очередь заботиться о решении следующих проблем?» (в %) [15, с. 12]

	Государство	Проф. союзы	Предприниматель	Сам человек
Трудовая занятость	65,2	7,1	10,8	16,9
Достойная оплата труда	56,5	9,0	29,0	5,5
Медицинское страхование	72,8	12,6	11,6	3,1
Пенсионное обеспечение	84,9	6,9	5,8	2,4
Жилищная проблема	76,1	4,8	5,8	13,3
Соблюдение трудовых прав и социальных гарантий	59,0	25,9	12,0	3,2

жетам субъектов на использование материнского капитала – 44,3 млрд руб., на обеспечение жильем ветеранов – 35,0 млрд руб. Пенсионный фонд РФ и Фонд социального страхования РФ получили суммарно на выплату пенсий и пособий 25,3 млрд руб. Также надо отметить, что выросла и среднемесячная начисленная заработная плата. В феврале 2010 г. она составила 19 128 руб. и по сравнению с февралем прошлого года увеличилась на 10,3 % [2]. В то же время удалось сократить уровень инфляции с 8,8 % в конце 2009 г. до 6 % в апреле 2010 г. Ее дальнейшее прогнозируемое снижение к 2013 г. составит 4,5–5,5 % [9, с. 3].

Сегодня государственная поддержка представляет собой особый вид деятельности государства, который направлен на поддержание существующего социального порядка в стране, увеличение и развитие трудового потенциала державы, оказание помощи своему народу при различных возникающих обстоятельствах, при этом, заботясь о его здоровье и образовании, достойном существовании. Некоторые авторы [5, с. 60] считают, что государственная поддержка выступает «регулирующим органом» в социальной и трудовой сферах жизни общества.

В июле 2007 г. во время проведения репрезентативного опроса Аналитическим центром Юрия Левады населению был задан следующий вопрос: «Сможет или не сможет большинство людей в России прожить без постоянной заботы, опеки со стороны государства?». Всего было опрошено 1 600 россиян, и их ответы расположились следующим образом: 74 % людей сказали, что не смогут без опеки государства (в 1997 г. таких было 72 %); 21 % респондетов ответили, что это реально и они смогут обойтись без государственной поддержки (в 1997 г. – 17 %); 5 % опрашиваемых затруднились ответить на поставленный вопрос (в 1997 г. – 11 %) [1].

С этим совпадают и данные другого общероссийского исследования, которое было осуществлено Институтом комплексных социальных исследований Российской академии наук: «Граждане новой России: кем они себя ощущают и в каком обществе хотели бы жить?» (табл. 1).

С точки зрения населения, доминирующую роль в решении всех социальных задач и проблем должно играть государство. По всем критериям процент ответов превысил 55 %. Только соблюдение трудовых прав и социальных гарантий люди, кроме государства, доверили профсоюзам – так считают 25,9 % респондентов. Также, по мнению населения, на уровень оплаты труда влиять должна не только государственная политика, проводимая в этой сфере, но и сам работодатель (29 %).

Как мы можем наблюдать, люди, в силу определенных обстоятельств или исходя из личных побуждений, ожидают, что именно государство станет гарантом их социальной защищенности. Большинство населения не представляют свою жизнь без государственного вмешательства. Однако при этом они должны понимать, что и от них сегодня зависит очень многое. Апатия, изоляция и отчужденность – это первые шаги человека на пути к «социальному дну».

Такие явления, как бедность, безработица, инвалидизация населения – это проблемы национальной безопасности. Необходимость их решений обусловлена характером социальных последствий данных проблем. Поэтому в современном российском обществе главной задачей государственной поддержки является обеспечение стабильности в стране и социальная защита граждан в новых условиях. Если данные проблемы удается решить, не применяя каких-либо экстренных мер, а население не чувствует себя уязвленным в отношении различных соци-

ально значимых благ, то можно говорить, что государство динамично развивается и ставит заботу о людях в приоритеты своего существования.

На сегодняшний день имеется несколько оснований для классификации поддержки незащищенных слоев населения, осуществляемой государством.

В зависимости от территориальных ограничений, принято выделять общефедеральную, региональную и муниципальную государственную поддержку. Первый вид поддержки осуществляется на всей территории РФ, второй вид реализуется в конкретном субъекте РФ, третий вид распространяется только на муниципальное образование. Все вышеназванные виды государственной поддержки могут действовать одновременно, но муниципальная поддержка не может превышать региональную, а региональная – федеральную (как правило, просто существуют ограничения для превышения).

Также государственную поддержку можно классифицировать по уровню ее дифференциации. Существует приравненная (единая) и дозированная (дифференцированная) поддержка. Под единой поддержкой понимают, что субъекты определенной сферы деятельности имеют равные возможности для ее получения (например, работники вредных производств). Данный вид поддержки стандартен (т.е. уже выработан перечень определенных мер и услуг), и он не будет изменен из-за возникающих обстоятельств. Дифференцированная поддержка – это адресная поддержка, когда помощь оказывается определенным категориям населения, которые не смогут прожить самостоятельно без вмешательства государства. Она состоит из льгот и услуг, ежемесячных выплат, единовременных компенсаций и доплат к государственным пособиям.

В зависимости от возрастных ограничений государственную поддержку можно разделить на ювенальную (поддержка детей, подростков и молодежи до 25 лет) и патерналистскую (поддержка взрослых групп населения).

Ювенальная государственная поддержка предполагает координацию законодательных, организационных и финансовых усилий федеральных, региональных и муниципальных органов власти в отношении детей и молодежи.

Ее целью является защита данных категорий населения от неблагоприятных воздействий извне, установление и поддержание их определенного социального статуса в обществе, обеспечение достойного уровня и качества жизни и развития [14, с. 120–122].

Патерналистская государственная поддержка, как и ювенальная, осуществляется совместно на всех уровнях власти и направлена на поддержку старших возрастных групп населения за счет государственных мероприятий (льгот, доплат и т.д.).

По сроку действия различают долговременную (или постоянную) и краткосрочную (или разовую) государственную поддержку. Кроме этого, государственная поддержка может быть материальной, правовой, моральной, психологической, информационной.

Сегодня государственная поддержка незащищенных слоев населения является одним из приоритетных направлений государственной политики в нашей стране на современном этапе и в значительной мере определяет уровень социального благополучия, как всего населения России, так и его социально уязвимых слоев. В 2008 г. только общий объем социальных выплат составил 3 334 млрд руб. или 8 % ВВП.

Действенность оказания государственной поддержки зависит от многих факторов, самыми важными из которых являются экономическое развитие страны, уровень ВВП, располагаемые материальные ресурсы. Благодаря этому, эффективными результатами государственной поддержки незащищенных групп населения будут выступать поддержание социального благополучия в обществе, снижение социальной напряженности, повышение уровня и качества жизни людей.

Основными целями государственной поддержки населения в современном государстве являются:

– установление социальной стабильности в обществе, сглаживание социальных конфликтов, диалог между гражданами и государством;

– уменьшение дифференциации денежных доходов различных групп людей, более адресное предоставление социальных гарантий, улучшение пенсионного обеспечения, поддержка занятости;

– доступность для всех слоев населения важнейших социальных благ, без которых жизнь человека является неприемлемой;

– формирование новой жилищной политики, которая будет более доступной, пересмотр порядка оплаты социально уязвимыми категориями людей жилых помещений и коммунальных услуг;

– развитие качественного здравоохранения и образования, разумное соотношение платных и бесплатных услуг в данных областях.

Исходя из названных целей, можно заключить, что государственная поддержка незащищенных слоев населения представляет проводимую государством социальную политику, направленную на защиту людей и создание равных стартовых условий жизни для всего общества.

Проанализировав все сказанное выше, мы можем сформулировать свое определение государственной поддержки незащищенных слоев населения. Она представляет собой систему законодательных и социально-экономических гарантий, средств и мер, которая обеспечивает всем людям равные и достойные с остальными членами общества условия жизни и согласовывает интересы всех существующих групп населения, выступая при этом движущей силой в поддержании социального мира и общественного порядка, устраняя возникающие в обществе социальные конфликты.

В Российской Федерации современная система государственной поддержки незащищенных слоев населения в большей степени представляет собой льготы, выплаты, компенсации и различного вида дотации отдельным категориям людей. В развитых странах такой источник доходов населения не превышает 4 % от совокупных доходов людей [12, с. 20]. По подсчетам статистики примерно 2/3 или 70 % населения пользуются поддержкой со стороны государства в виде различных социальных гарантий. Ими являются дети, ветераны, инвалиды, пенсионеры, безработные, учащаяся молодежь и т.д.

На сегодняшний день в нашей стране насчитывается примерно 156 видов социальной поддержки, которая оказывается 236 категориям населения [3, с.136–137]. Но на самом деле не всегда данную поддержку получают именно те граждане, которые в этом больше всего нуждается (те, у кого доходы ниже прожиточного минимума). Менее 20 % средств, выделяемых государством в виде выплат, пособий и льгот, попадает в малообеспеченные семьи. Это связано с тем, что практически все они предоставляются на основе категориального принципа. В настоящее время проверке подлежат только ежемесячные пособия на ребенка и жилищные субсидии.

Таким образом, у нас сложилась такая ситуация, что при значительных социальных трансфертах, реальные размеры пособий, выплат и компенсаций остаются очень низкими. И в принципе, экономический смысл такой поддержки почти «теряется», так как не гарантирует отдельным категориям населения достойный уровень жизни. Поэтому, для того, чтобы этого избежать, необходимо повысить обоснованность предоставления данных видов социальных гарантий с точки зрения их функциональной направленности, усилить адресность предоставления льгот и заново проанализировать категории, которые их получают (категориальные виды льгот, которые должны сегодня существовать в России, для ограниченного числа получателей – это ветераны Великой Отечественной войны, Герои Советского Союза, Герои России, инвалиды войны, ликвидаторы аварии на Чернобыльской АЭС, пострадавшие от политических репрессий и т.д.).

В свою очередь, адресная система государственной поддержки должна предполагать формирование единых баз данных о получателях льгот и выплат. Также необходим индивидуальный учет таких получателей, что в дальнейшем позволит избежать необоснованного распределения данных видов государственной поддержки, которые будут более эффективно предоставляться конкретным нуждающимся категориям населения. В этом случае нагрузка на государственный бюджет будет значительно снижена, в то время как финансирование программ по оказанию помощи нуждающимся увеличится. На сегодняшний день 59 % россиян уверены, что льготами в большинстве случаев пользуются те слои населения, которым они не должны предоставляться, так как они прекрасно могут обойтись без них.

Таким образом, целью государственной поддержки в России на современном этапе должно стать последовательное повышение уровня жизни населения и снижение социального неравенства, обеспечение всеобщей доступности основных благ, повышение эффективности форм и методов государственной поддержки, исходящих из принципа адресности ее предоставления.

По данным мониторинга социальной сферы России 58,4 % населения нуждаются в государственной поддержке и защите. При этом, осуществляемой государственной поддержкой в том виде, в котором мы ее видим сегодня, удовлетворены и считают ее результативной лишь 15,9 % респондентов, совершенно противоположную позицию занимают 50,3 % опрошенных [6, с. 48]. Поэтому при формировании эффективной системы государственной поддержки населения в нашей стране в нее должны быть заложены основы социальной справедливости, социальной ответственности, социального партнерства и социальных гарантий. При этом необходимо исходить из следующих направлений развития [8, с. 68–72]:

– поддержка самых бедных категорий людей и тех, кто в большей степени подвержен социальному риску – инвалидов, пенсионеров, многодетных семей, семей с одним кормильцем и т.д.;

– обеспечение всем гражданам права на труд (свободный и безопасный), чтобы человек мог содержать себя и свою семью и иметь достойный уровень жизни, принятый в стране;

– регулирование занятости населения, создание новых рабочих мест и сохранение старых, осуществление программ борьбы с различными видами безработицы;

– формирование доступности всем слоям населения качественного здравоохранения и образования, развитие культуры и спорта (что также является немаловажным моментом в улучшении жизни людей).

Для осуществления государственной поддержки незащищенных слоев населения необходимо принятие ряда соответствующих «действенных» законов, которые отражают интересы людей. При этом надо разрабатывать законы для каждого субъекта и города отдельно с учетом его специфики и оснований бюджета. Кроме этого, в соответствии с потребностями общества нужно пересмотреть уже действующие законодательные акты (ФЗ № 178-ФЗ «О государственной социальной помощи», ФЗ № 81-ФЗ «О государственных пособиях гражданам, имеющим детей», ФЗ № 181-ФЗ «О социальной защите инвалидов в РФ» и др.) в связи с тем, что они уже просто «устарели» и не отвечают требованиям социально-экономического развития страны. Сегодня само государство должно быть заинтересовано в поддержке социально уязвимых групп населения. Для этого есть несколько причин. Во-первых, развитое государство обязано обеспечить населению достойный уровень жизни и только в этом случае мы можем сказать, что государство является социальным, так как заботится о своих гражданах. Во-вторых, государство, как и всегда, заинтересовано в расширенном воспроизводстве квалифицированной рабочей силы, потому что это залог стабильности его существования. В-третьих, государственная поддержка незащищенных слоев общества позволяет избежать социальных конфликтов и сохраняет социальную справедливость в обществе.

Расходы на выплату пособий и социальную помощь увеличиваются из года в год, причем это не только из-за существующего уровня инфляции. Если в 2006 г. всего было выделено 467 523 млн руб., то в 2008 г. – уже 829 995 млн руб. (это увеличение за два года составило более чем 1,77 раза). Кроме этого, сильно увеличились расходы на пособия по нетрудоспособности (2007 г. – 106 391 млн руб., 2008 г. – 134 413 млн руб.), семейные и материнские пособия (2007 г. – 120 828 млн руб., 2008 г. – 167 113 млн руб.). Более чем в 1,32 раза увеличилась доля расходов на другие виды пособий и социальной помощи: с 380 077 млн руб. в 2007 г. до 504 223 млн руб. в 2008 г.

Современное состояние государственной поддержки населения в РФ не в полной мере соответствует возрастающим потребностям общества. При ежегодном увеличении сумм выплат по различным видам поддержки число людей, которые могут выйти из «черты бедствия», не возрастает. И это связано с постоянно растущей «дороговизной» жизни и с тем уровнем инфляции, который существует в нашей стране. В 2007 г. ее рост вместо ожидавшихся 8,5 % составил 11,9 %. В 2008 г. официальная инфляция достигла 13,3 %, и только в 2009 г. – 8,8 % [7, с.64].

Сегодня, для того чтобы государственная поддержка была эффективной, необходимо устранение существующих социальных проблем, под которыми понимаются противоречия, ведущие к нарушению гармоничного социального функционирования общества.

В связи с существованием данных проблем, Россия «откатывается» назад на своем пути развития и не может приблизиться к европейским стандартам жизни (табл. 2).

Таблица 2. Основные социальные проблемы России и ее место в мировом сообществе по данному показателю в 2006 г. [7, с. 65]

Наименование показателя	Место России по данному показателю
Смертность от убийств на 100 тыс. жителей	1-е место в Европе и СНГ
Смертность от самоубийств на 100 тыс. жителей	2-е место в Европе и СНГ
Смертность от случайных отравлений алкоголем на 100 тыс. жителей	1-е место в Европе и СНГ
Смертность от отравлений поддельными лекарствами	1-е место в Европе и СНГ
Смертность в результате ДТП на 100 тыс. жителей	3-е место в Европе и СНГ
Число абортов на 1 000 женщин (в возрасте от 15 до 49 лет)	1-е место в Восточной Европе и СНГ
Количество разводов на 1 тыс. жителей	1-е место в Европе
Число детей, оставшихся без попечительства родителей на 100 тыс. жителей	2-е место в Восточной Европе и СНГ
Ожидаемая продолжительность жизни при рождении	Последнее место среди стран с развитой и переходной экономикой
Естественный прирост населения на 1 тыс. жителей	Одно из последних мест в Европе
Индекс Джинни (коэффициент дифференциации и концентрации доходов в обществе)	1-е место среди стран с развитой и переходной экономикой
Уровень жизни населения	Одно из последних мест в Европе

Из представленной таблицы видно, что Россия в 2006 г. занимала лидирующее место только по отрицательным показателям социального развития. По уровню, качеству и продолжительности жизни мы находимся на самых последних местах в развитом мировом сообществе. У нас велика доля убийств, самоубийств, абортов, отравлений некачественными препаратами, смертности в ДТП. Только при условии, что Россия сможет справиться с этими проблемами, мы можем говорить о каких-то положительных тенденциях в улучшении социального климата страны. И только тогда можно будет продуктивно работать над улучшением государственной поддержки незащищенных слоев населения. При этом надо опираться на продуманную и реально функционирующую законодательную базу, необходимо принятие таких законов, которые отражают интересы всех категорий граждан и предоставляют им одинаковые жизненные шансы. А федеральный, региональный и муниципальный уровень государственной поддержки должны работать в комплексе, взаимно дополняя друг друга.

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State Support of Unprotected Categories of Population in Modern Russia

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Key words and phrases: state; government support; unprotected categories of population; social policy; socially vulnerable groups.

Abstract: The principal ways of the state support of the unprotected levels of population are considered in this article. Its current state is analyzed, its main objectives are defined. Recommendations on the perfection of the state support of socially vulnerable groups of people are systematized.

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ПРОБЛЕМА КОНСТИТУИРОВАНИЯ «ЖИЗНЕННОГО МИРА» В СОВРЕМЕННОЙ ЗАПАДНОЙ СОЦИАЛЬНОЙ ФИЛОСОФИИ

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Ключевые слова и фразы: время; «жизненный мир»; интерсубъективность; коммуникативное действие; лингвистическая философия; пространство; феноменология; языковые игры.

Аннотация: Анализируется проблематика «жизненного мира» в теоретическом наследии Э. Гуссерля, А. Шюца, М. Хайдеггера, Л. Витгенштейна, Ю. Хабермаса. Изучение мира повседневности основано на исследовании синтеза подходов, заданных феноменологией, герменевтикой, лингвистической философией и социально-критической теорией.

Смена классического этапа развития философской мысли неклассическим способствовала формированию нового предметного поля, новых методологических подходов к изучению мира: начинают разрабатываться проблемы, связанные с исследованием мира («жизненного мира»), в котором непосредственно живет и взаимодействует человек. Предметом исследования неклассической философии впервые становится «жизненный мир».

Одним из первых исследователей, обратившихся к проблематике «жизненного мира» в ключе феноменологии, является Э. Гуссерль. В его понимании «жизненный мир» – «действительный мир с открытой бесконечностью возможного опыта» [2, с. 89], первичен по отношению к научному и душевному мирам, осуществляется в действии и имеет дело с реально возможными телами: познается из опыта через процесс рационализации чувственно воспринимаемых явлений и предметов. Повседневность «осознается как горизонт при любой смене сиюминутных и познавательных тем» [3, с. 72], к которым обращается человек через свою деятельность – основной способ проявления его жизни во внешнем мире, конституирующий содержание «жизненного мира»: чем в большее число сфер деятельности вовлечен индивид, тем шире и содержательнее его мир повседневности. «Жизненный мир» – мозаика, которую конструирует сам человек на основе своей деятельности в окружающем мире. Целостность «жизненного мира», обеспечиваемая «привычностью» и интерсубъективностью вещей, явлений, процессов, дающих возможность миру оставаться сегодня таким же привычным, каким он был вчера [3, с. 72], позволяет говорить о мире повседневности как универсальной основе жизнедеятельности всех людей.

А. Шюц, исследуя вслед за Э. Гуссерлем «жизненный мир» на платформе феноменологической социологии, выделяет в его структуре конечные области значения: реальность повседневной жизни, фантазмы, сновидения. Реальность повседневной жизни конституируется посредством работы, телесных движений, манипулирования объектами, обращением с вещами, общением с людьми [7, с. 417]. Работа позволяет человеку включиться во внешний мир, который заставляет индивида прикладывать усилия для достижения успеха, реализации планов [7, с. 421]. Фантазмы, снимая характеристику реальности и уменьшая напряженность, возникающую в пространстве повседневной жизни, не создают никаких изменений во внешнем мире, не имеют фиксированного положения в объективной реальности, объективном пространстве и времени. Мир сновидений является противоположным миру повседневной жизни, поскольку сон означает полное расслабление, отвлечение от жизни, и в нем человек пребывает в одиночестве [7, с. 434]. В истоке каждой из этих областей значения «лежит специфическая модификация, которой подвергается верховная реальность нашей повседневной жизни» [6, с. 20]. Индивид осуще-

ствляет свою деятельность в реальности в нескольких сферах, перемещаясь из одной в другую, каждая из которых обладает своей спецификой, имеет свои механизмы формирования и функционирования. Бодрствующий индивид с естественной установкой (восприятие реальности как нормального и самоочевидного явления) выражает интерес к тому сектору мира повседневной жизни, который находится в его окрестностях и сосредоточен вокруг него в пространстве и времени [7, с. 417].

Наследуя феноменологический инструментарий, М. Хайдеггер переносит рассмотрение проблемы «жизненного мира» в плоскость анализа онтологии человеческого существования. Результатом такого «переноса» стало создание фундаментальной онтологии, которая предполагает личность как целое экзистенции человека. Смысл бытия необходимо усматривать сквозь призму человеческого существования, имеющего временный характер и конституируемого из отношений человека с людьми, миром, самим собой. В его понимании пространство и время предстают горизонтом человеческого бытия. Время – условие бытия человека, его горизонт, предполагающий также определенные пространственные границы индивидуального существования. Говоря о бытии и времени, М. Хайдеггер отмечает: «бытие делается видимым в своем «временном» характере», … уловимо всегда лишь во времени» [5, с. 18]. Время разделяет бытийные регионы сущего на прошлое, настоящее, будущее, формируя историчность существования человека. Пространство «соконституирует» мир, априори присущий окружающему миру. Человек, другие предметы и объекты его мира расположены в пространстве, в котором он живет и осуществляет свою деятельность. Пространство и время, пересекаясь в «жизненном мире» человека и общности, представляют собой универсальный контекст социальной жизни, поскольку все действия расположены и происходят в определенном месте и в течение определенного промежутка времени. «Жизненный мир» – это интерсубъективный мир, так как в повседневной жизни человек не может существовать без постоянного взаимодействия и общения с другими людьми: наличие мира и «Других» в этом мире определяет экзистенцию человека, поскольку априори не дано субъекта без мира, и не существует изолированное «Я» без «Других» [5, с. 72]. Основа события кроется не в появлении нескольких субъектов вместе, а в совместной деятельности или заботе, которая априорна и через отношение формирует связь субъектов между собой и с окружающим миром.

Л. Витгенштейн переносит проблему конституирования мира повседневности в плоскость анализа обыденного языка. Он делает это в контексте разработанной им концепции языковых игр. Интерсубъективность «жизненного мира», подразумевающая возможность понимания и взаимодействия между людьми на основе владения языком, стала источником нового предметного поля исследования – анализа отношений языка и мира. Повседневный язык, представляя собой часть «человеческого устройства» [1, с. 18], позволяет выражать «тождество объекта … тождеством знака … Различие объектов – различием знаков» [1, с. 51]. Картина действительности, отражаясь в языке, и язык, формируемый действительностью, оказывают взаимное влияние друг на друга, так как изменения в мире изменяют язык, и, наоборот. Правильное использование языковых знаков обеспечивают языковые игры, содержащие правила коммуникативного поведения, построенные в соответствии с принципом «ожидание–действие» и позволяющие не только обучиться языку, но и усвоить базовые типы поведения индивида в обществе. Языковые игры в понимании Л. Витгенштейна представляют собой фундаментальные явления, так как «говорить на языке – компонент деятельности или форма жизни» [1, с. 90]. Для каждой ситуации взаимодействия существует определенный тип языковой игры: приказы, вопросы, объяснения, описания, наименования и т.п. Языковые игры создают возможность для понимания людьми друг друга, поскольку «если другой владеет данной языковой игрой, он должен быть в состоянии представить себе, как человек может знать нечто подобное» [1, с. 325]. Язык, объективируя окружающую действительность и опыт, воспроизводит «жизненный мир», подтверждая его существование каждый раз в коммуникативном акте. Лингвистическая философия Л. Витгенштейна открыла еще один аспект проблематики конституирования «жизненного мира» через язык, лингвистические объективации, языковые игры.

Ю. Хабермас переносит проблематику «жизненного мира» в контекст собственной выдержанной в духе неомарксизма теории

коммуникативного действия. Прямо апеллируя к концептуальному аппарату Э. Гуссерля, Ю. Хабермас создает новый ракурс видения мира повседневности как поля рациональной тематизации и практической жизнедеятельности. В отличие от Э. Гуссерля, Ю. Хабермас выстраивает свою теорию понимания мира повседневности, акцентируя внимание на процессах коммуникации, осуществляемых между людьми в ходе их взаимодействия, и считает именно коммуникацию конституирующей основой «жизненного мира». В основе формирования человеческих отношений лежит понимание и согласие, которых можно достичь через восприятие «Других» как равных субъектов, что способствует установлению субъект-субъектной взаимосвязи, ориентированной на коммуникацию-диалог. Мир повседневности представляет собой фон общепринятых допущений и практик, осуществление которых невозможно вне социального мира – некой оси, вокруг которой вращаются социальные перспективы – совокупности межличностных взаимодействий институционально упорядоченных и поэтому обладающих легитимной значимостью в социальной группе. Основу повседневности составляет коммуникативное действие, сущность которого заключается в стремлении акторов согласовывать планы своих действий, реализовывать свои цели «при условии согласия относительно данной ситуации и ожидаемых последствий» [4, с. 199]. Осуществление таких согласованных действий достигается благодаря наличию в «жизненном мире» запаса «культурных самоочевидностей» [4, с. 202], который формирует унифицированные образцы поведения, действий, норм и ценностей. Через процессы коммуникации осуществляются два противоположно направленных процесса – воздействие человека на мир и воздействие мира на человека.

Основные стратегии анализа мира повседневности, сложившиеся в современной западной философии, позволяют выявить его существенные черты и охарактеризовать как реальную повседневность, данную в языке, разделяемую интерсубъективно людьми, которые находятся в поле личного общения. Э. Гуссерль проводит собственный анализ характеристик «жизненного мира», используя феноменологическую методологию. Она позволила показать укорененность «жизненного мира» в обыденном языке, стереотипах восприятия пространства и времени, ценностно-нормативных стандартах и т.д. М. Хайдеггер справедливо указал на экзистенциальную суть «жизненного мира», его производность от специфики человеческого бытия, открыв тем самым горизонты герменевтической разработки этой проблематики. В трудах основоположника лингвистической философии Л. Витгенштейна предложен глубокий анализ семантической природы повседневности, ее порожденности языковыми играми. Сегодня очевидна тенденция синтеза лингвистической философии и герменевтики в анализе «жизненного мира». Социально-философская плоскость видения этой проблемы «высвечивается» в теории коммуникативного действия Ю. Хабермаса, который активно использовал идеи и категориальный аппарат своих предшественников. Он выходит на новый уровень изучения проблемы «жизненного мира», которая требует в методологической плоскости своего изучения синтез подходов, заданных феноменологией, герменевтикой, лингвистической философией и социально-критической теорией. Именно в этой плоскости сегодня должна реализоваться ее позитивная разработка.

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The Problem of Constituting “Life World” in Modern West Social Philosophy

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Key worlds and phrases: time; life-world; inter-subjectivity; communicative action; linguistic philosophy; space; phenomenology; language-game.

Abstract: The article analyzes the life-world problem of interpretation in the theoretical heritage of E. Husserl, A. Schütz, M. Heidegger, L. Vitgenshtein, U. Habermas. The study of life-world problem is based on the research and synthesis of approaches formed by phenomenology, hermeneutics, linguistic philosophy and socio-critical theory.

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СОЦИОЛОГИЧЕСКОЕ ИССЛЕДОВАНИЕ СОЦИАЛЬНО-ПОМОГАЮЩЕЙ ДЕЯТЕЛЬНОСТИ: РАССМОТРЕНИЕ ЛИЧНОСТНЫХ ПАРАМЕТРОВ ЕЕ СУБЪЕКТА

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Ключевые слова и фразы: личностные качества; ресурсы деятельности; социокультурное развитие; субъект социально-помогающей деятельности; функционал деятельности; ценности деятельности.

Аннотация: Представлено методологическое обоснование социологического исследования деятельности путем изучения личностных параметров ее субъекта, приводятся данные социологического анализа архаического периода социально-помогающей деятельности, характерных особенностей личности виртуального субъекта социальной помощи и поддержки.

Социально-помогающая деятельность возникла на этапе формирования социальных отношений. Эволюционируя и отвечая общественным потребностям, она выступает той функциональной системой, которая обеспечивает равновесие системного развития общества. Как социокультурный феномен, социально-помогающая деятельность в ее разнообразных формах (общинная взаимопомощь, милостыня, княжеская благотворительность, церковно-монастырское призрение, государственное и общественное призрение (попечение), социальное обеспечение, социальная работа) сегодня может быть рассмотрена с точки зрения общественного функционала и тех требований, которые общество выдвигало субъекту социального труда.

На разных этапах эволюционирования национальной системы социальной защиты, функциональная направленность социально-помогающей деятельности влияла на развитие всех ее подструктурных элементов (цель, мотив, средства, результат и др.), определяя тем самым требования к субъекту труда, процессам интериоризации и экстериоризации ценностей социально-помогающей деятельности, разворачивающейся в конкретном социокультурном (Россия) и временном пространстве. Выступая самостоятельной функциональной системой, социально-помогающая деятельность развивалась в системе «общество – культура – деятельность – личность». В этой системе общество задает потребности в развитии социального труда, а культура определяет такое содержание деятельности ее субъекта, существенными признаками которой выступают объективность и общезначимость (универсальность), индивидуальное своеобразие и свободная творческая активность [4]. Эти содержательные признаки и позволяют рассмотреть деятельность субъекта социальной помощи как процесс, задающий динамику функционально взаимосвязанной системы «социум – личность – культура».

Общее философское понимание субъекта, показывающее его как носителя предметно-практической деятельности и познания (индивид, социальная группа), источника активности, направленной на объект, стало определяющим в изучении российскими исследователями субъектной ипостаси человека (Б.Г. Ананьев, К.А. Абульханова, Л.С. Выгодский, А.Н. Леонтьев, С.Л. Рубинштейн, Д.Н. Узнадзе и др.). Интегративное свойство субъекта, как активного участника социальных изменений, охватывающее все уровни познания человека, расширяет методологические возможности субъетно-деятельностного подхода и позволяет выйти на позиции объективного рассмотрения различных аспектов жизнедеятель-

ности (социальная сущность, профессиональное становление).

Особое значение в нашем исследовании занимает осмысление индивидуального и группового субъекта. Определяя индивидуального субъекта «как высший интегративный уровень активности человека» [1], самого человека А.В. Брушлинский рассматривает через его принадлежность к человечеству в целом, где человечество представляется как противоречивое системное единство субъектов иного уровня и масштаба: государств, наций, этносов, общественных классов и групп, индивидов, взаимодействующих друг с другом. Генеральным признаком коллективного субъекта является способность группы проявлять совместные формы активности.

Эта позиция представляется значимой, так как совместные формы активности совокупного субъекта способствуют реализации и развитию ресурсов и потенциала как коллективного, так и индивидуального субъекта деятельности. Деятельность коллективного субъекта имеет более высокий уровень организации, масштабы и способы реализации субъектных ресурсов, в том числе и личностных ресурсов индивидуального субъекта деятельности.

Общественная значимость социально-помогающей деятельности и ее социальная востребованность на всех этапах эволюционирования (с архаического периода развития до современного времени) определяет ведущую роль общественного субъекта данного социального труда. Общество всегда выступает совокупным субъектом социально-помогающего труда, так как развивающаяся на разных этапах общественного формирования деятельность всегда востребована.

Определяющая роль изучения коллективного субъекта отводится в историко-социологическом исследовании социально-помогающей деятельности на ранних этапах ее развития. Рассмотрение деятельности и личности виртуального субъекта в архаический период (период становления социальных отношений и формирования ранних форм взаимоподдержки) социального развития просто невозможно. Это определено, тем, что в указанный период общественного становления человек полностью идентифицировал себя с социумом, подчиняясь общим требованиям и нормам. Древние обычаи и традиции (устное народное творчество, документальные источники, записки путешественников, летописи и др.), отражают сведения о деятельности только совокупного (коллективного, совместного) субъекта.

Архаический период (с древнейших времен до начала X века) является определяющим в формировании ведущих норм жизнедеятельности человека. Среди важнейших, детерминирующих мотивов поведения первобытных людей были ценности и нормы, направленные на защиту индивида в системе рода и племени. Первобытнообщинные формы взаимопомощи (культовые, общинно-родовые и хозяйственные) становятся охранным механизмом формирующегося социума и задают координаты формирования социально-помогающей деятельности, детерминирующей личностное развитие ее субъекта (как коллективного, так и индивидуального).

Документальные источники [2; 3], отражающие архаический период социально-помогающей деятельности, в достаточной мере содержат сведения о коллективном субъекте социальной поддержки. Как отмечалось, вне общины первобытный человек существовать не мог и, как следствие, воспринимал и реализовывал себя через родоплеменные и общинные нормы (табу, обычаи, традиции) жизнедеятельности.

Ярким примером, подтверждающим коллективные принципы жизнедеятельности и общинные формы взаимоподдержки, являются материалы Ю.В. Кнышенко, в которых исследователь описал быт и систему взаимопомощи славян. Род был спаян взаимной обязанностью сородичей в материальной помощи, защите и отмщении обид, обязанностью, обусловленной коллективным характером производства. Право членов рода на материальную помощь со стороны сородичей не порождало лодырей. Каждый знал, что на защиту потерпевшего станет весь его род» [2]. Такое поведение общинников было направлено на сохранение единого родового пространства, позволявшего существовать индивиду и быть защищенным сильным сообществом.

В системе взаимоотношений общинников принцип взаимоподдержки и взаимопомощи становится базовым, определяя реципрокные связи и реципрокное поведение субъектов социально-помогающей деятельности в архаический период ее развития. Помогающее поведение общинников становится нормой жизнедеятельности, определят направленность разви-

вающейся отечественной системы социальной защиты населения. Именно архаический период общественного развития является базовым в становлении ведущих норм общественной жизнедеятельности, формировании направленности и функций социально-помогающей деятельности.

На ранних этапах общественного становления социально-помогающая деятельность выполняла следующие функции:

1) поддерживающая функция, характеризующаяся тем, что внутри рода существовала взаимная обязанность в материальной помощи, защите, отмщении обид. Каждый знал, что на защиту потерпевшего станет весь род;

2) адаптивная или приспособительная функция, отражающая поведение общинников, которое было направлено на сохранение родового пространства, позволявшего существовать индивиду и быть защищенным сильным обществом, так как вне рода человек существовать не мог;

3) функция сохранения и воспроизводства ценностей социально-помогающей деятельности, отражающих социальное поведение общинников при котором традиционные нормы архаических форм поддержки и защиты родового пространства (сезонные и внесезонные помочи, толоки, вдовьи помочи и др.) передавались из поколения в поколение как социокультурный опыт социально-помогающей деятельности.

Эти функции задавали развитие социального труда, формирование его ценностей, определяющих поведение и деятельность субъекта (как коллективного, так и индивидуального).

Исследование документальных источников, отражающих личностные характеристики виртуального субъекта социально-помогающей деятельности на раннем этапе общественного развития, проводилось методом контент-анализа, включавшего как количественный анализ, так и качественную его интерпретацию.

Количественный контент-анализ содержал стандартизированную процедуру подсчета выделенных категорий, в документальных источниках характеризующих личность субъекта социально-помогающей деятельности. Количественный контент-анализ проводился по методике «снежного кома», заключающейся в том, что исследование продолжается до тех пор, пока последующие два источника не дадут новой информации.

Качественная интерпретация была нацелена на углубленное содержательное изучение документального материала, охватывающего период становления социальных отношений и ранних форм социально-помогающей деятельности.

Процедура исследования позволила выявить следующие личностные характеристики виртуального субъекта социально-помогающей деятельности: дружелюбность, храбрость, активность, расчетливость, решительность, простота, задумчивость, смиренность и др.

Контент-анализ источниковой базы, характеризующей этот период, и последующая трансформация атрибутивных характеристик субъекта в личностные шкалы системы «Тезал» [5] позволили определить наиболее значимые личностные характеристики «человека помогающего» в период развития архаических форм социальной помощи.

Такие качества характеризуют субъекта социально-помогающей деятельности как альтруиста, у которого в достаточной степени развиты моральные качества, интеллект, рациональный самоконтроль и актуальная энергия. Как ведущие, эти личностные качества определяли успешность деятельности субъекта, его умения выполнять ряд важных функций, которые были характерны и для более поздних этапов развития социально-помогающей деятельности, формирования таких социальных институтов помощи, как благотворительность, волонтерство и социальная работа.

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Sociological Study of Social Helping Business: Consideration of Personal Parameters of its Subject

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Key words and phrases: socio-cultural development; functional of the activity; the values of; the activity the subject of socio-heping activities; personal qualities; resources of the activity.

Abstract: The paper presents the methodological basis of sociological research. Personality parameters of its subject are stadied. The data of sociological analysis of social helping activities in the archaic period are presented. The typical characteristics of the individud virtual subject of social assistance and support.

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МОДЕЛЬ ДЕЯТЕЛЬНОСТИ БАНКОВ ДЛЯ РАСЧЕТА ОПТИМАЛЬНОГО КОЛИЧЕСТВА ОПЕРАЦИОНИСТОВ

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Ключевые слова и фразы: банк; деятельность операционистов банка; математическая модель; модель деятельности банков; теория массового обслуживания.

Аннотация: В статье рассматривается подход к повышению эффективности деятельности банков за счет оптимизации количества операционистов. В основе подхода – математическая модель деятельности операционистов, разработанная на основе теории массового обслуживания.

Банковская система страны является несущей конструкцией рыночной экономики. Без цивилизованной и надежной банковской системы не может быть эффективной экономики. Современные банки, коммерческие и некоммерческие, предлагают различные виды услуг для физических и юридических лиц: от принятия оплаты за коммунальные услуги до страхования и выдачи кредитов [1].

В банковской сфере наблюдается серьезная конкуренция за привлечение клиентов, которая проявляется в различных направлениях: реклама, льготное кредитование, бонусные системы. Для клиентов банков, кроме понятных условий получения банковских услуг, важным является качество их предоставления. Особенно важным для современного клиента является время обслуживания, т.е. время, которое необходимо провести в банке для получения соответствующей услуги. Развитие электронного банковского обслуживания не решает полностью этой проблемы. Причиной этого является не только отсутствие у клиентов определенных навыков, но и то, что еще не все банковские операции можно проводить через банкомат.

Этот факт в значительной степени важен и для банков. Несвоевременное обслуживание клиентов ведет к появлению очереди и, как следствие, к потере клиентов и прибыли. Решение этой проблемы простым увеличением числа операционистов не является эффективным, т.к. требует значительных затрат, не всегда обоснованных.

В данной работе предлагается подход к определению оптимального количества операционистов банка, соответствующего интенсивности потока клиентов. В основе подхода лежит моделирование деятельности банка на основе статистических методов. Для демонстрации подхода исследуется деятельность Сбербанка РФ по обслуживанию физических лиц: операции с вкладами, коммунальными платежами и т.п.

Проведенные исследования выявили характерные особенности работы банковских отделений:

– обращение клиентов происходит не регулярно, т.е. клиенты приходят в банк через случайные промежутки времени, образуя случайный поток заявок (требований);

– обслуживание клиентов (заявок) также продолжается какое-то случайное время;

– загруженность операционистов банка является неравномерной: в какие-то периоды времени скапливается очень большое количество клиентов (они либо становятся в очередь, либо покидают банк необслуженными), в другие же периоды времени операционисты банка работают с недогрузкой или простаивают.

Анализ выявленных особенностей приводит к выводу, что работа банковских отделений является примером системы массового обслуживания (**СМО**) [2].

Предметом теории массового обслуживания является построение математематичес-

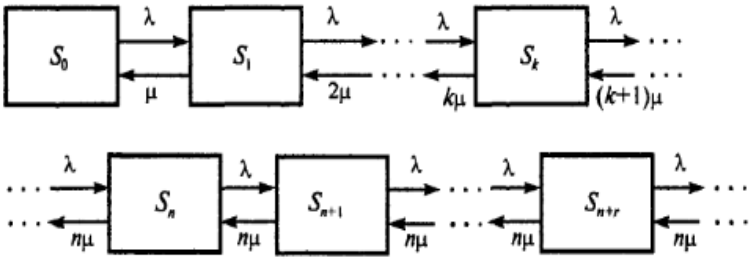

Рис. 1. Граф состояний системы

ких моделей, связывающих заданные условия работы СМО (число каналов, их производительность, характер потока заявок и т.п.) с показателями эффективности СМО, описывающими ее способность справляться с потоком заявок.

В качестве показателей эффективности СМО используется:

– среднее число заявок, обслуживаемых в единицу времени;

– среднее число заявок в очереди;

– среднее время ожидания обслуживания;

– вероятность отказа в обслуживании без ожидания;

– вероятность того, что число заявок в очереди превысит определенное значение и т.п.

Математическая модель СМО – это совокупность математических выражений, описывающих входящий поток требований, процесс обслуживания и их взаимосвязь.

При многоканальной системе с неограниченной очередью поток заявок, поступающих в СМО, имеет интенсивность λ – частоту появления заявок или среднее число заявок, поступающих в СМО в единицу времени, а поток обслуживания имеет интенсивность μ – среднее время, необходимое для обслуживания одной заявки. Система может находиться в одном из состояний S_0, S_1, S_2,...,S_k,...,S_n,..., нумеруемых по числу заявок в СМО: S_0 – в системе нет заявок (все каналы свободны), S_1 – занят один канал, все остальные свободны, S_k – занято k каналов, все остальные свободны, S_n – занято n каналов (очереди нет), S_{n+r} – занято все n каналов (в очереди r заявок). Работа системы показана на рис. 1.

Интенсивность потока обслуживаний (переводящего систему из одного состояния в другое справа налево) не остается постоянной, а по мере увеличения числа заявок от 0 до n увеличивается от величины μ до $n\mu$, так как соответственно увеличивается число каналов обслуживания. При числе заявок большем, чем n, интенсивность потока обслуживаний сохраняется равной $n\mu$.

Рассматривая граф, изображенный на рис. 1, и упорядоченное множество состояний системы, можно получить уравнения, использующиеся для нахождения предельных вероятностей состояний, то есть вероятностей того, что система окажется в том или ином состоянии [2].

Для моделирования деятельности операционистов, рассмотрим банковскую систему оплаты платежей как систему массового обслуживания.

Представим систему банковского обслуживания как многоканальную систему с неограниченной очередью и с дисциплиной обслуживания «последняя пришла – последняя обслужена», где каналы обслуживания – операционисты, а поток заявок – поток клиентов с квитанциями на оплату коммунальных платежей. Потоком обслуживания является расчет операционистом платежей клиентов.

Разрабатываемая математическая модель деятельности банков предназначена для расчета оптимального количества операционистов. Входом модели являются характеристики потока заявок, которые определяются статистически. В модели может задаваться различное количество операционистов (каналов). Так же может меняться интенсивность μ. Модель позволяет определить зависимость количества операционистов от интенсивности потока клиентов, от интенсивности обслуживания, влияние количества операционистов на длину очереди и т.д.

Для формирования модели использовались формулы предельных вероятностей состояний n-канальной системы с неограниченной очередью (1).

$$p_0=\left(1+\frac{\rho}{1!}+\frac{\rho^2}{2!}+\ldots+\frac{\rho^n}{n!}+\frac{\rho^{n+1}}{n!(n\text{-}\rho)}\right)^{-1}$$

$$\rho_1=\frac{\rho}{1!}\rho_0,\ldots,\rho_k=\frac{\rho^k}{k!}\rho_0,\ldots,\rho_n=\frac{\rho^n}{n!}\rho_0$$

$$\rho_{n+1}=\frac{\rho^{n+1}}{n*n!}\rho_0,\ldots,\rho_{\text{n+r}}=\frac{\rho^{\text{n+r}}}{n^r*n!}\rho_0$$

где n- количество операционистов; p_n – вероятность нахождения системы в состоянии n; ρ – интенсивность нагрузки канала (λ/μ); λ – поток клиентов; μ – пропускная способность канала. Также модель может быть дополнена следующими зависимостями [2].

Вероятность того, что заявка окажется в очереди:

$$p_{\text{оч}}=\frac{p^{n+1}}{n_!(n\text{-}p)}p_0 \qquad (2)$$

Среднее число занятых каналов:

$$\overline{k}=\frac{p}{n}. \qquad (3)$$

Среднее число заявок в очереди:

$$L_{оч}=\frac{p^{n+1}*p_0}{n*n!(1\text{-}\frac{p}{n})^2} \qquad (4)$$

Среднее время ожидания:

$$T_{\text{оч}}=\frac{L_{оч}}{\lambda} \qquad (5)$$

Для проверки работоспособности модели выбрано отделение Сбербанка РФ.

На основе предложенной математической модели (1)–(5) было разработано программное приложение. Полученная модель позволяет определить сколько операционистов требуется при заданной интенсивности потока, а также вычисляет вероятность того, что система будет простаивать и клиентов не будет, среднее число клиентов в очереди, среднее время ожидания и долю операционистов занятых в обслуживании.

Проведено тестирование модели. Время обработки одной квитанции в Сбербанке равно 2,75 минуты [3]. Эта величина не изменялась. Число операционистов изменялось от 2 до 20 с шагом 1человек. Поток клиентов изменялся от 0 до 100 с шагом 5 человек.

Результаты исследований представлены на рис. 2–4.

Рис. 2. Зависимость количества операционистов от интенсивности потока клиентов

Рис. 3. Зависимости длины очереди от количества операционистов при заданном λ = 40

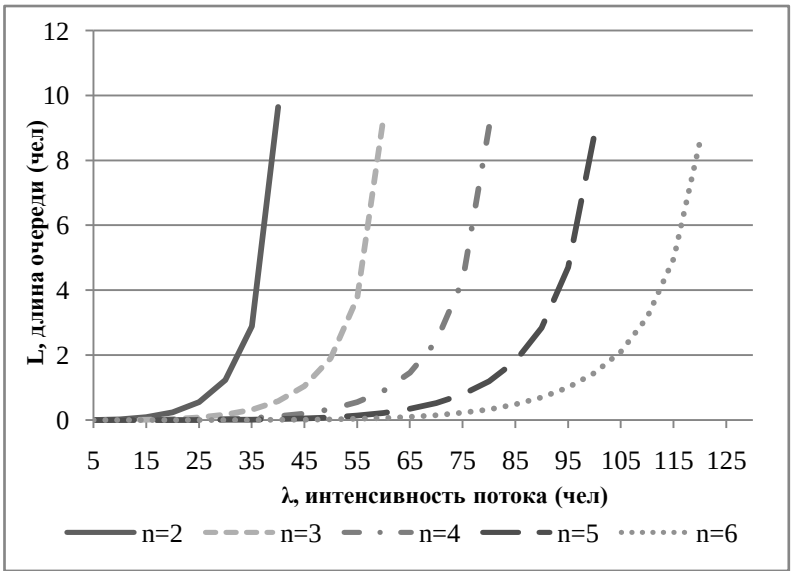

Рис. 4. Зависимость длины очереди от интенсивности потока заявок и количества операционистов

Таким образом, разработанная модель деятельности банка позволяет найти оптимальное количество операционистов и тем самым повысить эффективность деятельности банка.

Дальнейшее развитие модели связано с уточнением исходных параметров λ и μ по результатам статистических исследований. Поскольку интенсивность потока клиентов зависит также от времени суток, от территориального положения банка, то для каждого отделения банка, полученные результаты будут индивидуальными.

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Model of Bank Activity for Calculation of Optimum Quantity of Operators

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Key words and phrases: bank; activity of operators of bank; mathematical model; model of activity of banks; the theory of mass service.

Abstract: In article the approach to increase of efficiency of activity of banks at the expense of optimisation of quantity of operators is considered. At the heart of the approach is the mathematical model of activity of the operators, developed on the basis of the theory of mass customer service.

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ПОДХОД К ФОРМИРОВАНИЮ МНОГОУРОВНЕВОЙ МОДЕЛИ МУЛЬТИАГЕНТНОЙ СИСТЕМЫ С ИСПОЛЬЗОВАНИЕМ МИВАРОВ

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Ключевые слова и фразы: гетерогенная система; искусственный интеллект; интеллектуальный агент; мивар; миварные технологии; многоагентная система (**МАС**); многоуровневая система.

Аннотация: Одним из важнейших направлений исследований в области искусственного интеллекта являются многоагентные системы. Традиционно такие системы имеют одноуровневую структуру. Предложено делать многоагентные системы многоуровневыми, что позволит эффективнее решать практические задачи. Миварные технологии позволяют реализовать многоуровневые гетерогенные мультиагентные системы для решения разнообразных задач.

Введение

В искусственном интеллекте под термином интеллектуальный агент понимаются разумные сущности, наблюдающие за окружающей средой и действующие в ней. Если необходимо решить сложную задачу, то формируют многоагентную систему – систему, состоящую из множества взаимодействующих между собой агентов [1]. Многоагентные системы – это актуальная, перспективная и многообещающая область развития интеллектуальных технологий [2; 3].

Чаще всего моделирование интеллектуальных агентов в проектах ограничивается описанием моделей участников взаимодействия и предложениями, как такое взаимодействие организовать. Для решения этой проблемы необходимо активно использовать уже имеющиеся результаты исследований в данной области и богатый опыт по созданию человеко-машинных интерфейсов и интеллектуальных систем.

Целью работы является анализ существующих моделей многоагентных систем, их преимуществ и недостатков, а также их применение в различных предметных областях. Кроме того, предложим усовершенствовать имеющуюся модель, сделав ее многоуровневой, и рассмотрим варианты ее практического использования. Покажем важность применения многоагентных систем и эффект от нашего усовершенствования модели МАС.

Многоагентная система на основе распределенного искусственного интеллекта

Многоагентные системы на основе распределенного искусственного интеллекта – это системы, состоящие из множества агентов, каждый их которых является нераспределенной системой, основанной на знаниях, правилах и логических рассуждениях. При этом общая деятельность таких МАС должна быть четко скоординирована и направлена на решение какой-то общей задачи. Для этого важно учитывать интеллектуальное поведение каждого из агентов в сообществе данной многоагентной системы. МАС на основе распределенного искусственного интеллекта являются наиболее перспективным и развивающимся видом систем для решения сложных задач. Двумя важнейшими аспектами распределенного искусственного интеллекта являются распределение задач между агентами и объединение результатов. При этом возможно решение одной и той же задачи несколькими агентами с учетом различных подходов к решению, а затем полученные результаты объединяются. В настоящее

время в этой области производятся как теоретические исследования, так и прикладные разработки.

Схема многоагентной системы

Многоагентные системы развиваются довольно быстро и находят применение во многих областях. Например, в статье А.А. Кулинича [4] приведена модель системы, которая может принимать решения в нечетких конфликтных ситуациях. Такая система может быть использована при подготовке переговоров по созданию коалиций в условиях неопределенностей [4]. В статье [5] об адаптивном поиске глобального экстремума на множестве деревьев решений сделана попытка автоматизировать семантический анализ текста на примере технического задания для проектирования программного обеспечения. Недостаток этого проекта в том, что сейчас форма изложения текста, который может быть проанализирован, достаточно жестко ограничена. Эту проблему можно решить, применив технологии интеллектуальных МАС.

На данный момент многоагентная система имеет следующую схему реализации: система получает запрос на решение какой-либо задачи, агент-субординатор разбивает эту общую задачу на подзадачи и распределяет их между агентами-исполнителями, после чего агент-интегратор рассматривает предлагаемые агентами-исполнителями частные результаты и выбирает наилучший из них. МАС относятся к самоорганизующимся системам, так как в них находится оптимальное решение задачи без внешнего вмешательства [6].

Многоуровневая МАС

Предлагается усовершенствовать традиционную схему МАС, сделав ее многоуровневой. Новая схема будет состоять из множества агентов (рис. 2). По сути, каждый из них занимается решением задачи, но на четко определенной для него области знаний и по четко определенным для него алгоритмам принятия решения. Эти агенты первого уровня могут общаться между собой, обмениваться информацией, алгоритмами; каждый из них может содержать подагентов. В такой системе может быть несколько агентов первого уровня с одинаковой областью знаний, но разными алгоритмами работы, а значит и с разными полученными результатами.

У агентов первого уровня есть главный агент, который выдает им общее задание, а потом собирает результаты, но при этом он их выбирает на конкурсной основе, то есть выбирает те, которые наиболее соответствуют заданию и его тематике.

Для хранения и обработки данных в интеллектуальных агентах, целесообразно воспользоваться миварными технологиями, что позволит более эффективно решать самые различные задачи. Миварные технологии включают эволюционное накопление и быструю адаптивную обработку информации. Мивары – это более общий формализм, чем семантические сети, онтологии и модель «сущность-связь» [7]. Универсальность миварного подхода позволила применить его в различных областях: логического вывода на сети гиперправил; защите информации в автоматизированных системах управления (**АСУ**); создания самоорганизующихся комплексов оперативной диагностики; взаимодействия групп мобильных роботов; разработки интеллектуальных систем и т.д. Это обуславливает перспективность применения миварных технологий для многоагентных систем.

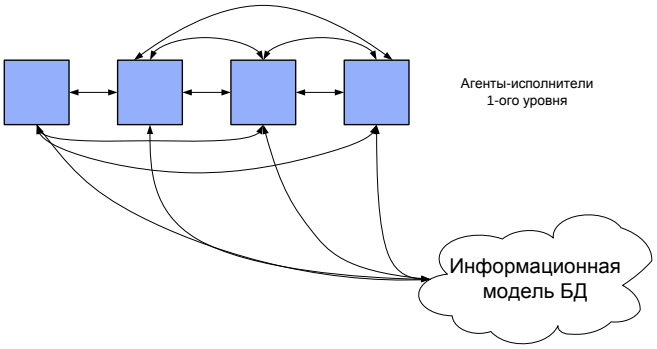

Рис. 1. Агенты первого уровня, взаимодействующие между собой

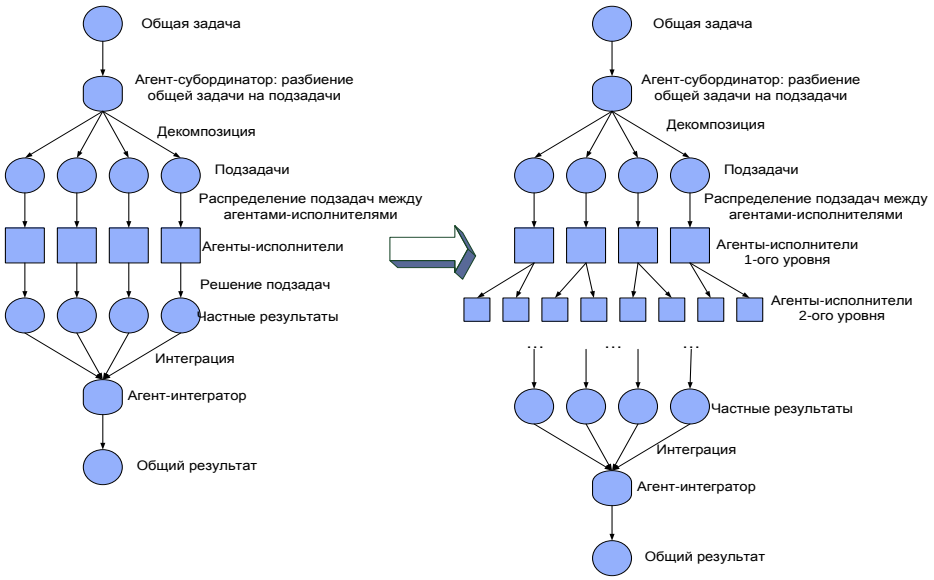

Рис. 2. Схема представления мультиагентной системы

Многоагентная система для интеллектуального анализа документа

Обычно при поиске информации в документах с какой-то определенной структурой и тематикой приходится вручную просматривать большое количество документов, основная масса которых вообще не соответствует заданной структуре. В. Ланин в [8] предлагает решение, позволяющее этого избежать. Сначала определяют структуру документа, а потом уже для каждого элемента структуры создают агента, который просмотрит содержимое этого элемента, разобьет поиск по списку шаблонов на множество подзадач и передаст анализ документа по подзадачам (определенным частям общего шаблона) более простым агентам. На данный момент результатом работы стала реализация на платформе «.NET» системы SemanticDoc, которая представляет собой мультиагентную систему и проводит сопоставление документа и онтологии [8].

Поиск в интернете

Роль интернета в наши дни очень велика. Одной из важнейших функций интернета является поиск информации. Различные поисковые системы отличаются не только внешним видом, но и, например, индексом и способом его составления. Поэтому, если что-то не находит одна поисковая система, то, возможно, это найдет другая. Предлагается использовать МАС для более эффективного поиска. Для реализации такой системы целесообразно применять модель многоуровневой МАС. В результате получим многоагентную поисковую систему: главный агент этой системы выдает агентам 1-ого уровня поисковый запрос, затем собирает результаты на конкурсной основе, то есть выбирает те, которые наиболее соответствуют тексту запроса и его тематике.

Транспортная сеть

Проблема построения моделей взаимодействия интеллектуальных агентов в МАС является актуальной. Рассмотрим применение агентов при решении транспортных задач, например, при решении проблемы пробок. Агентов можно использовать в GPS-навигаторах или разместить на заправках, стоянках автоматы, на которых водители смогут вбивать нужный им маршрут, просматривать пробки и получать наиболее удобный и быстрый маршрут, учитывая все обстоятельства, которые затрудняют или мешают движению. Правила поведения для данной модели описываются конструкциями вида «когда – если – то». «Когда» – это условия возникновения реакции. В нашем примере – это внешние условия, которые повлияли на движение на дорогах. После того, как главный агент получает сигнал, что что-то изменилось, происходит выполнение этапа «если – то». На этом этапе задается способ реагирования на возникшую ситуацию. Далее главный агент разбивает

задачу на подзадачи и происходит анализ по представленной ранее гетерогенной схеме. Управлять агентами можно через спутниковую или мобильную связь. Суть будет состоять в следующем: водитель вводит интересующий его пункт назначения, агент-субординатор получает сигнал, далее разбивает данную задачу на подзадачи: определение маршрутов, поиск оптимального, обзор пробок, обзор строительных или ремонтных работ на дорогах и т.д. Далее распределяет эти задачи между агентами исполнителями, они рассчитывают маршруты по разным критериям: один ищет самый короткий, второй самый быстрый, третий наименее загруженный, четвертый наиболее простой, пятый учитывает стройки и ремонты и т.п., суммируя частные результаты, агент-интегратор выбирает наиболее удобный маршрут и выводит его на экран.

Вывод

Использование многоагентных систем имеет множество преимуществ. Интеллектуальные агенты применяются в таких сферах, как логистика, работа предприятий, экономическая сфера, торговля на бирже, поиск в интернете, в программировании (сервисно-ориентированный подход, распределенные сети, принимающие управленческие решения) и т.п. МАС относятся к самоорганизующимся системам, так как в них ищется оптимальное решение задачи без внешнего вмешательства.

В данной работе предлагается усовершенствовать многоагентную систему и сделать ее многоуровневой. Усовершенствование таких систем имеет важное практическое значение, т.к. позволит увеличить быстродействие, точность и качество решения различных задач.

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The Approach to the Development of Multilevel Model of Multi-Agent System Using Mivars

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Key words and phrases: multi-agent system; heterogeneous; artificial intelligence; intellectual agent; mivar`s technology; multilevel system.

Abstract: The paper discusses ona of the most important areas of research in artificial intelligence the theory of multy-agent systems with a single-level structure. Normally such systems have one-level structure. The authors propose to make these multy-agent systems multi-level ones which will enable to solve practical tasks more efficiently. Mivar technologies enable to implement multi-level heterogeneous multi-level systems for various problems.

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Standards, specifications and features of the logical-linguistic terminology management systems, communications

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Key words and phrases: communication system; terminology system; specifications; formalism.

Abstract: The paper discusses the possibilities of application of linguistic methods in the formation of standards, specifications of ontology of communication systems, the examples of linguistic analysis of specifications are given.

The global system of communication demonstrates the impressive pace of development. However, in today's information environment, there is a heavy bias towards the appearance of information in comparison with the description of the semantics of electronic documents available in electronic form. The experience in international modes of interaction (e.g., environment, air transport, arms control) shows that it is in the process of stakeholder interaction, the common system of beliefs, values, ideas about cause-effect relationships, unified ways of reasoning, terminology, special vocabulary, jargon and acronyms are created. General framework defined by the peculiarities of professional culture (the way of thinking and behaving that are common to members of the same profession) help to improve communication and understanding. However, according to the U.S. linguist Geoffrey Mayrela, "every professional language is the language of the spheres of influence" [3] and it is often the language used to protect its area of influence and prevent the creation of logical construction domain for search engines. Today we need new breakthrough approaches to solve the existing problems until these problems do not become the obstacle for the development of modern technologies, particularly communication systems.

As a rule, in the center of any methodology is the system architecture, as well as a set of strategies and methods of analysis and design. K. Gagne and T. Sarson [1] noted in their work that the architecture of modern systems has three layers and the following characteristics:

- clearly defined layers;
- formal and explicit interfaces between the layers;
- hidden and protected components within each layer.

In this case, there are information resources in the Internet, which built on the principle of directories. The problem with such thematic collections is that to ensure an adequate level of relevance of the response of the system requires the participation of a person in the process of authentication of a document belonging to the declared subject area. The practice shows that this leads to the fact that the majority of word processors work with only a small part of the design logic level. They have produced what Simon St. Laurent (1999) calls *the WYSIWYG disaster*: "Plain text, dull though it may be, is much easier to manage than the output of the average word processor or desktop publishing program". In practice, the slogan "What you see is what you get" actually means WYSIAYG: "What you see is all you get". [8]. There is a small amount of information about the data stored in the network today. And therefore it has to implement surrogate schemes based on the work of the keywords. Standardization is the basis of everything. Progress today is how to consistently standardize the "semantic pie" of Tom Behrens Lee [9], building mechanisms functioning on every level. All the tools that are needed for this have already been developed; they are provided in a large number by mathematical logic and artificial intelligence, the theory of formal and information systems. The question is how to choose from an existing arsenal of such tools the one that allows

you to completely satisfy the conflicting requirements:

- formalism must be rigorous from a theoretical point of view; it is necessary to ensure the correctness of the behavior of systems;
- formalism should be sufficiently expressive to have means to solve non-trivial task;
- formalism should be easy to algorithmic point of view, to provide a solution to the problems in due time;
- formalisms should be simple and understandable to everybody, otherwise the whole operation will become a sectarian [6, p. 9–10].

Turning to the concept of “formalism”, used in this context, we see a clear definition of the term "because the term takes on a certain lexical items of natural language so that it can be called linguistic substratum, the essence of the term is its terminological nature, i.e. the ability to function as a special notation of the general concept of a paradigm of a special area of knowledge or activity [4].

The term like any lexical unit has phonetic, word-building, morphological, lexical, word associative and stylistic features of units of a natural language. But the controversial nature of the term, which is reflected in its tendency toward the uniqueness within a given term system, lack of synonyms, conciseness, the independence from the context and other characteristics of the term formulated by D.S. Lotte and his followers [5, p. 7–10, p. 29–38] do not allow us to refer it to the area of formalism. However, the requirements for the terms allow us to formulate formalisms for information systems.

We define the substantive scope of the proposed logical linguistic algorithm. People and computer programs generally have some idea of the meanings of terms. Sometimes programs provide a specification of input and output data, which can be used as the specification of the program. Ontologies can be used similarly to provide a specific name of terms and meanings of the terms. As a specification of the ontology it can be a glossary, which is a list of terms with their meanings. Meanings are described as comments in the natural language. This gives more information because people can read this comment and understand the meaning of the term. Interpretations of terms can be polysemantic. Thesauruses are additional semantics, defining the relationship between terms. Thesauruses are characterized by the following characteristics: synonymy, hierarchical relationship and association. Usually, thesauruses do not present the hierarchy of terms, but it can be restored [2].

Thus, the logical linguistic algorithm is sufficient to apply to the terminology of communication systems. But here it must be remembered that the modern problems that are put before the communication systems in the first place include the transfer of a huge flow of information, mainly electronic, speech, and more recently video. Digitization of all possible types of signals, the transition to new types of devices and standards is widespread, but problems, however, appear at an early stage of pre-processing and storage of data.

Confusion arises at the stage of drafting a switching system between the server and storage system. In this case, we will not discuss the level of floppy disks, compact disks and other external drives, assuming that the information initially received by the server from any external input / output device (including typing of the text, the method of image constructing in the editing program, etc.), because in our case it is critical to review the system of architecture and relationships between its components as well as the sequence of terminological errors.

In 1988, American National Standards Institute (**ANSI**) established a working group to develop a new interface for high-speed data exchange between computers, storage devices, displays, etc. The new interface was called Fibre Channel, because it was consistent, that is, one thread. To eliminate the association with an optical fiber instead of the American fiber in the name of the interface used the British version of the term fibre. Given that the basic topology of this method was a loop with access arbitration (Arbitrated Loop), then its full name was Fibre Channel Arbitrated Loop or FC-AL. After analyzing the usage of this term it was found that in 37 out of 150 reviewed technical jobs where the materials for the study served as the documentation of open tenders and tenders for the supply of equipment in public and private companies (eg:www.ar.gov.ru/.../Tehnicheskoe_zadanie_na_maket_v01_2007_11_01.doc; http://incom.ua/content/view/372298/12/), the term “FIBER” was used (which in turn means a complete technology for optical communications based on the application technology of signal transmission over long distances, which can also be used for other

purposes, it is based on the transfer of flux inside a transparent fiber), instead of the term "FIBRE" (Fibre Channel (**FC**) – a family of protocols (rules of compression, transmission and handling between the devices round-trip) for high-speed data. Technical Committee T11, which is part of the International Committee for Standards in IT (International Committee for Information Technology Standards – INCITS), an accredited ANSI) is involved in standardizing the protocols. On the one hand, this can be caused by the false interpretation of relative synonymy between the terms, and on the other hand, with the lack of studies of the differences in this area and the lack of uniform standards. Ignorance of the precise definition, in its turn, leads to another error. Take for instance the work of Yu.A. Semenov: "Fibre Channel has a unique system of physical interface and frame format, which allows this standard to ensure docking with a simple channel protocol IPI (Intelligent Peripheral Interface), SCSI, HIPPI, ATM, IP and 802.2. This allows, for example, to organize high-speed channel between the computer and disk storage system RAID" [7]. In this case, erroneous use of the term "RAID", which stands for redundant array of independent disks means the array of several disks under the controller, interconnected high-speed channels and perceived external system as a whole. Depending on the type of the array can provide different degrees of fault tolerance and performance. It increases the reliability of data storage and / or increases the read / write speed. Here we have an inaccurate using of the term, because the controller is responsible for the transmission of information by sending commands to the RAID array of hard disks (or solid lately) and the channel can only be built between it and the appropriate adapter, which is located on the motherboard of computers. But even after the problem between the server and storage systems is settled the question of organizing the communication system at higher levels remains open. And this is only the first stage of technical specification development at the level of one office, but if we take a more ambitious project, the terminology of another level of organization of communication systems must be applied.

Accordingly, at this stage of development, we need to formalize the description of ontologies in communication systems, the description of the rules of interaction of terms with each other, the properties of terms, as the accelerating development of modern communication systems, the emergence of new technologies of data exchange and the improvement of the existing ones is a constant source for new terminological units. Terminological flow must be constantly organized and standardized to eliminate the errors that can cause not only financial but also intellectual loss.

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СТАНДАРТЫ, СПЕЦИФИКАЦИЯ И ОСОБЕННОСТИ ЛОГИКО-ЛИНГВИСТИЧЕСКОГО УПРАВЛЕНИЯ ТЕРМИНОЛОГИЕЙ СИСТЕМ СВЯЗИ

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Ключевые слова и фразы: системы связи; терминосистемы; спецификации; формализмы.

Аннотация: Рассматриваются возможности применения лингвистических методов при формировании стандартов, спецификаций онтологий систем связи, приводятся примеры лингвистического анализа спецификаций.

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Development of water transport mobility in the Saratov Region

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Key words and phrases: a boat; design; prestige; social status; water transport mobility.

Abstract: On the basis of the research the author shows the existing market of water transport in Saratov region and studies the profile of a modern boat owner.

As tradition says the person behaves according to the rules and foundations of the social level of society which he or she belongs to. European and American society have crossed the line at which the visual difference between a person of lower caste and a person belonging to the layer of aristocrats, were significant. The Russian society is in a state of permanent transformation. Main steps towards achieving a situation in Europe were made, but differences are visible.

The indicators, confirming the affiliation of a person to a particular social group, include the style and quality of clothes, the type of perfume and shoes, a car make, and behavior. Water mobility becomes one of the recent indicators of personal identity. Therefore social importance of personal water transport increases, which are a boat or a yacht. The possibility of purchasing a personal vehicle (including water vehicle), has obviously changed the identification system.

The popularity of water transport mobility increases in the media products. We can find not only the promotional information about the sale of boats, articles on the production of new models, but also news related to water vehicles. In this regard, we pose the following hypothesis: social value of water mobility is increasing, so there is the growth of the number of messages about boats, which leads to growth of sales of water transport.

The aim of our research is to assess the level of information about water vehicles. The objectives are:

- to select the number of messages on the boat at the Internet sites;
- to identify the key thematic areas of the use of the term in Internet resources;
- to analyze the role of mass media in raising of the potential audience and in the number of sales of boats.

The methods of content analysis, and discourse analysis are the most appropriate and reasonable for achieving this goal.

For the analysis, we have put the term “boat” into Google search engine. In our search Google issued approximately 3 010 000 results. 500 references to websites that mention the term “boat” were evaluated. Received links can be classified into the following topics:

- Sales of boats (private messages and promotional information about new boats);
- news information;
- announcements about boat renting;
- scientific and educational articles;
- history;
- educational sites;
- chats;
- insurance.

Data content analysis is most evidently presented in table 1.

Table 1. Data content analysis

Subject of classification	The frequency of mention
Sales of boats (private messages and promotional information about new boats)	316 (63,2 %)
News information	94 (18,8 %)
Announcements about boat renting	15 (3 %)
Scientific and educational articles	38 (7,6 %)
History	4 (0,8 %)
Educational sites	18 (3,6 %)
Chats	10 (2 %)
Insurance	5 (1 %)

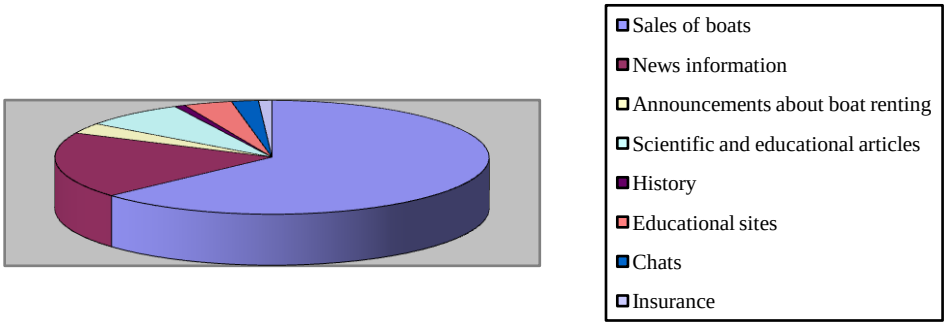

Fig. 1. Boat-related Internet links

On the basis of content analysis, we can draw some conclusions.

Awareness of the potential-term audience about the vehicle is growing due to the increase in published information about boats in the media. It can be information about manufacturers of boats and different ads. Moreover, the share of producers and sellers of boats with respect to private ads is 80 percent.

Also this time the number of information communications related to crashes on Internet sites increases (the sector's share is 18,8 %).

The third place is occupied by the number of publications of scientific and educational articles, which include the description of projects of new models of boats, technical characteristics of boats, in charge of border security in Russia, as well as guidelines for the selection of accessories for the boat (engine, propeller, navigational equipment, etc.) and for the care of the vehicle.

Educational sites contain information about the terminology and manuals for training of navigation. Announcements about renting boats occupy the fifth stage in our rankings. Information about renting water craft can be found on the sites of travel companies offering river and sea tours.

Social networking websites (chats) occupy a small but increasing category. Everybody has an opportunity to share knowledge and experience in navigation, provide advice on choosing the best boats and accessories. Insurance sites occupy approximately 1 % among all published sites. This segment begins to develop. Also the small share in total number of sites is occupied by historical references. Messages about boats which took part in operations during the Second World War concern them first of all.

The above-stated information about the increased number of reports about boats since 2005 finds acknowledgement in the growth of sales of water vehicles. It concerns the largest supplier of boats in Saratov region – the shop “L” which has been selling boats since 2005. During the second season the number of sales of boats has increased 4 times. In 2007 in relation to 2006 the growth reached 12 %, in 2008 in relation to 2007 – 50 %, and declined in 2009 in relation to 2008 – by 50 %. We connect the situation in 2009 with the unstable financial position in the world. Figure 2 demonstrates the volume of purchases of boats during 2005–2009.

Thus, the level of information saturation about water vehicles in the Internet can be regarded as high. It is confirmed by the increasing growth of purchases of boats by potential buyers.

Advertising has become the most important catalyst of increased sales of water vehicles. The product is not able to compete with similar ones on the market, if it is not known to consumers. Advertisers encourage people to buy products that are well-known, fashionable, up-to-date, excellent, practical, and safe. They focus on unique competitive advantages of products [1].

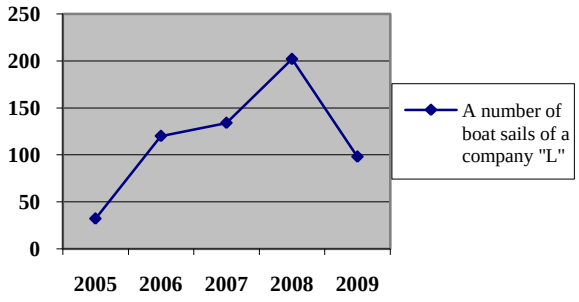

Fig. 2. Boat sales by “L” company

The motive of freedom is traced in requirements of all buyers of boats. “A yacht, a boat changes the person. For example: many people buy a yacht for prestige. The fashion on boats certainly exists – there are new “things”, the technical innovations, some delicacy in design. Some clients in a pursuit of fashion change boats twice a year almost like cars or mobile phones”. The above-stated opinion of Anton Romanov, the representative of the company “L” confirms the hypothesis that possession of the yacht gives to life a new degree of freedom.

At the end of the XXth century it was prestigious to have car make VAZ2109 (“devyatka”), but some time later a foreign car became a matter of prestige. Actually a car make and its condition had no value. Driving a foreign car became a matter of status and prestige.

Times have changed, and it has become prestigious to have a boat, or a yacht, which is much better. With time people have become experts not only in cars. They have learned to make decisions based on their own choice.

The majority of boat owners are men. They need to have a prestigious car, a big, white and very fast boat. This need comes from children's dreams.

More often the boat is bought for leisure and fishing. The most popular models are Bayliner, Stingray, Searay, Crosswind and Silver. The fashion on boats of these models is generated by the powerful advertising campaigns. When a person starts to understand what he or she is interested in, they have an opportunity to choose the best one. Thus, fashion becomes less important.

The boat is not a luxury, but a style of life, a hobby for the whole life. The first time spent at the steering wheel of a boat will be remembered forever. Today people buy boats not only for fishing and leisure. They want to be more flexible and mobile and to do everything available for individualities. At the same time the river and the boat give an opportunity to have a holiday without leaving a city.

The powerboat is not just a means of water transport. It is an indicator of the owner’s status and freedom of expression. It gives the boat owners the opportunity to raise their social status.

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РАЗВИТИЕ ВОДНОЙ ТРАНСПОРТНОЙ МОБИЛЬНОСТИ НА ТЕРРИТОРИИ САРАТОВСКОЙ ОБЛАСТИ

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Ключевые слова и фразы: катер; дизайн; престиж; социальный статус; водная транспортная мобильность.

Аннотация: На основе проведенных исследований в статье проводится анализ существующего рынка водной техники на территории Саратовской области, а также изучается портрет современного владельца катера.

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УДК 339.16

ИНФОРМАЦИОННЫЙ РЕСУРС КАК ИНСТРУМЕНТ РАЗВИТИЯ ИНТЕЛЛЕКТУАЛЬНОГО КАПИТАЛА РЕГИОНА

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Ключевые слова и фразы: интеллектуальный капитал; информационные ресурсы; математические методы; новое знание.

Аннотация: В статье рассматривается понятие интеллектуального капитала. Выделяется особый вид интеллектуального капитала – информационный ресурс. Приведен алгоритм технологии получения нового знания на основе системы информационных ресурсов.

Потребность в повышении эффективности управления, увеличении производительности труда, снижении себестоимости производства определяется изменяющимся характером рыночной экономики. В последнее время наблюдается тенденция вовлечения в производственный процесс, наряду с основными факторами (труд, капитал, материалы), нового фактора – интеллектуального капитала. В настоящее время происходит длительный процесс перераспределения акцентов, в котором интеллектуальный капитал определяет потенциал региона, его будущие возможности. Интеллектуальный капитал все больше определяет конкурентоспособность как отдельных предприятий и регионов, так и национальных экономик. Способность к созданию, использованию и увеличению интеллектуального капитала – это фундамент, на который опираются экономическая мощь страны, благосостояние и качество жизни ее народа.

Особым элементом интеллектуального капитала является информационный ресурс. На основе существующих информационных ресурсов, применения методов статистики, аналитики, анализа временных рядов, факторного, корреляционного регрессионного анализа и т.д., возможно получение нового знания за счет нахождения скрытых закономерностей поведения объекта, явления, процесса. Новое знание пополняет интеллектуальный капитал организации, города, региона, на его основе можно принимать качественные, обоснованные управленческие решения.

Одним из способов получения нового знания может выступать технология Data Mining, которая позволяет осуществить поиск скрытых закономерностей в совокупности данных. На ее основе будет получено новое знание для повышения эффективности закупочной деятельности ОАО «КАМАЗ». ОАО «КАМАЗ» – одна из крупнейших автомобильных корпораций Российской Федерации, занимает 11-е место среди ведущих мировых производителей тяжелых грузовых автомобилей. Поэтому повышение эффективности управления предприятием имеет первостепенное значение для экономики города, региона и страны. Разнообразие и большое число потенциальных поставщиков требуемой продукции делает весьма актуальной проблему выбора тех из них, которые могли бы с наибольшим эффектом обеспечить успешную производственно-сбытовую деятельность предприятия. В связи с этим, возникает проблема, связанная с нехваткой времени на поиск альтернативного поставщика и разрешением конфликтной ситуации. Новое знание в данном случае – правила выбора потенциального поставщика.

Алгоритм получения нового знания

Этап 1. На основе данных предыдущих историй по сотрудничеству с контрагентами формируется база данных, которая включает 9 входных и 1 выходную переменную – категория поставщика. Проведенное исследование позволило выделить систему показателей для

выбора потенциальных поставщиков: возраст компании; местонахождение; организационно-правовая форма; доля рынка; информационная открытость компании; наличие системы менеджмента качества; коэффициент «Чистый долг/EBITDA»; коэффициент «Рентабельности оборота (ROS)»; коэффициент «Эффективности использования активов (AUR)». Данная группа показателей необходима для поиска информации по поставщикам в рамках заданных критериев, дальнейшего ее анализа и отбора среди всех поставщиков потенциальных.

О необходимости выбора показателей свидетельствуют данные табл. 1, по показателям группы «Выбор потенциального поставщика» найдены логит-преобразования. Подставив в эти уравнения соответствующие значения можно рассчитать вероятность того, что поставщик окажется «надежным» или «ненадежным». Из предложенных ранее 9 показателей для оценки вероятности наиболее значащими являются 7.

Этап 2. Осуществляется анализ информационных ресурсов по потенциальному поставщику. Предполагается, что поставщики с одинаковыми значениями характеристик поступают одинаково. На основе результатов оценки потенциальные поставщики распределяются по двум категориям (А – надежные, В – ненадежные). Обработка и интерпретация результатов потенциальных поставщиков проводится с использованием скоринговых методов. Последовательность действий:

2.1. *Сбор данных в хранилище*. Для разработки скоринговой карты необходимы данные, которые будут использоваться для обучения модели.

2.2. *Обработка данных*. Осуществляется фильтрация данных, указываются критерии проверки, при которых отсекаются данные с некорректными значениями.

2.3. *Построение скоринговых моделей*. В рамках данного процесса стоится скоринговая модель с применением методов построения деревьев решений и логистической регрессии. На основе собранных данных по взаимодействию с поставщиками осуществляется анализ влияния факторов на вероятность того, что поставщик окажется надежным. Для выявления вероятности дефолта по поставщику строится модель множественной логистической регрессии. Логит-преобразование для модели множественной логистической регрессии будет иметь вид:

$$\hat{g}(x) = 0{,}22 + 0{,}01 \cdot x_1 - 0{,}81 \cdot x_{3_1} - 0{,}43 \cdot x_{3_2} + 0{,}023 \cdot x_4 - 0{,}96 \cdot x_{5_1} + 0{,}06 \cdot x_{5_2} - 1{,}006 \cdot x_{6_1} + 0{,}9732 \cdot x_{6_2} - 0{,}08 \cdot x_7 + 0{,}016 \cdot x_8, \quad (1)$$

где b_0 – 0,22, b_1 – 0,01, b_{31} – -0,81, b_{32} – -0,43, b_4 – 0,023, b_{51} – -0,96, b_{52} – 0,06, b_{61} – -1,006, b_{62} – 0,9732, b_7 – -0,08, b_8 – 0,016 – коэффициенты логистической регрессии.

Таблица 1. Система показателей выбора потенциальных поставщиков

№ п/п	Переменная		Логит-преобразование
	x_i	Описание	
1	x_1	Возраст компании	$\hat{g}(x) = 0{,}271 + 0{,}012 \cdot x_1$
2	x_2	Местонахождение	Исключена, как малозначащая
3	x_3	Организационно-правовая форма	$\hat{g}(x) = 0{,}4457 - 0{,}3359 \cdot x_{3_1} + 0{,}0264 \cdot x_{3_2}$
4	x_4	Доля рынка	$\hat{g}(x) = -0{,}06 - 0{,}412 \cdot x_4$
5	x_5	Информационная открытость компании	$\hat{g}(x) = 0{,}1042 + 0{,}7233 \cdot x_{5_1} + 0{,}9340 \cdot x_{5_2}$
6	x_6	Наличие системы менеджмента качества	$\hat{g}(x) = 0{,}01123 + 1{,}1126 \cdot x_{6_1} + 1{,}1395 \cdot x_{6_2}$
7	x_7	Коэффициент «Чистый долг/EBITDA»	$\hat{g}(x) = 0{,}9986 - 0{,}10853 \cdot x_7$
8	x_8	Коэффициент «ROS»	$\hat{g}(x) = 0{,}3957 + 0{,}0281 \cdot x_8$
9	x_9	Коэффициент «AUR»	Исключена, как малозначащая

На основании логистической регрессии строится дерево решений выбора поставщика. На его основе сформированы правила отнесения поставщика к определенной категории, например, компании-поставщики с малым возрастом компании (7 лет), организационно-правовой формой – общества с ограниченной ответственностью, долей рынка – менее 5 %, которые публично не предоставляют информацию о себе, система менеджмента качества внедрена частично, коэффициент чистого долга к EBITDA более 2, а индекс рентабельности более 4. Подставив значения в логит-преобразование (1), получим: $g(x) = -2{,}75$. В итоге вероятность того, что компания-поставщик окажется «надежной» составит: $\rho(x) = 0{,}061$, что составляет около 6 % надежности поставщика.

На основании логистической регрессии строится дерево решений выбора поставщика, на основе которого сформированы правила отнесения поставщика к определенной категории. Совокупность правил выбора потенциального поставщика также является новым знанием, пополняющим интеллектуальный капитал.

Например: Правило 1. «**ЕСЛИ** Система менеджмента качества = Внедрена частично **И** Информационная открытость компании = нет данных **И** Возраст компании = до 10 лет **И** Коэффициент «Рентабельности оборота» = более 20 %, **ТОГДА** Категория = Надежный».

Правило 2. «**ЕСЛИ** Система менеджмента качества Внедрена частично **И** Возраст компании = от 10–50 **И** Информационная открытость компании = нет данных **И** Коэффициент «Рентабельности оборота» = от 10–20 % **И** Коэффициент «Чистый долг/EBITDA» = менее 1, **ТОГДА** Категория = Надежный».

2.4. *Проверка качества полученной модели*. Проверка качества поученной модели и ее прогнозной силы, осуществляется на основе показателя площади под ROC-кривой. Показатель AUC = 0,727 по шкале значений AUC модель демонстрирует достаточно хорошую точность.

2.5. *Интерпретация результатов*. Расчет влияния каждого показателя на исход работы с поставщиком, вероятность того, что поставщик окажется неудовлетворительным при наступлении определенных событий.

Этап 3. После построения скоринговых моделей, на выходе получен список потенциальных поставщиков. Каждому из них рассылается запрос на предмет возможности поставок изделий с заданными параметрами, далее осуществляется согласование конструкторской документации.

Реализация проекта позволит пополнить совокупность интеллектуального капитала компании за счет оптимизации функционирования информационного ресурса, целенаправленного мониторинга рынка поставщиков, применения математических методов для выявления скрытых закономерностей при анализе информации, определения и учета желательных компетенций поставщика и выявления потенциальных поставщиков, постоянное пополнение базы данных оперативной информацией. Также в качестве дополнительного преимущества модели рассматривается развитие возможностей поставщиков, а именно развитие поставщиков в направлении использования современных логистических технологий, участие в проектировании нового продукта у поставщика, вовлечение поставщиков в процесс разработки новых продуктов.

Таким образом, увеличение эффективности использования интеллектуального капитала способствует более рациональному, оптимальному функционированию компании ОАО «КАМАЗ», которое, в свою очередь, повышает экономические, социальные, научные, технико-технологические показатели республики Татарстан.

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Information Resource as the Tool Developments of the Intellectual Capital Region

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Key words and phrases: intellectual capital; information resources; mathematical methods; new knowledge.

Abstract: In this article such notion as intellectual capital. Special type of intellectual capital – information resources is identified. Technique algorithm of acquiring new knowledge on the basis of information resources system is given.

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УДК 314

ИССЛЕДОВАНИЕ ФАКТОРОВ, ВЛИЯЮЩИХ НА СМЕРТНОСТЬ НАСЕЛЕНИЯ В РОССИИ, С ПОМОЩЬЮ МЕТОДОВ МАТЕМАТИЧЕСКОЙ СТАТИСТИКИ

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Ключевые слова и фразы: медико-демографические показатели; смертность населения; социально-экономические индикаторы.

Аннотация: Целью данной работы является выявление факторов, влияющих на уровень смертности населения в России. Исследование проводилось с помощью методов математической статистики (корреляционный, регрессионный анализ). Материалом служила информация Росстата по 80 субъектам Российской Федерации за 2008 г. Данные были сформирована в виде информационной системы, включающей в себя следующие блоки: медико-демографические показатели, социально-демографический состав населения, экология и природно-климатические условия, социально-экономическое развитие, доступность медицинских услуг. Применение методов математической статистики позволило выявить факторы, влияющие на уровень смертности и предложить меры по снижению их воздействия.

В обществе все процессы взаимосвязаны, демографические тенденции развиваются под воздействием экономических, политических, социальных, экологических и других факторов. Феномен депопуляции в России связан с низкой рождаемостью и высокой смертностью. Совокупность этих тенденций привела к снижению численности населения.

Начиная с 1992 г., в стране происходит процесс естественной убыли, который не покрывается положительным сальдо миграции. Численность населения России сократилась с 147,6 млн чел. в 1990 г. до 142,0 млн чел. в 2008 г. Естественная убыль населения в 2009 г. составила –1,8 чел. на 1 000 жителей (рис. 1).

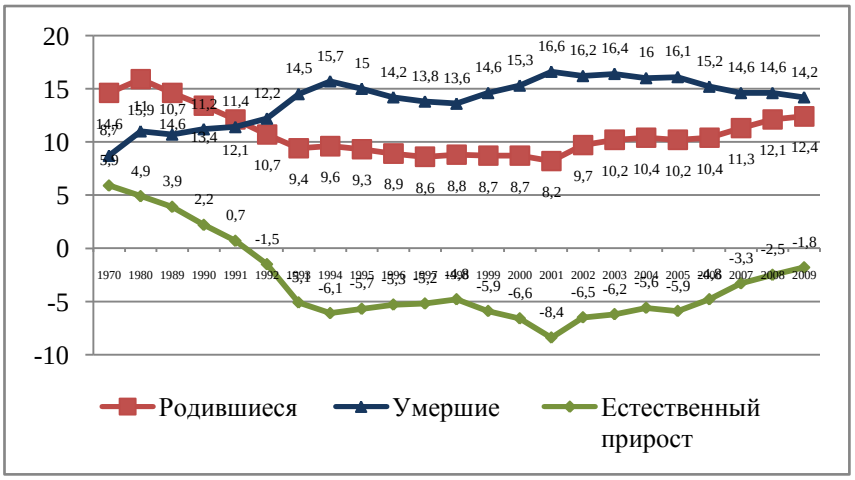

Рис. 1. Естественное движение населения в России (данные Росстата [1])

Основная причина такой демографической ситуации связана с негативными социально-экономическими условиями, с особенностями системного кризиса, охватившего все стороны жизнедеятельности населения России.

По европейским меркам уровень рождаемости в России нельзя назвать беспрецедентно низким, столь же низкая рождаемость наблюдается во многих развитых странах. Главный фактор естественной убыли – это непомерный рост смертности. Коэффициент смертности в России остается самым высоким в Европе и создает колоссальный разрыв между рождаемостью и смертностью, который выливается в депопуляцию страны. Существует определенная зависимость между уровнями смертности и показателями социально-экономического развития в стране и регионах.

Если мы не сможем в ближайшие 5–7 лет радикально изменить тренд смертности и нездоровья, то в силу инерционности демографических процессов кризис не будет преодолен даже к середине века и численность населения России уменьшится до 100–110 млн чел., т.е. сократится еще на 30 млн чел. [2].

В настоящее время среди всех причин смерти в России лидируют пять заболеваний: сердечно-сосудистые (56 %), злокачественные опухоли (15 %), внешние причины (травмы, отравления, самоубийства и др.) (11 %), болезни органов дыхания (4 %) и органов пищеварения (4 %). Они составляют более 90 % всех случаев смерти. Население России не только уменьшается, но и становится все менее и менее здоровым, а значит, теряет способность служить движущей силой экономического возрождения страны. Медико-демографические данные в России свидетельствуют о кризисе народонаселения и о усугубляющемся кризисе общественного здоровья.

Целью данного исследования является выявление факторов, влияющих на уровень смертности населения в России. Исследование проводилось с помощью методов математической статистики (корреляционный, регрессионный анализ). Материалом служила информация Росстата по 80 субъектам Российской Федерации за 2008 г. Данные были сформирована в виде информационной системы, включающей в себя следующие блоки: медико-демографические показатели, социально-демографический состав населения, экология и природно-климатические условия, социально-экономическое развитие, доступность медицинских услуг (рис. 2).

Зависимость уровня смертности населения России в 2008 г. от социально-экономических и экологических факторов устанавливалась с помощью коэффициентов корреляции Пирсона между уровнем смертности (число умерших на 1 000 чел. населения) и всеми остальными факторами из приведенной информационной системы. При этом из расчетов были исключены три республики Северного Кавказа – Дагестан, Ингушетия, Чечня, в которых достоверность статистических данных вызывает большие сомнения. Результаты расчетов приведены в табл. 1, в которую включены только те факторы, которые на уровне значимости $p < 0{,}05$ существенно отличались от нуля [3].

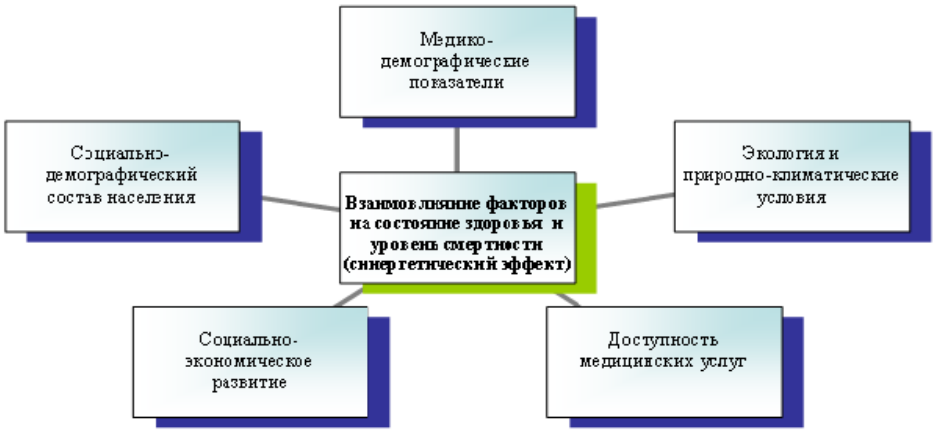

Рис. 2. Схема информационной системы, связывающей состояние здоровья и уровень смертности с социально-экономическими и экологическими факторами

Таблица 1. Коэффициент корреляции Пирсона ($p < 0,05$, $N = 77$) уровня смертности (число умерших на 1 000 чел. населения) с некоторыми факторами

№	Показатель (фактор)	Коэффициент корреляции
	Социально-демографический состав населения	
1	Численность населения моложе трудоспособного возраста (%)	–0,65
2	Численность население в трудоспособном возрасте (%)	–0,63
3	Численность население старше трудоспособного возраста (%)	0,78
4	Удельный вес русского населения в общей численности населения (%)	0,65
	Социально-экономическое развитие	
5	ВРП на душу населения (руб.)	–0,35
6	Среднедушевой денежный доход населения (руб.)	–0,32
7	Удельный вес общей площади, оборудованной отоплением (%)	–0,23
	Доступность медицинских услуг	
8	Численность врачей (на 10 тыс. чел. населения)	–0,28
9	Численность среднего медицинского персонала (на 10 тыс. человек населения)	–0,26
	Медико-демографические показатели	
10	Численность больных злокачественными новообразованиями на 100 тыс. человек населения, состоящих на учете в лечебно-профилактическом учреждении	0,63
11	Численность больных алкоголизмом и алкогольными психозами на 100 тыс. человек населения, состоящих на учете в лечебно-профилактическом учреждении	0,28
12	Число инвалидов (на 1 000 чел. населения)	0,36

Таким образом, удалось установить взаимосвязь уровня смертности с показателями из четырех блоков информационной системы: социально-демографический состав населения, социально-экономическое развитие, доступность медицинских услуг, медико-демографические показатели.

Социально-демографический состав населения

На общий коэффициент смертности (число умерших на 1 000 чел. населения) в 2008 г. оказывает влияние возрастная структура населения России: чем больше численность населения старше трудоспособного возраста (%), тем выше коэффициент смертности, и чем больше детей и трудоспособных, тем ниже смертность.

Была установлена взаимосвязь уровня смертности, национального состава и генетических особенностей русского и коренных народов каждой конкретной территории. Так как в подавляющем большинстве регионов русское население преобладает и является коренным, то не удивительно, что в целом по стране, чем выше его удельный вес в общей численности жителей (%), тем выше уровень смертности ($R = 0,65$). Эта связь особенно ярко проявляется на территориях, где большинство населения не являются русскими, а генетический фактор играет положительную роль в состоянии здоровья и продолжительности жизни местного населения (например, республики Северного Кавказа).

Социально-экономическое развитие

На коэффициент смертности существенное влияние оказывает экономическое развитие региона и уровень жизни населения. Значимыми факторами в данном случае выступали валовой региональный продукт (руб. на душу населения в год), среднедушевой денежный доход (руб. в месяц) и жилищные условия – удельный вес общей площади, оборудованной отоплением (%). Чем ниже данные показатели, тем выше уровень смертности. Коэффициенты корреляции составляли соответственно: $R = –0,35$, $R = –0,32$ и $R = –0,23$, т.е были близки по значению друг к другу, что свидетельствует о влиянии всех трех факторов.

Доступность медицинских услуг

Чем доступнее для населения медицинские услуги, тем ниже смертность, что подтверждается коэффициентами корреляции между смертностью и численностью врачей (на 10 тыс. чел. населения) $R = –0,28$, смертностью и

численностью среднего медицинского персонала (на 10 тыс. чел. населения) $R = -0{,}26$.

В последнее время появились данные, свидетельствующие о том, что здравоохранение оказывает более существенное воздействие на общественное здоровье, чем отводимые ему ранее 10–15 %. Влияние здравоохранения, включая опосредованное воздействие на наследственность, образ жизни, питание и факторы окружающей среды, достигает 30–35 % всего объема факторов. Если изначально здоровье здоровых граждан только на 10–15 % зависит от системы здравоохранения, то здоровье больных людей зависит от нее более чем на 50 %. При этом, чем тяжелее заболевание, тем больше вклад здравоохранения.

Медико-демографические показатели

Численность больных злокачественными новообразованиями, алкоголизмом и алкогольными психозами, а также лиц, признанных инвалидами, являются факторами высокой смертности населения. При этом самый высокий коэффициент корреляции наблюдается между уровнем смертности и числом больных злокачественными образованиями ($R = 0{,}63$). Данный факт подтверждается тем, что онкологические заболевания занимают второе место в структуре причин смертности населения России.

Таким образом, с помощью методов математической статистики были выявлены основные факторы, влияющие на уровень смертности. Для всех индикаторов состояния населения важнейшими являются: возрастной состав населения, уровень жизни (денежные доходы населения, масштабы распространения бедности, жилищные условия) и доступность медицинской помощи. В качестве возможных приоритетных направлений деятельности по минимизации смертности населения представляются следующие:

– улучшение материального благосостояния населения, реструктуризация распределительных процессов, повышение прожиточного минимума, рост минимальной оплаты труда, улучшение жилищных условий, поощрение более высокой рождаемости через экономические и социальные воздействия;

– повышение эффективности здравоохранения и санитарной культуры общества, развитие самосохранительного поведения в обществе (создание предпосылок для внимательного отношения населения к своему здоровью и сокращению вредных привычек);

– морально-этическое воздействие, в том числе через религиозные установки.

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Research into the Factors Influencing the Death Rate of the Population in Russia by Means of Mathematical Statistics Methods

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Key words and phrases: medico-demographic factors; the death rate of the population; social and economic indicators.

Abstract: The purpose of the given work is the study of the factors influencing the death rate of the population in Russia. Research was conducted by means of mathematical statistics methods (correlation, regression analysis). The material was the information of the Federal State Statistics Service on 80 subjects of the Russian Federation for 2008. The data were generated in the form of the information system including the following blocks: medico-demographic indicators, social-demographic structure of the population, ecological and environmental conditions, social and economic development, the availability of medical services. Application of methods of mathematical statistics enabled to reveal the factors influencing the death rate and offer measures on the decrease in their influence.

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ПЕРСОНАЛ ПРЕДПРИЯТИЙ КАК ФАКТОР ВЛИЯНИЯ НА СОЦИАЛЬНО-ЭКОНОМИЧЕСКОЕ РАЗВИТИЕ РЕГИОНА

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Ключевые слова и фразы: персонал предприятий; социально-экономическое развитие региона; динамика занятости и безработицы; численность работников организаций.

Аннотация: В данной статье рассмотрен персонал предприятия как фактор влияния на социально-экономическое развитие региона. Проведен анализ основных социально-экономических показателей региона (г. Лесосибирск Красноярского края).

В настоящее время возрастает роль социально-экономического развития городов, районов, регионов. От решения проблем уровня и качества жизни населения зависит направленность и темпы дальнейших преобразований в стране и, в конечном счете, политическая и экономическая стабильность в обществе.

Основными целями социально-экономического развития городов являются: рост доходов, улучшение образования, питания и здравоохранения, снижение уровня нищеты, оздоровление окружающей среды, равенство возможностей, расширение личной свободы, обогащение культурной жизни. Некоторые из этих целей идентичны, но в определенных условиях они могут иметь существенные различия.

Главным элементом государственного хозяйствования с экономической, технической и социальной точек зрения является производственный потенциал, выступающий в виде предприятий и фирм. Содержательная сторона деятельности таких организаций многообразна и оказывает влияние на различные стороны жизни общества. Являясь частью этого общества, производственные организации и их члены сами подвержены процессам общественных изменений. Формирование рыночной среды требует от предприятий повышения эффективности производства, конкурентоспособности продукции, работ и услуг на основе внедрения эффективных форм хозяйствования и управления производством. Важная роль в реализации этой задачи отводится экономическому анализу.

Целью данной работы является определение роли персонала предприятий как фактора влияния на социально-экономическое развитие региона. Проведен экспертный анализ показателей социально-экономического развития на примере конкретного региона – г. Лесосибирск Красноярского края. В качестве экспертов выступали кандидаты экономических наук, политические деятели, служащие государственных учреждений. Результат наиболее значимых социально-экономических показателей данного региона отражен в табл. 1.

За исследуемый период (с 2007–2009 гг.) отмечено заметное снижение социальных показателей, а именно численности работников организаций и численности постоянного населения. Экономические показатели региона так же имеют отрицательную динамику: снижение объемов отгруженных товаров собственного производства, оборота розничной торговли и общественного питания. Основной причиной такого снижения является мировой экономический кризис. Ухудшение экономического состояния региона вызвано переходом предприятий на более экономный режим деятельности, что, в конечном итоге, приводит к росту количества безработных.

На сегодняшний день регион имеет высокий уровень трудоспособного населения (63 % от численности постоянного населения). Уровень безработных граждан в регионе составляет 3 % от трудоспособного населения. Наиболее полно это отражено в динамике показателей экономической активности, занятости и безработицы в регионе (табл. 2).

Таблица 1. Основные показатели социально-экономического развития г. Лесосибирска [5]

Показатели	2007 г.	2008 г.	2009 г.	Темп роста, %	
				2008/2007	2009/2008
Численность постоянного населения (среднегодовая), чел. в том числе:	69 780	69 621	69 523	99,8	99,9
городская местность	69 668	69 547	69 454	99,8	99,9
сельская местность	107	74	69	69,2	93,2
Численность трудовых ресурсов, тыс. чел.	42,36	42,77	43,62	101,0	102,0
Численность занятых в экономике (среднегодовая), тыс. чел.	25,97	31,94	31,47	123,0	98,5
Среднесписочная численность работников организаций, тыс. чел.	22,86	23,43	23,02	102,5	98,3
Численность безработных граждан, зарегистрированных в государственном учреждении службы занятости, тыс. чел.	1,03	1,11	1,25	107,8	112,6
Объем отгруженных товаров собственного производства, выполненных работ и услуг собственными силами организаций всех видов деятельности, млн руб.	7 239	8 471	8 138	117,0	96,1
Оборот розничной торговли, млн руб.	3 395	5 806	5 263	171,0	90,7
Оборот общественного питания, млн руб.	105	109,7	86,1	104,8	78,5
Объем платных услуг, млн руб.	919	491	516	53,5	105,1
Объем бытовых услуг, тыс. руб.	6 159	5 010	16 052,5	81,3	320,4
Инвестиции в основной капитал (в фактически действовавших ценах), млн руб.	485	932	916	192,3	98,2

Таблица 2. Динамика показателей экономической активности, занятости и безработицы в регионе

Показатель	2007 г.	2008 г.	2009 г.	Абсолютные отношения, (+,–)		Темп роста, %	
				08/07	09/08	08/07	09/08
Численность населения, тыс. чел.	69,78	69,62	69,52	–0,159	–0,098	99,77	99,86
Численность экономически активного населения, тыс. чел.	43,26	42,77	43,62	–0,49	0,85	98,87	101,99
Уровень экономической активности, %	61,99	61,43	62,27	–0,56	0,84	99,10	101,37
Численность занятых, тыс. чел.	25,97	31,94	31,47	5,97	–0,47	122,99	98,53
Уровень занятости, %	37,22	45,88	45,26	8,66	–0,62	123,27	98,65
Доля занятых в численности экономически активного населения. %	60,03	74,68	72,14	14,65	–2,54	124,40	96,60
Численность безработных (общая), тыс. чел.	1,03	1,11	1,25	0,08	0,14	107,77	112,61
Уровень безработицы, %	2,39	2,6	2,98	0,21	0,38	108,79	114,62

По результатам табл. 2 в регионе наблюдается незначительный рост уровня экономической активности (1,4 % в 2009 г.). Положительная динамика этого показателя не оказывает влияния на улучшение условий на рынке труда, в регионе отмечается рост уровня безработицы (15 % в 2009 г.) и снижение занятости (3 % в 2009 г.).

Такая ситуация является негативной, так как приводит к снижению уровня жизни населения, перерасходу бюджетных средств, и является тормозом в развитии экономического потенциала региона.

Для более точной оценки влияния численности работников персонала на социально-экономическое развитие региона нами рассмотрена структура численности работников организаций г. Лесосибирска (табл. 3).

При анализе данных по количеству работающих на предприятиях и организациях г. Лесосибирска (табл. 3), можно выделить, что наибольшая численность работающего населения занята в обрабатывающем производстве (48 %). В регионе действует программа по переселению из ветхого и аварийного жилья, следствием этого является рост работников, занятых в сфере строительства (41 % в 2009 г.) практически не развиты такие сферы деятельности, как сельское хозяйство, гостиничный и ресторанный бизнес. Снижение численности населения оказывает влияние на сокращение рабочих мест в сфере образования (5 % в 2009 г.), транспорта (5 % в 2009 г.), оптовой и розничной торговли (5 % в 2009 г.).

Таблица 3. Структура численности работников организаций

Показатель	Год			Удельный вес, %			Темп роста, %	
	2007	2008	2009	2007	2008	2009	08/07	09/08
Среднесписочная численность работников организаций:	22,86	23,43	23,02	100	100	100	102,5	98,3
Сельское хозяйство, охота и лесное хозяйство	0,93	0,04	0,04	4,1	0,2	0,2	4,3	100,0
Добыча полезных ископаемых	0,15	0,18	0,18	0,7	0,8	0,8	120,0	100,0
Обрабатывающие производства	8,79	11,20	11,04	38,5	47,8	48,0	127,4	98,6
Производство и распределение электроэнергии, газа и воды	1,46	1,39	1,33	6,4	5,9	5,8	95,2	95,7
Строительство	0,39	0,22	0,31	1,7	0,9	1,3	56,4	140,9
Оптовая и розничная торговля; ремонт автотранспортных средств, мотоциклов, бытовых изделий и предметов личного пользования	1,13	0,76	0,64	4,9	3,2	2,8	67,3	84,2
Гостиницы и рестораны	0,15	0,06	0,03	0,7	0,3	0,1	40,0	50,0
Транспорт и связь	1,66	1,68	1,59	7,3	7,2	6,9	101,2	94,6
Финансовая деятельность	0,24	0,26	0,32	1,0	1,1	1,4	108,3	123,1
Операции с недвижимым имуществом, аренда и предоставление услуг	0,68	0,32	0,28	3,0	1,4	1,2	47,1	87,5
Государственное управление и обеспечение военной безопасности; обязательное социальное обеспечение	1,50	1,51	1,58	6,6	6,4	6,9	100,7	104,6
Образование	2,96	2,95	2,79	12,9	12,6	12,1	99,7	94,6
Здравоохранение и предоставление социальных услуг	2,10	2,13	2,22	9,2	9,1	9,6	101,4	104,2
Предоставление прочих коммунальных, социальных и персональных услуг	0,72	0,73	0,67	3,1	3,1	2,9	101,4	91,8

Таким образом, для производственной сферы, регион имеет высокий потенциал экономически активного населения. Прослеживается прямая зависимость между экономическим развитием региона и управлением занятости населения. Развитие любого бизнеса связано с потенциальными возможностями населения, как в сфере производства, так и в сфере потребления.

На основании государственной поддержки развития среднего и малого бизнеса в регионе резко увеличилось количество предприятий, предоставляющих услуги, темп роста которых составляет 320 %. Такая динамика является положительной и дает возможность планировать дальнейшее развития предприятий среднего и малого бизнеса, что впоследствии отразится на сокращении безработных.

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The Personnel of the Enterprises as the Influence Factor on Social and Economic Development of Region

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Key words and phrases: personnel of enterprises; social and economic development of the region; dynamics of employment and unemployment; number of employers of the organizations.

Abstract: In given article the enterprise personnel as the factor of influence on social and economic development of region is considered. The analysis of the basic social and economic indexes of the region (Lesosibirsk, Krasnoyarsk region) is carried out.

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Heterogeneous Firms and CSR Sorting

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Key words and phrases: theoretical model of CSR; heterogeneous firms; CSR activities; consumers' demand; horizontal differentiation; vertical differentiation.

Abstract: We present a theoretical model of CSR choice in an economy where heterogeneous firms display productivity differences. We analyze the problem of each firm's choice of both pursuing ethical standards in production and deciding upon the intensity of CSR embodied in the good produced. The behavior of firms follows from consumers' demand for CSR goods, given that the latter derive additional utility from ethical contents of the goods and so present a demand in which sensitiveness to CSR is relevant. The core elements of the model are based on the strand of literature on heterogeneous firms in international trade pioneered by Mélitz (2003). Here we consider a closed economy and the CSR option in production, which is subject to both sunk and variable costs. We analyze the link between heterogeneity in productivity and CSR intensity, letting the level of ethical standards to be endogenously determined by each firm. As the cost structure varies according to the CSR intensity, firms that differ in productivity optimally adopt different strategies of CSR differentiation.

Introduction

The increasing interest for Corporate Social Responsibility (**CSR**) among scholars in different fields of research is also influencing economists, who are facing several challenges, dealing with economic issues emerging by ethical behaviour.

The economic analysis of CSR has provided a new perspective in the theory of CSR and created the so called "strategic CSR", which now dominates among the approaches to CSR in the literature.

The original idea of strategic CSR comes from Milton Friedman, who stated that "there is one and only one social responsibility of business – to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which is to say, engages in open and free competition without deception or fraud" (Friedman, 1970 and 1977).

In this context the hypothesis of altruism of the firms is not realistic, turning into actions oriented to increase profits, even if in the long run.

So CSR cannot exist if not directed to the main objective of the firm: profit maximization. So "responsibility as social purpose consists of the research of profit and CSR activities are a consequence of incentives coming from the markets (goods, work, capital), where the firm is located" (Sacco-Viviani, 2005).

Friedman's thought considers also the role and the authority of managers. In fact they are elected by the shareholders in order to reach positive results in terms of profits. As CSR has a cost, managers would not be allowed to pay for purposes other than profit maximization. Managers would not have the task to "pursue morally valuable social causes" and so they would not "tamper prices" (Sacconi, 2005) without knowing the effects that this could take to the market and to consumers.

So CSR is not an altruistic experience for firms, but these last are interested in it because it should let products become more desirable. The idea is that firms choose CSR because the demand for CSR products increases[1].

In this context it can be considered the so called "bottom up pressure", that is consumers' initiative in appreciating CSR. According to this view consumers keep being sensitive to social responsibility before firms do. Firms just take cognizance of this fact and incorporate it in their calculation. For this reason demand functions

[1] Of course we define CSR products as the goods produced by undertaking CSR firms.

depend on CSR and this last becomes relevant for the maximization of profits. In the literature most of authors refer to this approach as "strategic CSR".

Once we accept this vision of CSR, it is easy to work in a differentiation product scenario, as most of the authors do.

A first hypothesis we need to reflect on before setting product differentiation models concerns the distinction between horizontal and vertical differentiation criteria.

The hypothesis concerns consumers' demand. In the first case these last don't necessarily prefer to have a higher share of CSR than a lower one, once they have defined their optimal quantity of CSR. On the contrary in the second case it is unanimously recognized that a higher quantity of CSR gives a higher value to the product.

Theorists of horizontal differentiation approach justify the existence of not preferring CSR consumers with the possibility that people are against it, because they believe that CSR has to be a feature external to the firm, which public institutions are responsible for. These last are supposed to protect the rights coming from CSR.

This awareness comes from the prosecution of a debate going back again to the neoclassical theory. As described above the idea of Friedman (Friedman 1970, 1977) is to admit CSR among the strategic decisions if and only if it contributes to increase profits. In fact a purpose other than profit maximization would be in contrast with shareholders' needs satisfying, given that the shareholders have elected the managers. These last, moreover, have never been delegated to undertake CSR projects and they do not necessarily have the requirements to do that.

According to the supporters of CSR horizontal differentiation models firms do not have either the competence or the capability to engage socially responsible initiatives and, above all, they would not have a relevant impact on sustainability objectives of the whole community.

This could bring a market share to show a poor demand for products with ethical contents. Consumers belonging to this category would pay a very high psychological cost when they buy from firms more ethical than them.

On the contrary the supporters of vertical differentiation approach believe that, at given equal prices, a consumer is indifferent between the product with his optimal CSR contents and the one with higher "quantity" of it, accepting more CSR than the preferred.

There exist intermediate positions in which the authors accept the vertical differentiation approach as described above, but they admit the existence of heterogeneous consumers along an ethical segment of differentiation (Becchetti-Giallonardo-Tessitore 2007).

So, despite the theoretical justification of the horizontal differentiation supporters going back to neoclassical theory, empirical results show a widespread preference for firms' ethical effort (Becchetti-Rosati 2007, Becchetti-Cremonese-D'Achille-Venturini 2006).

It is also true that it would seem unrealistic, according to the prevalent literature, to believe that *ceteris paribus* consumers prefer renouncing to CSR.

So a vertical differentiation approach seems to be more adequate to modelize CSR, considering this last as a product characteristic increasing the quality.

Starting by this assumption several authors consider the concept of CSR as a product differentiation criterion, basing their papers on oligopoly market forms (Manasakis-Mitrokostas-Petrakis, 2007) and on spatial models of differentiation (Becchetti-Giallonardo-Tessitore, 2005; Becchetti-Federico-Solferino, 2005).

Once we admit the hypothesis of CSR as a vertical product differentiation criterion it is natural referring it to product quality.

The literature about CSR is very reach of duopoly and oligopoly models of product differentiation, but we rarely find scenarios of competition which could give us interesting results in terms of CSR performances.

Among several studies of perfect and monopolistic competition incorporating vertical product differentiation the most appropriate to CSR approach is the one applied to international trade, considering quality in the products as an important feature for intra-trade flows (Hummels-Klenow, 2005; Hallak, 2006; Cavallaro-Mulino, 2009; Melitz, 2003).

According to this theoretical approach, product differentiation has a double dimension, given by variety and quality. The intensity of quality represents the result of a rational choice of the firms which invest resources in research and development, obtain stochastically an increasing of qualitative characteristics of the product and conquer market shares in the country and abroad,

given a consumers' demand. This last comes from consumers who, evaluating positively the quality, choose their goods not only on the base of relative prices, but of relative prices weighted for the quality.

The same features are in the recent developments which start from Mélitz model (Melitz 2003) and consider heterogeneous in productivity firms behaviour. Several works have then incorporated quality competition in the basic model with heterogeneous firms (Johnson 2008, Kugler-Verhoogen 2008), endogenizing the optimal choice of quality. In particular Baldwin-Harrigan (Baldwin-Harrigan-2007) obtain that the optimal level of quality varies positively with firm productivity, as a higher product quality causes higher marginal costs.

Our idea to formalize CSR using those methodologies was born from the similarity between CSR and quality in terms of theoretical effects. CSR and quality can easily be considered at the same way both in consumers' preferences and in production side, even if they are different phenomena.

Our model aims to deep the CSR topics considering the concept of strategic CSR, accepting a vertical product differentiation approach in a context of heterogeneous firms and monopolistic competition.

In this way we try to understand which are the features influencing CSR performances, the reasons encouraging firms to engage it and the strategies to adopt to approach to it.

The results we will obtain could be changed if we introduce more realistic hypothesis.

Considering the presence of a financial constraint, for example, preventing some firms credit access and limiting it for others, could decrease the engaging in CSR projects in the whole market.

The subject of financial constraints is widely discussed in the literature (Grossman-Helpman, 1991; Kaplan-Zingales, 2000; Michie, 1998), but there are relevant important works for this project as the one of Gorodnichenko and Schnitzer (Gorodnichenko-Schnitzer-2010) in which the authors study the effects of constraints on innovation of the firms in a context of open economies and development differences between the countries.

In this work we analyze the problem of the investments financing of firms when they have not enough internal resources to do that. Our purpose is to study the effects of this scenario on CSR choices.

So the structure of the paper is the following: in the first section we make some points about the connection between CSR and quality in order to study the characteristics of the goods.

In the second section we present our model distinguishing the demand side, the production side and the optimal choice of firms in terms of CSR.

In the third section we analyze the effects of financial constraints on firms CSR performances.

CSR and product quality

We develop our model to study the choice to introduce ethical standards in production and, if so, how much SR content to embody. The above choices are analyzed as optimal responses of heterogeneous firms to consumers' desire for SR. The core elements of the model are based on Melitz (2003), re-introducing the stochastic evolution of firm productivity from Hopenhayn (1992). This literature is based on quality product differentiation. Our model considers the CSR option subjected to both sunk and variable costs.

Including CSR in models of heterogeneous firms is very easy if we consider its similarity with quality.

Of course CSR and product quality are two different features among consumers' preferences and in the production function of the firms, even if they are interrelated and correlated according to the prevalent definitions of CSR.

In the literature and in the official documents we can find several definitions of CSR, which include numerous actions with social characteristics that a firm can undertake. McWilliams and Siegel (McWilliams-Siegel, 2005) define CSR as "situations where the firm goes beyond compliance and engages in actions that appear to further some social good, beyond the interests of the firm and that which is required by law". The same authors recognize that a socially responsible (SR) firm will produce "incorporating social characteristics or features into products". This means that the products of socially responsible firms have a higher qualitative level. In this sense CSR can be considered a component of the quality.

At the same time there are definitions of CSR including product quality among the socially oriented actions of a SR firm. In Becchetti-Ciciretti (2010), for instance, the "product quality" is listed

among the main "criteria of social responsibility". In this vision the statement above can be inverted: quality can be considered a component of CSR.

Sometimes CSR is also identified with quality, because it is a special kind of it. The same authors (Becchetti-Ciciretti, 2010) talk about "social quality" as the ethical value that a firm can reach.

On the contrary Boehe-Cruz (2010) distinguish CSR by quality and innovation as differentiation criteria. Quality is related to "several product characteristics, such as product performance, durability, reliability, and consistency with specifications", for example. Innovation, or R&D intensity, "includes product and process engineering" and for this reason it can be considered as a characteristic of the product as well.

So if we define CSR as above (McWilliams-Siegel, 2005), it is natural that a firm can product differentiate using quality, innovation or CSR as differentiation criteria and that the three are deeply different each other.

However the authors show that there is a positive correlation between quality differentiation and CSR product differentiation and between innovation differentiation and CSR product differentiation.

What it is relevant for us is the certainty that CSR can be theoretically modelized the same way as quality as well as innovation.

Our purpose is to describe a model explaining performances of firms under certain conditions of the market in terms of CSR, so CSR is the differentiation criterion of the model.

However it is easy to show that it can be applied considering quality or innovation as differentiation criteria instead of CSR.

Further research will be able to specify CSR in more specific models which can not be applied to quality or innovation. They would be general models of vertical product differentiation, as it will be described in the conclusions.

The model

We consider a closed economy with heterogeneous firms which show firm level productivity differences. The model is built in a monopolistic competition context and vertical differentiation in CSR. The heterogeneity in productivity concerns capability to realize different levels of utility at equal cost or the same utility at higher costs; so the productivity differences are independent of product differentiation.

Demand

Households have a preference for diversity and therefore derive utility from the consumption of differentiated varieties of products, which substitute imperfectly for each other.

Preferences of the representative consumer among varieties are described by the following constant elasticity of substitution (**CES**) utility function:

$$U_i = \left[\sum_j \left(s_j^{\lambda} C_j \right)^{\frac{\theta-1}{\theta}} \right]^{\frac{\theta}{\theta-1}}. \qquad (1)$$

where s_j is the CSR content of variety *j* measured in utility per physical unit, assumed to be observable to all, with $s_j \geq 1$ and *j* indexes an individual variety among the set of available varieties, C_j is the quantity consumed measured in physical units, and $\theta > 1$ is the elasticity of substitution between varieties. The parameter $\lambda > 0$ captures the intensity of the consumers' desire for the CSR content of goods.[2] The CSR content of each product *j* is a demand shifter: higher CSR goods yield higher consumption utility per unit consumed.

The representative household earns profit flows π_i and labour income w_i by supplying her unit labour endowment *L* in a competitive labour market. We assume that consumers own an equal share of each firm, so that profits of firms will be equally distributed among the consumers.

Utility maximisation by the representative consumer leads to the following demand function for a particular variety *j*:

$$C_h = \frac{p_h^{-\theta} s_h^{\lambda(\theta-1)}}{P} R. \qquad (2)$$

Where *R* is the aggregate income, p_j is the price of variety *j*, *P* is an aggregate quality-adjusted price index, defined as:

$$P = \sum_j \left(p_j / s_j^{\lambda} \right)^{(1-\theta)}. \qquad (3)$$

[2] Following Hallak (2006), λ may be assumed to be positively linked to the consumer's real income.

Production

Each variety of the differentiated good is produced by a single monopolistically competitive firm. Firms are heterogeneous in an exogenously fixed productivity parameter a_j, which can be interpreted as entrepreneurial ability or technical know-how. Following standard models of heterogeneous firms, productivity is heterogeneous: upon paying a fixed fee F_e required for entry, firms are endowed with a firm-specific productivity parameter (a_j) that is randomly drawn from a continuous probability distribution $G(a)$. Firms with low productivity exit the market. The remaining firms maximize their profits by taking the number of firms N. Each firm not only chooses its optimal price, but it also chooses whether to enhance its product with CSR and, if so, the level of the ethical standards.

We start by considering an economy without CSR, that is, an economy where consumers are not sensitive to SR, so that $s_j = 1$ in (1).

We assume homogenous labour to be the only factor of production; yet, productivity may raise physical output for a given level of labour input. Entry in the differentiated product sector is costly as each firm incurs a production startup cost F_e of units of labour, equal for all firms. It follows that firms with low productivity (high marginal cost) exit the market. Subsequent production exhibits constant returns to scale, so that, upon entry, the production of physical units is

$$Y_j = a_j l_j \tag{5}$$

the corresponding total cost is $TC_j = F_e + wl_j$ and the marginal cost (equal to unit labour requirement) is

$$c_j = \frac{w}{a_j} \tag{6}$$

where w is the common wage rate. Profit maximization subject to technological and demand constraints yields the standard result that equilibrium prices are a constant mark-up over marginal cost, with the size of the mark-up depending on the elasticity of substitution between varieties:

$$p_j = \frac{\theta}{\theta - 1}\frac{w}{a_j}. \tag{7}$$

Profits of the firm are given by the following expression:

$$\pi_0 = p_j Y_j - \frac{w}{a_j Y_j}. \tag{8}$$

We now bring into the model the possibility for the firm to pursue ethical standards in production. Its behaviour follows from the consumers' sensitiveness to SR, that is, at this point we assume $s_j > 1$.

Besides the hypotheses made for the previous case, we add a fixed cost in units of labour of switching to ethical standards F_s and a cost that varies with respect to the level of SR the firm chooses to undertake. Upon deciding to pursue SR, the production function becomes:

$$Y_j = \frac{a_j l_j}{s_j^{\eta}} \tag{9}$$

and the corresponding marginal cost is

$$c_j = \frac{w}{a_j} s_j^{\eta} \tag{10}$$

with $0 < \eta < 1$ and $\eta < \lambda$. Such a parameter represents the elasticity of marginal cost with respect to the level of SR: we assume that when the firm increases the level of ethical content in the good it produces there is a less than proportional increase in the unitary cost.

The total cost is $TC_j = wl_j + F_e + f(s_j)^{\delta} + F_s$. The last two terms represent the cost of SR: there is a fixed cost (second term) and a cost that varies with respect to the level of SR the firm choices to undertake.[3]

Combining the total cost with the production function we have

$$TC_j = \frac{w}{a_j} s^{\eta} Y_j + F_e + f(s_j)^{\delta} + F_s \tag{11}$$

which are the total costs the firm has to face.

Optimal CSR level choice

Firms are traditional profit maximizers, so they will choose the level of CSR resulting by a profit maximization problem.

[3] It can be useful alternatively to specify the variable cost for CSR as $f(s-1)^{\delta}$. In that case we would be able to describe the model for $s \geq 1$, without distinguish the two cases, as the costs are null when $s = 1$.

As a consequence we are able to find the following proposition.

Proposition 1: If $\eta < \lambda$, heterogeneous firms facing a demand of consumers sensible to CSR and a cost structure given by eq. (10) choose a level of CSR s_j^* given by the following

$$s_j^* = \left\{ \left(\frac{w}{a_j} \right)^{1-\theta} \frac{(\theta-1)^{\theta}(\lambda-\eta)}{\delta f \theta^{\theta}} \frac{R}{P} \right\}^{\frac{1}{\delta-(\theta-1)(\lambda-\eta)}}. \quad (12)$$

Proof: The profits of firms are

$$\pi_j = p_j Y_j - \frac{w}{a_j} s^{\eta} Y_i - F_e - f s_j^{\delta} - F_s \quad (13)$$

Firms choose the amount of s_j maximizing the above profits.

The optimal value of s_j is simply the solution of the following maximization problem

$$\begin{cases} \max \pi_j = p_j Y_j - \frac{w}{a_j} s^{\eta} Y_i - F_e - f s_j^{\delta} - F_s \\ \text{s.t.} \quad Y_j = C_j \\ \quad C_j = \frac{p_j^{-\theta} s_j^{\lambda(\theta-1)}}{P} R \\ \quad p_j = \frac{\theta}{\theta-1} \frac{w}{a_j} s_j^{\eta} \end{cases} \quad (14)$$

That solution, given by Eq. (12), is positive for $\eta < \lambda$.

The result shows that CSR increases with productivity a_j as a higher productivity causes a reduction of costs and prices so that firms can produce more and pay for more CSR. It obviously increases with λ, the intensity of ethical features in consumers' demand. It decreases with η and δ, which indicate the incidence of CSR respectively on total variable and sunk costs. At last the amount of CSR increases with the aggregate income. This last result could indicate that CSR could be considered a luxury feature of the product, reserved to richer consumers.

This feature is still debated among the scholars insofar it is related to the issue of CSR performances during an economic crisis. In fact empirical results are not unanimous in showing that CSR decreases during a recession. The reason why CSR could not decrease could be related to a higher sensitiveness for ethical issues in times of crisis in the market, for example. But the point can be better analyzed in further works.

3. CSR and financial constraints

In this section we consider the possibility to introduce a financial constraint in the model. We simply suppose that firms could not have enough resources to invest in CSR, so admitting the possibility to ask for external finance.

We introduce γ as the cost of external finance.

Given that q is the probability that the firm has to ask for external finance and let's suppose this last would refer to a share β of costs, we have the following total costs:

Proposition 2.

Given Eq. (8), heterogeneous firms, facing a demand of consumers sensible to CSR, will find optimal to engage in CSR if and only if:

$$\pi_{0j} \geq \frac{s_j^* \phi + \Phi}{s_j^{*(1-\theta)(\eta-\lambda)} - 1}$$

with $\phi = (1 + (1-q)\gamma\beta) f$

and $\Phi = F_e + (1 + (1-q)\gamma\beta) F_s$

Proof.:

If the firm decides to engage in CSR, it will exist two possible profits: the first one (π_0^s) would be achieved when the firm has not to recur to external finance and the second one (π_γ^s), on the contrary, would be aggravated by the cost of external finance.

In particular we will have

$$\pi_{0j}^s = p_j Y_j - \frac{w}{a_j} s^{\eta} Y_j - F_e - f s_j^{\delta} - F_s \quad (15)$$

and

$$\pi_{\gamma j}^s = p_j Y_j - \frac{w}{a_j} s^{\eta} Y_j - F_e - f s_j^{\delta} - F_s - \gamma\beta \left[f s_j^{\delta} + F_s \right] \quad (16)$$

So total expected profits of the firm are

$$\begin{aligned} E\left(\pi_j^s \middle| s_j\right) &= q\pi_{0j}^s + (1-q)\pi_{\gamma j}^s = \\ &= p_j Y_j - \frac{w}{a_j} s^{\eta} Y_j - F_e - f s_j^{\delta} - F_s - (1-q)\gamma\beta \left[f s_j^{\delta} + F_s \right] \\ &= p_j Y_j - \frac{w}{a_j} s^{\eta} Y_j - \phi s_j^{\delta} - \Phi_s \end{aligned} \quad (17)$$

Eq. (17) represents the quantity to maximize in choosing the level of CSR s_j.

The new problem to solve is similar to problem (14), given consumers' demand and equilibrium prices:

$$\begin{cases} \max E\left[\pi_j^s \middle| s_j\right] = p_j Y_j - \frac{w}{a_j} s^\eta Y_j - \phi s_j^\delta - \Phi_s \\ s.t.\ \ Y_j = C_j \\ C_j = \frac{p_j^{-\theta} s_j^{\lambda(\theta-1)}}{P} R \\ p_j = \frac{\theta}{\theta-1} \frac{w}{a_j} s_j^\eta \end{cases} \quad (18)$$

The solution of the problem is given by the following expression for s_j:

$$s_j^* = \left\{ \left(\frac{w}{a_j} \right)^{(1-\theta)} \frac{(\theta-1)^\theta (\lambda-\eta)}{\delta \theta^\theta (1+(1-q)\gamma\beta) f} \frac{R}{P} \right\}^{\frac{1}{\theta-(\theta-1)(\lambda-\eta)}}. \quad (19)$$

Eq. (19) can be substituted in the maximized function in order to compare the resulting profits with profits without CSR π_0.

We have:

$$E\left[\pi_j^s \middle| s_j^*\right] = \pi_0 \left(s_j^{*(1-\theta)(\eta-\lambda)} - 1 \right) - \phi s_j^{*\delta} - \Phi_s \quad (20)$$

From the comparison follows that $E\left[\pi_j^s \middle| s_j^*\right] \geq \pi_0$ if and only if the following disequality holds

$$\pi_0 \geq \frac{\phi s_j^{*\delta} + \Phi_s}{s_j^{*(1-\theta)(\eta-\lambda)} - 1} \quad (21)$$

which is the thesis of *Proposition 2*.

Proposition 2 shows that if profits without CSR π_0 are particularly high, then CSR costs are not very influent for the firm, so that this last will find convenient to engage it, despite the financial constraint.

This result takes to the conclusion that only high profits firms will be able to engage in CSR when there are financial constraints to face.

So CSR seems to be a group of activities for more healthy firms. Adding this result to the one described in the previous paragraph, which links CSR exclusively to the richest economies, we find once again that CSR is a luxury. It increases with consumers' income and with firms' profits when there are financial constraints.

This story could change if we consider the existence of ethical finance, including it in the model. As ethical finance is specifically addressed to SR projects, SR firms would have easier access to credit and at lower costs. Even this aspect can be developed in further research.

Conclusions and future developments

We built a model of vertical product differentiation considering CSR as a differentiation criterion. The originality of the model consists of the study of CSR in a contest of heterogeneous firms and under the hypothesis of monopolistic competition instead of oligopoly. Our results show how CSR can be influenced in the market by several variables in demand or supply side. In particular we find a positive correlation between income and CSR and between profits and CSR. This let us think that CSR can be considered a luxury for consumers and for firms.

At this point we wonder if it is possible to develop CSR in poorer countries or if it is convenient to focus on CSR even if governments are facing a recession.

Actually the answer is not necessarily negative. In fact it is sufficient to include some important considerations in the model to completely change the analysis.

For example we could consider that in times of crisis consumers and also institutions are more sensitive toward SR than in periods of growth.

In fact it is admissible that the market shows a higher sensitiveness toward more ethical than economical topics because of the reduction of income itself. For this reason consumers could appreciate the interest of the firms toward social problems and hope that institutions in the economy (not only public institutions but also firms and households) ensure economical and environmental sustainability in the society.

This could be the reason why some empirical works show that CSR not necessarily decreases during recessions. Further research could deepen these aspects.

At the same time it is not exhaustive the result of the third section. It shows that high initial profits firms can more easily undertake CSR than low profits ones when financial constraints hold in the market. In fact there can be very easy access to financial markets for more ethical firms if we admit the existence of ethical finance. This last is for definition directed to socially responsible firms and to ethical projects of firms.

Including ethical finance in the model we are also able to better specify CSR modelizing it differently from quality or innovation and finding new results applying only to the differentiation criterion of CSR.

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ГЕТЕРОГЕННЫЕ ФИРМЫ И КОРПОРАТИВНАЯ СОЦИАЛЬНАЯ ОТВЕТСТВЕННОСТЬ

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Ключевые слова и фразы: теоретическая модель КСО; гетерогенные фирмы; действия КСО; требования потребителей; горизонтальное дифференцирование; вертикальное дифференцирование.

Аннотация: В статье представлена теоретическая модель выбора КСО в экономике, согласно которой гетерогенные фирмы имеют различия в производительности. Анализируется проблема выбора каждой фирмой этических стандартов в производстве и решения интенсивности КСО. Поведение фирм зависит от спроса потребителей на товары, так как последние получают дополнительную выгоду от этического содержания товаров. Основные элементы модели основаны на литературе по гетерогенным фирмам в международной торговле и рассмотрены впервые М. Мелицем (2003). В данной статье мы рассматриваем закрытую экономику и выбор КСО в производстве, для которого характерны переменные издержки. Мы анализируем связь между разнородностью в производительности и интенсивностью КСО, тем самым позволяя определить уровень этических стандартов, которые будут эндогенно определены каждой фирмой. Поскольку структура издержек изменяется согласно интенсивности КСО, фирмы принимают различные стратегии дифференцирования КСО.

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Crisis of Technology in Corporate Strategic Management

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Key words and phrases: strategy; tactics; strategic factors; corporate strategy; business strategy; crisis management strategy.

Abstract: Anti-crisis strategy can be any strategy if it performs the appropriate functions. The author proposes to apply a crisis management approach to corporate strategic direction, rather than anti-crisis strategic management.

Management strategy is called the general concept of how to achieve the main objectives of the organization, deal with the problems confronting it; it is complemented by a real program of action aimed at eliminating the negative effect of instability in the environment and the acquisition of competitive advantage, ensuring the victory in the competition. It combines the business concept, vision and goals, as well as a list of necessary steps to achieve them. The need for a strategy arises primarily when the external or internal environment of the organization undergoes substantial changes, which it needs to respond. Typically, the organization has more than one strategy that should form a harmonious system, be difficult to copy and play competitors. Application of any of them depends on the situation and goals, their complexity, the desired time frame for achieving, etc.

The main objective of the strategy in normal conditions is to create a competitive advantage for organizations. In addition, the strategy aims to eliminate the negative impact of the environment, to identify future directions of development of the organization and mobilization of its resources in the areas which offer the greatest chance of success, to form a strategic capacity, etc.

Any strategy must meet certain requirements. Among them we should mention reality, consistency, ethics, compatibility with the environment, justifiable risk-taking, alternative, unique, etc. Organization's strategy is constantly evolving, as it needs to respond to new challenges.

At middle and grassroots levels management strategy is complemented by a concrete tactics (short-term strategy). Tactics (offensive or defensive) is a specific operating plan detailing the implementation of the best alternative strategy, under existing conditions, or to new and unforeseen circumstances, showing when, where and how it will take place. Fast reaction to changes in the environment is often achieved through the combination of tactical steps.

Successful development of the organization is largely determined by strategic factors. According to Swedish economist B. Karlof, they are influencing the strategy of any organization, give it specific properties. These factors include: mission, competitive advantage, the nature of the products, institutional factors, disposable resources, the development of the organization potential; markets and their boundaries; program to improve business, culture, ethical views and expertise of managers, their level of aspiration and enterprise, and the ability to lead as well as the internal climate in the team [1].

Strategies can be categorized by many reasons. In particular, we distinguish the general organizational or corporate strategy, which reflect the ways to implement the organization's mission and a shared ideology of its management and its member units. This is an overall business concept in the form of long-term program of action, including the growth and development of the organization, which must be subordinated to all of its resources. It gives them a common focus, ways of solving problems and achieving the main goal – to ensure competitive advantage.

The objects of organizational (corporate) strategy are:

– the specific direction and magnitude of the organization in those sectors and markets where it competes;

– ways of shaping and improving market,

economic and financial characteristics of the organization;

– ways of allocating resources between business units to coordinate their financial, economic and technological activity, leading to the emergence of synergies;

– directions, forms and patterns of growth (diversification, mergers and acquisitions, achieving a balance of certain types of business);

– investment priorities;

– how to transform the organization to adapt to environmental changes, etc.

Private strategies define the model behavior of the organization or strategic units in a particular market situation, on a separate market or its segment.

Business strategy is a strategy of action, individual business units or groups, aimed at winning and improving the competitive position of the produced goods or services in all strategically important markets of the organization. It defines a common approach to the implementation of competitive strategies, implementing business plans that are developed and implemented in separate parts of the organization within the framework of corporate strategy, and aims to strengthen its long-term competitiveness.

Operational strategy defines how to manage the current activities of key departments in solving their problems of strategic importance, namely, those that affect the implementation of corporate, functional and business strategy (delivery, inventory management, transportation, etc.). This strategy is the foundation of the pyramid strategies; it complements and develops the business plan.

Competitive strategy reflects the general approach to the action (its methods, tools) aimed at attracting new customers, the protection of existing and acquisition of new competitive advantages, competitiveness, and maintaining competition. The strategy defines how the organization should respond to changing situations, and provides, depending on its state offensive and defensive operations, short-term tactical moves and long-term activities that affect its future.

Short-term strategy (strategic objectives) are developed and implemented in order to respond to new, unexpected circumstances that do not fit into the basic concept and have emerged within the organization and beyond. This allows us not to change the general strategy completely; rather, we can develop or adjust it.

In the formulation of strategic objectives we take into account such things as the possibility of approximation by using their solutions to the main objectives of the organization, to get the most benefit or avoid harm, etc. By the nature of the actions planned strategy can be aggressively defensive and purely defensive.

All the organization's strategy must form a harmonious system, have substance and content. However, some strategies, such as crisis management strategy, have specific features. Its peculiarity is that it does not have its own content, but is only functional form, which serves other strategies – competitive, position, growth strategy. Thus, crisis can be any strategy, if it performs the appropriate functions. However, it certainly must undergo a certain transformation. Anti-crisis transformation of organizational strategies can be reduced to a change in its structure, i.e. the creation of this new combination, with which to reach a positive or negative (in accordance with the challenges ahead) a synergistic effect. It can be concluded that more accurately allocate at anti-crisis strategic management and crisis management approach to strategic management.

Some of the strategies can be implemented more actively, the implementation of others is temporarily suspended, or it is less intense, and it is usually not used in the organization etc. Thus, a different combination of strategies encompasses all necessary activities for crisis prevention in the field of planning, finance, manufacturing, marketing, personnel management, etc.

Anti-crisis transformation of the system implemented by the organization strategies optimizes its behavior in terms of production decline, sustained by the decline in key financial indicators and the threat of bankruptcy. Also it defines the steps to resist environmental changes (which occur frequently, regularly and almost unpredictably), to maintain viability and achieve their goals. This transformation takes place within the regular strategic crisis management, aimed to prevent the crisis and improve the financial health of the organization. Then, for each strategy, we develop a list of tactical steps for its implementation, carried out under the strategic objectives and strategic management in real time.

Anti-crisis strategy can exist as an offensive, the offensive-defensive (strategic maneuver), or as a purely defensive (survival). Survival strategy is

implemented in a short time; new decisions are consciously put into effect in undemocratic way. Management is concentrated in the hands of a few individuals who are endowed with all the necessary legitimate authority to make the necessary changes. This is the strategy of organizations in a state of bankruptcy.

Strategy maneuver involves the removal of resources from some areas and activities and transfer of them to others. This often allows only stay afloat. This is the strategy of organizations that are "on the way" to bankruptcy; it helps to minimize the problems and make improvements. So, the overall strategy of crisis management is a strategy to capture and hold positions, it ensures the prevention of bankruptcy. It requires huge amounts of money which the organization in a state of crisis is not likely to possess.

Unlike conventional management of “financially healthy” organization, strategic crisis management involves negative, constantly worsening conditions (loss-making, lack of domestic financial resources, inability to pay) under various pre-trial rehabilitation and arbitration procedures. We must add the unfavorable social and psychological climate in the organization. To overcome the crisis an organization uses a growth strategy, competitive and functional strategies, transformed in accordance with the conditions in which it resides.

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ТЕХНОЛОГИЧЕСКИЙ КРИЗИС В КОРПОРАТИВНОМ СТРАТЕГИЧЕСКОМ УПРАВЛЕНИИ

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Ключевые слова и фразы: стратегия; тактика; стратегические факторы; корпоративная стратегия; бизнес-стратегия; стратегия кризисного управления.

Аннотация: Антикризисная стратегия может быть любой стратегией, если последняя выполняет соответствующие функции. Автор предлагает применить подход кризисного управления к корпоративному стратегическому руководству, а не антикризисное стратегическое управление.

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On the Issue of Objective and Qualitative Evaluation of Transformational Economy Through Traditional Macroeconomic Aggregates

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Key words and phrases: transformation; macroeconomic aggregate; economic growth; economic development; socio-economic system.

Abstract: The analysis conducted by the author suggests that existing macroeconomic aggregates cannot qualitatively assess the economic situation in the country. This is manifested in the subjective differentiation of its assessment and is characteristic of countries in the process of change (transformation) of socio-economic system.

Despite the existing variety of positions, the set of ideas that can be called a broad approach to the study of transformational processes, all of them can be combined into two main groups:

1) research on the transformation as macro- and microeconomic changes in the mainstream of neoclassical and Keynesian theories, in line with mainstream economic science;

2) extensive research on the transformation in other areas of economics, which are combined with other sciences (sociology, political science, psychology, biology, physics, etc.).

Taking into account the complex character of the methodological vector of economic science and the context of contemporary tendencies of its shifting the second group seems to be more perspective in investigating transformation processes of socio-economic system. To prove this statement we'll draw the attention to the internal problems of modern economic science, and first of all, to its most influential component – mainstream economics.

Modern economic theory, as it is widely accepted, includes two branches: micro- and macroeconomics which describe economic processes from two different points of view. Microeconomics studies behaviorist regularities of economic individuals or of their "well defined groups" which are deduced from a number of a priori hypotheses. Macroeconomics investigates large-scale aggregates exploiting economic characteristics as a whole and dependencies between them (mainly received empirically). The problem of reduction, or dilemma micro- and macro- is that it is impossible to ascertain logical procedures allowing to deduce macroeconomic dependencies out of regularities of individual behavior or give an intentional interpretation of one or another macroeconomic dependency.

Macroeconomic aggregate is a statistical construction, and macroeconomic dependencies are specific statistical manifestation of time-space changes in behavioral stereotypes of economic entities [1]. Even though the received dependencies are perfect from econometrical and statistical points of view, it is hardly possible to give these dependencies any intentional interpretation without awareness of underlying models of individual behavior, relying upon their stability, and it is also difficult to make well-grounded assumptions concerning cause-effect relationships they express. It is clear that the problem of reduction has not only mere theoretical but an important practical meaning, since macroeconomic dependencies are used when developing practical recommendations.

This problem clearly manifests itself in the differentiation of subject evaluation of the economic situation in the country particularly in transformational period. Having analyzed the state of Russian economy for the previous 15 years we can make a conclusion that it shows a positive tendency for development (in other words, it is in

the process of transformation[4]). This fact is testified by the dynamics of main macroeconomic factors: there is steady growth of GDP (28 % a year in current prices and 3,9 % a year in physical meaning, the former factor being 3 times higher than in the USSR); slipping down of unemployment (0,5 percentage point a year) and inflation rate reduction (on the average 8,8 percentage point a year) [2].

However, these main factors speak only for the general tendencies of the alternations taking place in the country. In order to get more objective evaluation of the macroeconomic situation and to advocate mainstream economics it is necessary to carry out more profound study of separate streams associated with the characteristics of national income, such as: economic growth, development of real and financial sectors of economy, social sphere and international relations.

The analysis of the above streams has produced the following results:

1) In general the national economy is experiencing economic growth (its rates in nominal and real value are rather high) which is accompanied by the growth of savings (on the average by 31,1 % a year), of investments into fixed assets (by 34,5 % a year) and per capita GDP (by 25 % a year).

2) In the social sphere there takes place reduction of unemployment (see the above figures), the growth of average per capita income (by 29 % a year), of nominal wages and salaries (by 27 % a year) and purchasing power of population (e.g. average annul growth in demand for bakery products went up to 7,5 %).

3) In the sector of real economy there takes place the growth of industrial output (by 2,3 % a year), the growth of volume (by 1,1 % a year) and rates of updating (0,2 % a year), putting into operation of fixed assets (average annual figure is 7,5 %).

4) In the financial sector inflation is going down (see the above figures), we can observe the reduction in credit rates (by 1,4 % a year) and the growth of money supply (3 times increase), the share of non-cash money amounting to72 %).

5) Finally, there takes place real strengthening of ruble, the national Russian currency: by 0,4 % in terms of US dollar and by 9,2 % in terms of real exchange rate.

However, in addition to all above enumerated positive results, the analysis of Russia's economy has revealed some definite problems: decrease in the population size (on the average by 0,4 % a year), low rates of updating and high degree of depreciation of fixed assets in real sector of economy (45,3 %), slow growth of labor productivity (on the average only 6,4 % a year), high credit rates for non-financial sector (19,6 %). The most negative results were received when analyzing foreign economic relations of the Russian Federation. These include: permanent balance of payment disproportions, substantial amount of foreign debt, weakening impact of home inflation and foreign trade structure upon the exchange rate of ruble [3]. Nevertheless, in spite of certain negative points, changes in Russian economy as a whole are of a progressive character, therefore we can speak about transformation of the economy. But as it was assumed before, presentation of the above mentioned macroeconomic aggregates is not sufficient for getting an objective and qualitative evaluation of the economic situation in the country. That's why it is important to analyze more carefully the qualitative aspect of changes taking place in the system in order to identify their direction, whether there is movement towards transformation or deformation[5].

Economic theory of mainstream economics distinguishes the notions of economic growth and economic development, although in the 60ies – 70ies of the 20th century they were synonyms. Economic development presupposes not only economic growth but institutional and structural changes in economy (incidentally, this conforms to the nature of transformation in many studies [4]. To analyze the economic development according to the theory of mainstream economics another

[4] Review of a number of studies enables to make a conclusion that **transformation** is understood as one of the forms of development, which essentially is a progressive alternation of economic system. See, for example, Kushlin V.I. "Traces of Economic Transformations". – M., 2004; Kirichenko V. "Market Transformation of Economy: theory and experience// Russian Economic Journal. – 2000. – № 11–12, and other authors.

[5] **Deformation** is usually understood as a form of a regressive development of economic system. See Kushlin V.I. "Traces of Economic Transformations". – M., 2004; Kirichenko V. "Market Transformation of Economy: theory and experience// Russian Economic Journal. – 2000. – № 11–12, and other authors.

methodology is used, different from that described above.

First of all in order to determine the level of economic development of a country it is important to specify the reference point. A number of countries compare their level of development with that of the USA. But, when analyzing the economic development of Russia, we believe it won't be the right way. There are too many differences between our country and the United States in terms of geographical position, territory, and population size, the system of socio-economic relationships. (The USA is regarded as a country with highly developed economy, while Russia in the opinion of most world organizations is the country with the transitional economy). Besides we should bear in mind that the level of economic development of the country is a historical category which reflects characteristics of every stage in economic development of a national economy. For this reason we believe the most accurate way is to compare the main factors of Russia's economic development with those of the USSR and the RSFSR. As a result this comparison can reveal both positive and negative changes.

Among the negative factors we can distinguish the following:

1) per capita GDP in today's Russia is at the level of 1960–1970ies;

2) index of commodity and service output is at the level of 1970–1980ies;

3) life expectancy for the last 15 years on average turned out to be shorter than in the RSFSR over the last 40 years of its existence;

4) the number of paramedical staff is smaller than in 1980 and the, the number of heath care institutions is smaller than in 1960, and the number of hospital beds is smaller than in 1970.

And still there are certain positive results of economic development in today's Russia:

1) per capita GDP growth has reached 2,0 % for the last 4 years;

2) index of commodity and service output began decreasing in the SFSRR of the 1980–1990ies, and now it is going up;

3) in 2009 life expectancy reached the level of 1970 when the index was at its maximum in the RSFSR;

4) according to all indices development of higher education in present-day Russia has surpassed the level of the Soviet period;

5) comparing to the Soviet period there is the growth in the number of physicians, and reduction of the quantity of medical institutions began in the Soviet Russia as far back as 1960 [5].

Thus, according to many indices of economic development today's Russia is 40 years behind the Soviet Russia, but taking into account a certain number of positive changes we may say that the general development lag is about 25 years. So in accordance with the methodology of the macroeconomic analysis the Russian Federation is really experiencing transformation of the socio-economic system.

However, it should be mentioned that the presented figures, the so called indices of economic development of the country, speak only for quantitative changes in the national economy but not for truly qualitative ones (structural and institutional changes as it is necessary in terms of transformation nature). No doubt, we have paid attention to specific positive and negative aspects of the current changes. But is the given evaluation really objective and to what degree?

To confirm the thesis on the insufficient objectivity of the quality evaluation of the current changes in the country with the help of the existing macroeconomic aggregates we supplement it with the evaluation made on other subject levels, such as firms and households. Investigation results allow making the following conclusions:

1) if compared with a macroeconomic evaluation at the level of firms the positive results are not so clearly determined (the results of economic activity of enterprises and the results of entrepreneurs' opinion poll witness for this – only 54 % of respondents consider their business successful);

2) in the opinion of entrepreneurs the general macroeconomic evaluation of positive developments in the sphere of higher education is in the contradiction with the shortage of highly qualified staff, and this situation gives birth to some doubts concerning the very quality of development of the given stream;

3) the evaluation expressed by entrepreneurs coincides with the macroeconomic evaluation of low labor productivity, high degree of depreciation and technical backwardness of fixed assets, disproportions in foreign trade relationships;

4) and there are some more negative facts which are revealed in the process of entrepreneurs' opinion poll and which are not reflected in evaluating the country's economic development at the macro level, they are corruption, absence of human and contract rights protection of the parties

engaged in economic activity, underdevelopment of market institutions and low efficiency of state management (these facts of qualitative evaluation of economic changes in no way are analyzed in the theory of mainstream economics) [6].

The similar situation can be seen when comparing evaluation of the level and prospects of economic development in our country in terms of one more subject factor – at the level of population (households):

1) public opinion is in greater discrepancy with the conclusions based on the macroeconomic analysis and with the results of entrepreneurs' poll – more than 86 % of respondents describe the current economic situation as "poor", and 2/3 believe that it will change for the worse;

2) evaluation of some particular indices of general economic situation is in a sharp contradiction with the macroeconomic evaluation (e.g., evaluation of inflation rate: 86 % of respondents are sure that the real inflation rate is much higher than the official figure) [7].

Therefore, when analyzing the country's economic situation and prospects of its further development we deal with its subject differentiation. Some macroeconomic evaluations coincide with the evaluations at the macro level, others are supplemented, and some others contradict one another. One more conclusion we can make confirms the above suggested thesis that macroeconomic aggregates employed in mainstream economics are not able to produce a real qualitative evaluation of the present situation.

From the point of view of traditional methodology and instruments we can say that our economy is really developing (is transforming), but on the other hand the extended evaluation in terms of different subject levels speaks for the opposite process – deformation.

In order to confirm our conclusions, once and for all, we need to compare the results of macroeconomic situation analysis with the results of public opinion poll in other countries taking into consideration the main indices such as: GDP growth rate, unemployment and inflation rates. We have chosen the USA, the leading highly developed country of the world, and Belarus (former Belorussia) which is in the list of the countries in the process of transformation. Belarus is a former Soviet republic, and numerous problems of transitional period are similar to those taking place in Russia.

In general the macroeconomic situation in the USA for the last 15 years can be characterized as a steady one: economic growth is about 2,5 % a year, inflation goes down by 0,2 % annually. But at the same time there exist certain problems related to unemployment growth (by 0,5 percentage point a year being lower than in the RF only by 5,3 %). Under these conditions most of the US population evaluated the situation in the country in 2008 rather adequately (approximately 70 % of respondents said the country was in recession or crisis). But it is worth mentioning that almost 55 % of Americans believed in positive prospects of their national economy [8]. In other words, macroeconomic evaluation of the situation coincides with its evaluation made by the population of the country.

The analysis of macroeconomic situation in Belarus for the last 15 years also shows a steady economic growth (on the average 7,2 % a year in physical terms), low unemployment rate (1,8 %) with the tendency to decreasing (by 0,1 % a year). However, the rate of inflation is noticeably high (on the average 27,8 % a year), but it is going down rather quickly (by 10,8 %). Even in 2004, the year of relatively favorable economic indices in Belarus, public opinion was controversial. Most of the respondents (46,2 %) evaluated their personal situation as humble and 49 % of respondents called the economic situation in the republic hardly satisfactory. 60 % of the population comparing the results of the previous year saw no changes in the life standards of their families or in the economic situation of the republic as a whole, though GDP growth in Belarus in 2004 reached its maximum value for the period of study (11 %), and the rate of inflation and unemployment went noticeably down [9].

Thus, the examples of two countries (the USA and Belarus) show that the tendency revealed when evaluating the macroeconomic situation (differentiation of its subject evaluation at different levels) is relevant only to the countries in the process of changing socio-economic relationships (in our case to Russia and Belarus), officially called **"transformations"**. Hence, the problem of objective evaluating the macroeconomic situation and determining the quality of transformational process when applying the methodology and instruments of traditional approach in economy concerns only the countries with the transitional type of economy.

In conclusion we can say that under conditions of socio-economic changes traditional methodology and instruments of economic science are not able to produce objective and qualitative evaluation. The changes that are taking place we can characterize as deformation rather than transformation since their trend has regressive characteristics. In order to get more accurate evaluation of the current changes it is necessary to shift the economic methodology of investigation towards institutional, social, political, cultural, and other concepts.

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К ВОПРОСУ ОБ ОБЪЕКТИВНОЙ И КАЧЕСТВЕННОЙ ОЦЕНКЕ ТРАНСФОРМАЦИОННОЙ ЭКОНОМИКИ ТРАДИЦИОННЫМИ МАКРОЭКОНОМИЧЕСКИМИ АГРЕГАТАМИ

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Ключевые слова и фразы: трансформация; макроэкономический агрегат; экономический рост; экономическое развитие; социально-экономическая система.

Аннотация: Проведенный автором статьи анализ позволяет сделать вывод о том, что существующие макроэкономические агрегаты не могут качественно оценить экономическую ситуацию в стране. Это проявляется в субъектной дифференциации ее оценки и характерно для стран, находящихся в процессе изменения (трансформации) социально-экономической системы.

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On Systematic Representations of National Economic Security

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Key words and phrases: national economic security; competitive struggle; resource and welfare; system-making functional principle; role-play simulation; constructive and destructive processes; homeostatic stability and competitiveness of a system.

Abstract: The national economic security system implies a collision of interests of individuals, public groups, companies, countries, their coalitions; it is involved in conflict relations. In this case, the subject of conflict are the resources and benefits obtained by the countries to ensure the economic prosperity of the country, the prospects for its further development and welfare of citizens. When constructing the system of national economic security the main task is to find ways to resolve the existing contradictions and conflicts between all actors of these relations. Role-play simulation can be used to solve this problem/ Tool for solving this problem is the game simulation.

The economic security is the ability of the national economic system to continuing expanded reproduction, maintaining its viability and preserving the full-fledged economic subject attributes in conditions of the changing environment. Thus, the economic security is a conflict system [2, p. 41] for those countries which haven't achieved a high level of the economic development. Transferring the analyzed system to conflict-solving area requires solving of some theoretical and methodological problems connected with the development of adequate conceptions concerning the content, constructing principles, laws and regularities of functioning and development of the system, establishing basic interrelations and interferences inside the system and environment where the system exists.

The research into the character of the national economic security relations shows that they contain in their basis a collision of interests of individuals, public groups, organizations, countries and their coalitions. And the collision of interests takes place both inside the system, and in its relations with the external environment. Inside the system there are contradictions between the subjects of socio-economic relations, connected with distributing and appropriating resources and welfare, choosing goals and means of socio-economic development providing objectively inherent condition and subjective evaluation of the system qualities, etc. In the relations with the external environment there are contradictions in the interests between countries on the changes in the global balance of forces and related capabilities of appropriation of benefits and development resource mobilization.

From here it is possible to draw a conclusion, that the basic relations of the economic security system are the relations of conflict, namely, the collisions between divergent views, aspirations, interests of the forces expressing them. And conflict relations of the subjects are not only natural attribute, but also the engine of its progress. The conflict, thus, can be considered as one of the forms of purposeful interaction of the subjects of relations which solution consequently leads to the new quality of the national economic security system.

A subject of the conflict in the area of the national economic security is resources and welfare appropriated by the countries. The economic prosperity of the country, the prospects of its further development and a standard of citizens' well-being depend on such resources and welfare. Actually the relationship between the economic subjects in their struggle for resources and welfare are wider than relations of conflict. They can also have non-conflict character which can be presented in the form of:

1) collaboration in the form of coalition or a commonwealth;
2) unity as the steadiest form of interaction;
3) neutrality as the least steady form of interaction.

Moreover, as the global experience shows, all of the named forms of interaction are relative and mutually transient. Such transitions are stimulated both by the certain changes in the external environment, and actions of the internal (not only economic) causes.

From the point of view of the national economic security conflict-free interactions forms are the most preferable, because they not only objectively reduce a level of threats, but also bring greater economic benefits to all the sides of interaction. Thus, the higher the level of interaction is, the better result is received. Really, during relations realization in the form of collaboration or unity subjects of relations, pursuing mutual goals, unite their potentials and competences; distribute costs and risks among themselves. As a result the cooperating economies functioning efficiency will increase due to scale effects and synergy. In the conflict conditions, on the contrary, one side aspires to reach greater economic benefit at the expense of the opposite side, spending additional efforts and resources on it. And the outcome of such antagonism cannot always be predicted, and that increases risks of achievement of the set goals.

Intersystem conflicts also have negative influence on the efficiency of the economic system and its economic security. Society members' distrust, the conflict of interests on the subject of the established system of material welfare distribution and appropriation, uncertainty in the future reduce their motivation for effective and legal activity.

Hence, the basic problem during the construction of the national economic security system is the search for the ways of solving the problems with contradictions and conflicts between all the subjects of relations who are bearers of divergent interests. These contradictions can be resolved within the limits of the certain economic systems subjects behavior model, which takes into consideration the influence consolidating and deconsolidating factors of system and off-system character. For constructing such a model it's important not only to identify conflicts rise conditions and areas, but also to determine a investigated essences vector approach in their reforming confrontation, to reveal the laws of the subjects of relations transition from conflict to conflict-free coexistence.

Let's look at the given problem in terms of the economic theory and the theory of the conflict. From the following points of the conflict theory [1, p. 23] it is known, that there appears system self-organizing process during the conflict, and as a result a certain super-system is formed. Within the limits of the given super-system the economic systems is the struggle for security achieving base conditions as necessary resources and welfare, life and conducting economic activities conditions, spheres of influence, and this struggle really represents nothing more than a competitive struggle.

The analyzed super-system is not a simple composition of two or more economic systems, it forms a new integrity that possesses its own emergent features, conditions, functioning and development principles, which don't characterize any other contradictory systems, but essentially influence their condition and behavior. This integrity is provided with peculiar laws and regularities, which specific manifestations of general scientific laws and enabling to reveal the nature and trends of analyzed super-system.

At the same time, according to one of the provisions of systemology, any complex reality can be compressed with the help of construction of goal-oriented system model. The compression principle is realized by disclosing of the system functioning and developing laws actions with their subsequent adequate representation in the form of multidimensional functional space containing variety of much smaller dimension. Thus, the system model acts as a distinctive quintessence of the theory and although it does not have the scale of that quintessence, nevertheless it has research advantages, specified by the reflection of the system intrinsic relationship on the basis of relevant morphological and functional factors.

Thereby, it is necessary to solve three primary problems when constructing the national economic security system model:

1) to define its economic substance as an object of modeling,

2) to reveal structure of relevant factors,

3) to generate methodological base of analysis and forecasting,

4) to make a logically harmonious system of the system functioning and developing laws.

Looking from this point of view at the competitive struggle, we can state that in effect it is characterized by contradictory actions of the sides, their disputed interaction and, consequently, its functional aspect should prevail over its structure. Actually, the effect (result) of the system functioning of in the competitive struggle is

important first of all, but not its structure. This statement makes us focus on choosing a functional principle of construction of the system model where such concepts as “connection”, “relation” and “functioning” will be a core of entries' correlation. All this makes development of the competitive struggle theory's functional aspect necessary which main idea can be seen in revealing competing systems' relationships, their internal connections and links with higher level system (the world economy), taking into account the essence and purposes.

Thus, let us consider relations as a set of the system's elements conditions, which detect the necessity and interaction type between them. To establish the relations between elements of the system means defining the character and the level of their influence on each other, concerning their place in extent, substantial changes during all the period of competing. By-turn relations are coming to light there and then, where and when there are connections – a set of the conditions providing an opportunity of interaction of all system elements with one another and with the elements in the environment (of a spatial and information continuum). To establish the connection means to reveal if there any system properties providing, the effects, their transferring and recognizing. With reference to the competitive struggle, connections can be qualified as the combined, containing material, energy and information influences. Their contents will be defined by the system's functions.

Every subject generates its own competitive influence, realizing its own economic interests connected with the appropriation of the higher amount of welfare and the development resources within the analyzed super-system limits. Improvement of the people's well-being and security in the country can be interpreted as the purpose of such influence at the level of the national economy. However, the total amount of resources and welfare is limited and expanding the opportunities of their appropriation by one country should limit corresponding opportunities of other countries. So, the choice of the character and the area of competitive influence for the country should be based on its existing and expected economic potential and its external environment condition. Particularly, it is necessary to take into account the formed alignment of forces in the world economy, the presence of economic and political units (factors of geo-economics and geopolicy), probable reciprocal measures which can be applied to the subject of competitive influence. Antimonopoly and antidumping measures, quotas, requirements to provide market freedom, governmental support, which are initiated by governmental and non-governmental authority, opportunities of price maneuver, the state support, potential concentration and scale of production. In the light of that connection it is necessary to include the function of estimating the conditions of the competitive influence formed by system of higher level in the functional model of generating of competitive influence by the world economy.

One of the most complex methodical problems is to identify the space where the subject of competitive influence is capable to have the result they want to achieve. A reached level of using the competitive potential of the subject of influence is a key factor of the size of this space. However it is necessary to remember, that such dependence is not directly proportional, i.e. not any increase in potential can lead to the corresponding increase in the share of controllable economic space. There's a new level of competitiveness and it means expansion of the economic space, for which advantages of the subject of competitive influence become essential and allow winning economic competitions for resources and welfare. So, transition to this new level is possible only at the certain level of the quantitative changes accumulating the potential providing a desirable quantum leap.

Continuing a logic path, it is possible to assume, that at a certain moment of time the further escalating of potential will appear impossible because of the subject inability of competitive influence to involve additional resources that is inexpedient since the limiting size of potential will appear below a marginal effect.

On the whole the described actions which are carried out by the subject of competitive influence can be named constructive as far as they allow improving the functioning and expanding opportunities of the development. However, there is another side of the conflict - an object of competitive influence. It will experience the negative influence of the success of system which will have the destructive character, expressed in partial or full loss of functional properties. So the increase in one party's share of the conflict will inevitably lead to decrease in the contradictory party's share.

The economic system, exposed to competitive influence, will make efforts to its neutralization or reduction in intensity that is also possible to be considered as constructive actions on preventing the system from destroying. The object of competitive influence starts relations of counteraction with its subject, realizing thus the function of complex protection (the system of actions on maintenance and restoration of the broken functions or properties of the system), and also the function of maintenance (mobilization of additional resources and the organization of support from the state, enterprise community and population). The object of competitive influence can also be assumed as offensive.

Hence, the conflict of economic systems is represented inherently as the unity and counteraction of developing in time constructive and destructive processes in competing systems. The intensity of these processes and their outcome are defined by is qualitative-quantitative characteristics of competing systems and the efficiency of their functioning. The higher the characteristics of the system and the level of efficiency are, the stronger their position in the world economy is, the more productively constructive processes are initiated, the less the effect of destructive influence of competing economic systems is.

The functional analysis of the parties of the conflict competitive interaction allows to generate an icon of them as about the complex system which is representing itself as the object of the functional theory research, and to put in pawn bases of construction of system model of competitive struggle. Initial data of the model construction helps to reveal the relations and the functions taken during their continuous reproduction, as well as continuously changing factors and the conditions creating opportunities or restrictions on the ways of realization of these relations and functions. When constructing the model it is necessary to consider the opportunities of mutual transition from relations of conflict to cooperation and symmetry in relations and functions which are carried out by the subjects of relations within the limits of a certain existential and information continuum (fig. 1).

The described model presents the competitive interaction of the countries, as well as constructive and destructive processes. It is both dynamic and opened in spatial and information relations. Thus a prominent aspect of the model of necessary stability and dynamism is establishing of the system homeostasis in the morphological, functional and information aspects, supporting functioning and developing the complex system in the specified (target) direction due to keeping negatively acting factors in the certain range.

It is necessary to emphasize, that the homeostasis is not a substantial equivalent of the concept of the system adaptability; it is much wider by implication. Really, the adaptive behavior will hardly bring a desired effect in conditions of constantly increasing intensity of competitive struggle for resources and welfare. Even in case of negotiating a cooperation agreement, its terms will be mostly defined by the alignment of forces between the partners.

Hence, the adaptation of economic system to the condition of the environment mostly leads to the loss of initiative, to actions which meet the competitors' plans, and finally, to defeat in the competitive struggle. It does not mean denying the necessity of adaptation in general, but only concerning the objective conditions.

The role-play simulation is an effective way of achieving the functional model's homeostasis [3, p. 65-69]. Within the limits of such model some players (national economies) build models of behavior of other players as a respond to their own influence and then they make predictions on its basis. It means, that these or those impacts become the result of the interconnected decisions based on prediction of probable outcomes of events and introduction of preventive measures, which give chances to use opening opportunities as much as possible and not except (or to minimize) threats of inauspicious changes of the situation. Thus, the major aspects of making suchlike decisions are:

– estimating the system condition, which reflects a current situation and efficiency of the last strategies, and formulation of the existent problems;

– defining the structure of players who are going to make decisions, their interests and preferences;

– choosing the strategic alternatives providing transfer of the system from a current condition to a desirable one;

– establishing of the control parameters structure, this helps to receive adequate conceptions relating transformational processes in the system’s eventual condition and to regulate them.

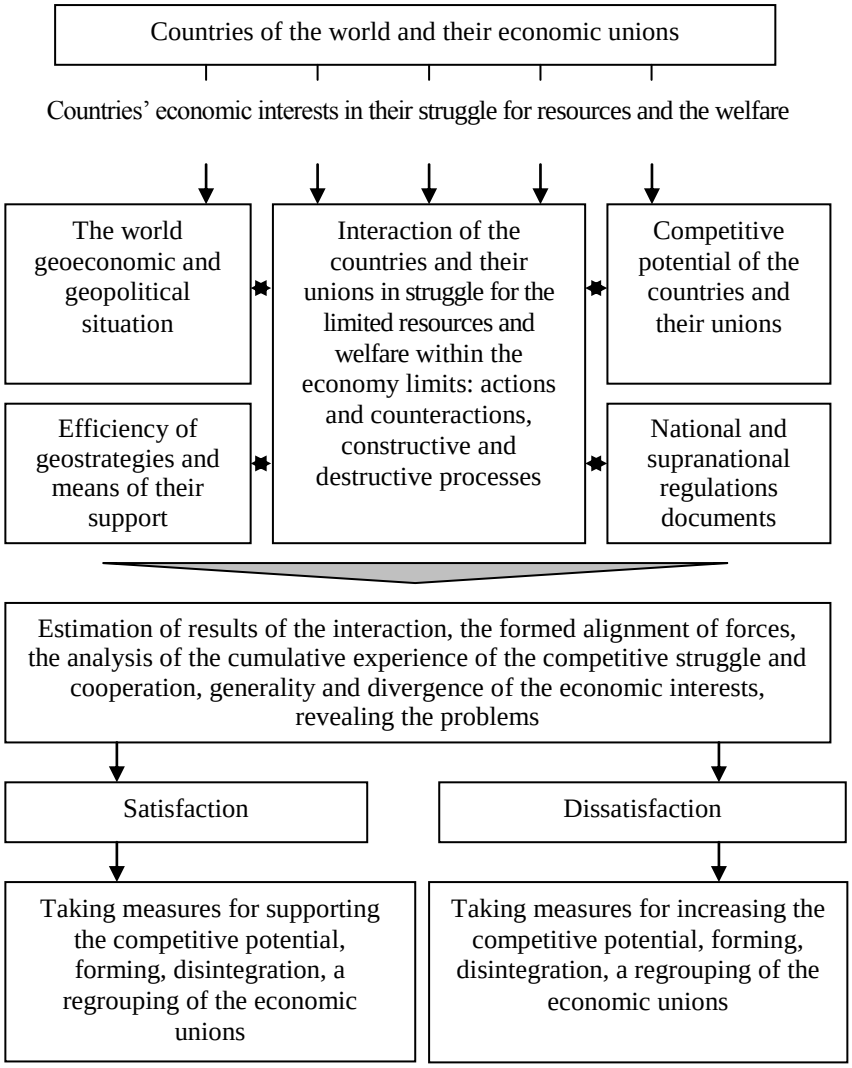

Fig. 1. The single-phase act of functioning of the model of countries and their unions interaction during solving the problems of country's economic security

On the basis of role-play simulation the analyzed system can be described as a set of nonlinear, capable to the adaptation networks, characterized with: intensive interaction of a large number of various kinds of activities and those who make decisions; uncertainty and limitation of the information; ability to train and adapt; the nonlinearity, increasing profits, advantages of volumes and scope; opportunity to anticipate the future.

The value of such system as a whole depends not only on the value of the units and the connections reflecting its nonlinearity, but also on the game nature and players' actions coordination which can be considered as cooperation (the coordinated games) or counteraction. With regard to the investigated problem, accumulation or competitive potential of cooperating systems can be considered as units of the network. Connections between the units of the network are mediated by the material, financial and information streams moving through certain channels. The major characteristics of such streams are their directions and interaction activity.

The condition of the units and their connections depends on the quality of made decisions – the mode of behavior transforming the existing information on units and connections into the concrete program of actions. The level of accumulation in many respects is a result of the chosen direction and the rate of the streams' activity. The task for the player who makes a decision is to identify the point in which units and connections have the greatest value and which of them should be taken into consideration when choosing a strategy.

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ФОРМИРОВАНИЕ СИСТЕМНЫХ ПРЕДСТАВЛЕНИЙ О НАЦИОНАЛЬНОЙ ЭКОНОМИЧЕСКОЙ БЕЗОПАСНОСТИ

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Ключевые слова и фразы: национальная экономическая безопасность; конкурентная борьба; ресурсы и блага; функциональный принцип системообразования; игровое имитационное моделирование; конструктивные и деструктивные процессы; гомеостатичность и конкурентоспособность системы.

Аннотация: Отношения по поводу обеспечения безопасности национальной экономической системы содержат в своей основе коллизию интересов личностей, общественных групп, предпринимательских структур, государств, их коалиций и являются, по сути, отношениями конфликта. При этом предметом конфликта являются присваиваемые странами ресурсы и блага, обеспечивающие экономическое процветание страны, перспективы ее дальнейшего развития и уровень благосостояния граждан. При построении системы национальной экономической безопасности главная задача видится в поиске путей разрешения имеющихся противоречий и конфликтов между всеми субъектами отношений. Инструментом решения этой задачи служит игровое имитационное моделирование.

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Rating Analysis of Socioeconomic Status of the Districts of Moscow Region

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Key words and phrases: rating analysis; ranking of territories; integral index; special effect; development factors.

Abstract: This paper pursues integral analysis of structure and dynamics of socioeconomic status of districts of Moscow region with the application of rating analysis methods. We calculate common integral socioeconomic index for each district of Moscow region. We perform ranking of districts onto groups with similar indexes and investigate the situation of group indexes formed on the principle of close specifics. In the present paper we specify the degree of group indicators' imbalance and carry out special analysis of relation of territories development level to their distance to Moscow with the application of multimodal approach for the choice of group indicators for analysis.

Formation of effective budget and investment policy stipulates relevancy of study of socioeconomic variety of the territories of Moscow region.

Introduction

Many countries pay serious attention to the problems of socioeconomic development and differentiation of territories which start to affect social and political atmosphere as well as economic activity of people [1; 8]. Uneven regional development has become a problem in Russia since the beginning of the period of transition to exchange relations and requires forming of effective policy on reduction of diversities in regions' development levels [2, p. 286].

At the moment there is a tendency in Russia towards the increase of attention to the analysis of development problems of territories inside regions where there is a strong inequality of the levels of municipalities' development [6, p. 34]. Successful functioning of the economy of the whole region depends on effective and balanced development of territories.

Moscow region is not an exception. In this region there are a number of problems connected with socioeconomic variety of territories, which result in the necessity of effective solution with the consideration of development asymmetry. Not only formation of effective investment policy, but also of budget policy especially in the sphere of distribution of transfers in the frames of Moscow region, greatly depend on differences present inside the region and on reliable estimation of socioeconomic situation in municipal entities of Moscow region, which determines applicability of examination of territorial variety problem in socioeconomic development of Moscow region.

Detachment of territorial characteristics of development level and differentiation of municipal entities requires integrated approach with application of a combination of different methods. In this paper we apply a multimodal approach to rating analysis with the cross validation of results by way of grouping and factorization of examined indexes in order to detect territorial peculiarities which determine the difference in level and tempo of economic development of municipal entities.

1. Identification of parameters and preparation of data for the analysis

In order to give a full characteristic to each district, to indicate peculiarities which are typical only for this district, it is necessary to investigate different spheres of its' functioning with the application of wide range of indexes which should

cover both social and economic aspects. Input information for the analysis is a combination of socioeconomic indexes of district performance, demonstrated in annual compendium of Federal State Statistics Service of Moscow region[6] "Social and Economic Situation of Municipalities of Moscow region".

Selection of indexes is realized in such a way that data would occur directly or could be calculated with the consideration of statistical data for the investigated period from 2001 till 2009 for 39 districts of Moscow region. After comparative analysis of indicators compendium of different years we've chosen 25 indexes which characterize different aspects of socioeconomic status of Moscow region: finances, personal income, demography, industry, investments, ecology, social sphere, housing and utility and agriculture [2, p. 102]. In order to obtain more qualitative assessment one needs to calculate all indexes per capita, per one worker or per one citizen of a town in terms of groups.

When preparing initial data for territorial analysis there is a calculation of all indicated indexes being carried out with due regard for summation of statistics of municipal district and cities of regional subordination situated nearby[7].

Calculation is done in the following way:

а) when summing absolute indexes:

$$A(P+\Gamma)=\frac{AP+A\Gamma}{NP+N\Gamma}; \qquad (1)$$

б) when summing relative indexes:

$$A(P+\Gamma)=\frac{NP*AP+N\Gamma*A\Gamma}{NP+N\Gamma}, \qquad (2)$$

AP – district index, *AГ* – urban district index, *N* – variable to which index is normalized.

Analysis starting point is a multitude of socioeconomic indexes of a district *Xi* (*i* = 1, *n*), adjusted to an analytical type, which were obtained from aforementioned formulas (1) and (2). It is obvious that district development level is determined by the whole system of indexes. The problem of comparative analysis on sub-total of factors *Xi* is their different scale (rubles, cubic meters, tones etc.). Remittance in impersonalized form is performed in accordance with a standard formula:

$$X'i=\frac{Xi-X\min}{X\max-X\min}. \qquad (3)$$

2. Integrated indicators calculation and ranking of territories owing to their socioeconomic development level

When disposed of natural dimension of indexes, we proceed to calculation of consolidated integral[8] quality rating. The present index can be calculated as follows:

$$S=\sum_{i=1}^{n}(\pm 1)\cdot A_i\cdot X_i^{'}. \qquad (4)$$

In this connection the sign "–" is placed for factors which are negatively correlated with the level of the development of a separate district. Coefficients *Ai* is a weight of different factors. In accordance with theory and practice it is because of the lack of objective tests that it is exactly weight numbers which become the subject of disputes when constructing rating integral methods. That is the reason why at the first stage which is clear of subjective preconditions we will consider all weight numbers to be similar and equal to 1.

Final ratings are formed in accordance with aggregative indexes of district valuation reflecting socioeconomic development of districts, which are calculated according to aforementioned formula (4). With the purpose of monitoring of dynamics of formed ratings we divide range of variations of socioeconomic development integral indexes of districts into 5 development groups: high, advanced, average, decreased and low.

Rating analysis is one of the methods of situation assessment. When applying rating method all districts are sorted in accordance with integral index [2, p. 118]. All districts are divided into 5 groups of development levels: high, advanced, average, decreased and low.

Ranking of districts is realized in dynamics according to the data from different years, such as in 2001, in the middle of 2005 and at the end of 2009. Development level of the richest territory is 10 times higher than the development level of the

[6] http://msko.fsgs.ru/

[7] Three cities of regional subordination were included to analysis as separate territories.

[8] There are other terminologies, such as "integrated", "aggregated", etc. economics.

poorest territory in the sphere of socioeconomic development. The bear fact that districts with leading position in the beginning of the period not only change their situation, but strengthen it, while there is a coherent spread between levels of socioeconomic development, is of great interest.

Integral index is highly useful, but rather rough indicator which prohibits from estimating of characteristics of districts. Some districts can be of industrial nature, others have dormitory function. That is why there is a reason to explore the situation separately, through changing one integral index to five group indexes formed in accordance with similar characteristics: resources, economic performance efficiency, personal incomes, demography, ecology and social sphere.

It is for each group of indexes (i_j) that we need to calculate group integral index as an arithmetical average for each group:

$$I_{ГР} = \frac{1}{n}\sum_{j=1}^{n} i_j \ , \qquad (5)$$

where, n is a number of parameters in each group, so in total we have five group indicators.

In this case if we reflect obtained results in diagram form one can see the factors dominating in this or that district. One can also analyze how large the difference in the development levels is in accordance with different factors. The given method of rating analysis is useful for regional and municipal authorities for identification of problem factors and elaboration of effective policy for the improvement of the situation existing on their territories.

3. Verification of spatial region development hypothesis

Taking into account the fact that Moscow region is an explicit monocentric agglomeration, positional relation of values of socioeconomic indexes depend on the distance from the district to Moscow [9]. This fact can be affirmed either in a quality manner by mapping rating grouping on the map of Moscow region when territories of districts are depicted with different colors in accordance with integral life quality index, or in a quantitative manner with paying attention to examination of correlation for integral life quality index in the district with the distance from district to Moscow [8, p. 41]. Distance from district to Moscow is the distance from the center of the district to the center of Moscow.

Qualitative analysis of socioeconomic development in relation to distance of districts from Moscow clearly demonstrates that the closer the districts to Moscow are the higher their development level is and vice versa, the further the districts from Moscow are, the lover their development is.

There is a correlation when doing quantitative examination. In this case the average correlation index for all years has rather high negative value that is about (–0,7), which testifies to an intense inverse dependence of varieties. Consequently, there is a confirmation of the results of qualitative analysis: the further from the Capital the district is, the lower is its development level. Afterwards one plots a dot diagram of dependence of distance from district to Moscow from integral indicator.

4. Application of convergence (divergence) theory for socioeconomic development analysis

When analyzing dynamics of development of economic entity, which consists of several subsystems, there is often a question of comparative dynamics of the indexes of the latter. If indexes fall apart with the time, one says about their divergence, and when they come together one says about convergence [4, p. 32]. The question of convergence-divergence is the question so system stability. In case of divergence there is an increase of differentiation (stratification), which is in excessive forms threatens integrity of the system itself. Correspondingly, the process of convergence indicates contingence of subsystem parameters, which is optimal factor for the development of district [5, p. 7]. Thereby, the given question is important for regional economics.

In order to evaluate the degree of variation one uses integral index of differentiation: ration of standard deviation to average one in percentage points:

$$\Delta = \frac{\sqrt{D(Y)} \cdot 100\%}{\overline{Y}}, \qquad (6)$$

where D – variance of series $Y=\{Y_l\}$. In the capacity of series Y there is an indicator of life quality for a certain year.

The present balance is calculated for integral index for all years (2001–2009). In case when

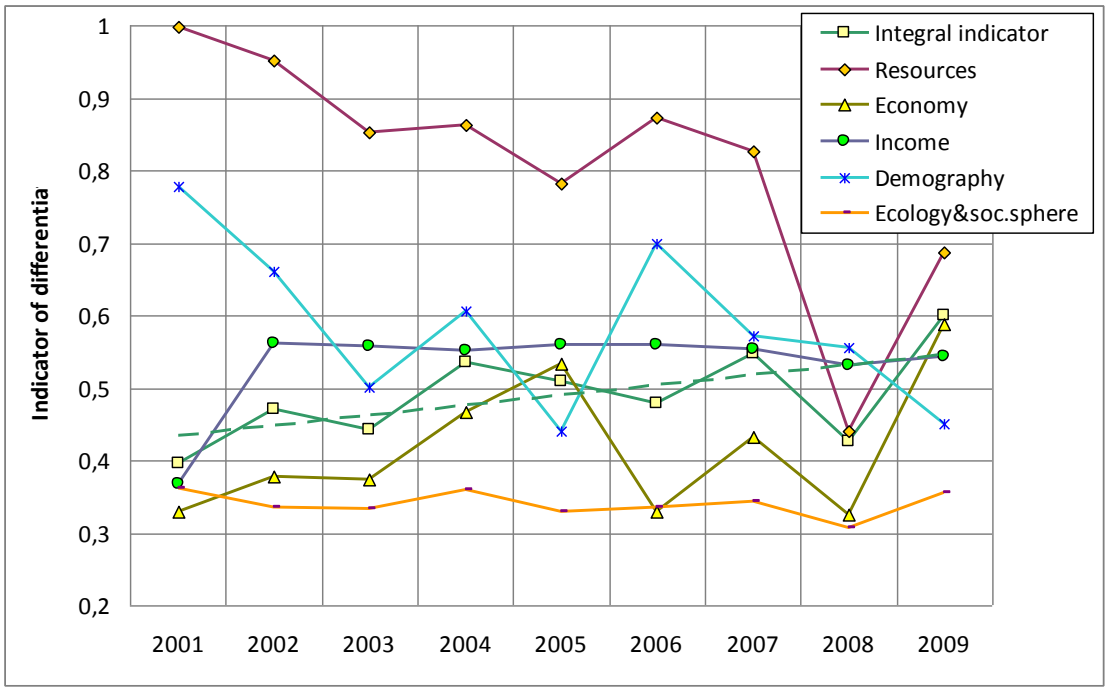

Fig. 1. Dynamics of convergence (divergence) of territories' development

there is an increase of index, then there is a divergence, and convergence appears if index decreases.

Then there is an analysis for group indicators I–V: resources, economic performance efficiency, personal income, demography, ecology and social sphere (fig. 1).

All in all there is a divergence on integral index which means that in dynamics of years from 2001 till 2009 there is an increase of size of difference in socioeconomic development between developed and depressive territorial entities of Moscow region. Dynamics of group parameters is rather changeable. This is particularly true for resources and demography.

5. Factor approach to the choice of parameters for the analysis of rating

Factor analysis is one more approach to the analysis of complex objects the condition of which is described with a large number of parameters. In our case the object of analysis is socioeconomic situation of districts of Moscow region which each is described with a number of parameters – many-dimensional status vector (in our case it is 22-dimensional status vector):

$$District = \{XI\} = \{X1, X2, \ldots XI, \ldots XN\}, \quad i=1,N=22. \qquad (7)$$

The main task of factor analysis is to compare the condition of different districts which each is represented by its own status vector. As the same time the main problem is to compare many-dimensional vectors [11, p. 89].

In order to solve aforementioned problem one needs to work out the mechanism of information merging, which will *reduce the level of dimensionality of set of parameters subject to comparison.* It is in accordance with general information theory that along with any reduction of information there is a loss of it. That is why there is a mission to work out and implement algorithm, which will maximally preserve information contained in initial status vector.

One of the most important advantages of factor analysis methodic is application of rating (ranging) for the same purposes. The main problem is possible loss of important information and lack of information about the reasons of differences. That means that we can ascertain difference of integral parameters, but in order to explain reasons of the present difference we need to conduct additional researches. In order to make a partial compensation of aforementioned problems one needs to divide state vector variables into several groups, while variables inside group are of similar nature. After this the calculation of aggregated parameters is carried out for each group:

$$I1,I2,\ldots,IJ = f(\{XI\});\ I1 = A1*X1+\ldots+XK,\ I2=AK+1*XK+1\ldots+AL*XL,\ldots,\ IJ=AM*AM+\ldots+AN*XN. \quad (8)$$

Such approach was used for calculation of parameters according to groups.

The present method provides more information, though its main problem is subjectivity of selection and parameters' grouping. It means that there is no guaranty that the developed grouping is optimal from the point of view of preservation of relevant information from original status vector.

Factor analysis allows excluding subjectivity. Its task is to reduce original many-dimensional vector to a vector of smaller size with the help of standardized mathematical method, which does not depend on subjective choice of any person:

$$Region = f(\{XI\}) \text{ -> } f(\{FJ\}),\ i = 1, N,\ j = 1,M,\ M < N. \quad (9)$$

Variables of a new scaled-down status vector are factors which are linear combination of initial parameters. Factors or factor variables are independent relative to each other.

One of the most important features of factorization procedure is the fact that it has its' own method of estimation of optimal selection of factors essential for description of initial system without significant losses.

Therefore, factor analysis is a strict mathematical method of formation of aggregated indexes, which to the best advantage describe behavior of initial 22-measure system. Operation of the similar import was realized before when the group of five integral parameters, which represent summing in accordance with traditional economical logic (resources, demography etc.), was calculated. In case of manual grouping all indexes *A* (weight) were similar (equal to 1), while during factorization weight indexes are different and can by specified during the procedure.

Particular interest is paid to the question how mathematically formed factors with different load balance will conform to structure of breaking on 5 groups suggested owing to traditional economic logic.

As it is the present examination of eligibility of integral (rating, ranged) approach in regional economics for estimation of socioeconomic differentiation of subsystems (districts) in general system (region). If the difference is moderate it means that rating, which is so modern, can be applied. If the difference is essential, that one needs to use factor approach deprived of subjectivity which is typical for integral methods. However, in case when the difference for factor loading is essential, then the estimation of initial parameters selection which greatly influences the final behavior of the system is very important.

Factorization is carried out in specialized packages such as STATISTICA and SPSS provided that all supporting information is embedded for all districts for the period of all years and for all parameters [10, p. 27]. The finite problem is forming of system of relevant factor varieties, which adequately describe initial 22-dimensional picture.

As initial data there are 22 parameters, which characterize socioeconomic development of 39 territorial subdivisions of Moscow region for the period from 2001 till 2009, 351 remarks in total.

In this case optimal number of groups (factors) in factor model is 7. Factor model composed of 7 factors saves 66,56 % of initial information. As it was pointed in the methodic when grouping initial array of variables the loss of information is inevitable. When formulating factor model one ought to aim for minimization of information loss.

Preservation of information for 66,56 % is not a good index. Never the less, with regard to the facts that during factor analysis the number of variables will be 3 times reduced (from 22 to 7), and information loss will comprise about 33,44 %, the application of frame factor model should be considered expedient.

Division into groups is realized on the basis of correlation coefficient values. At this stage there is an analysis of *"Components' matrix"* (factor loadings), which is a coefficient of correlation between factors and corresponding variable of an initial data file.

Pursuant to general rule of the realization of factor analysis initial array variables having more close connection (the biggest value of correlation coefficient) with the given component of factor model are united into one group under common factor.

Interpretation of results is the next step of the analysis, i.e. determination of name for each factor (factor model component). Specialists conducting research are to estimate factor name by reference to logics and name of parameters united by this factor.

In our case we can name the factors as follows:

Factor "1" – *"Demography"* (Birth rate, Death rate, Child mortality, Pensioners ration, Health care manpower);

Factor "2" – *"Economic performance efficiency"* (Financial result, Average monthly wage, Retail trading, Market services, Fixed asset formation, Turnover of organizations with foreign participation);

Factor "3" – *"Social sphere (including housing and public services)"* (Average monthly pension, Teachers, Students of secondary and higher educational institutions, Delivery of heating energy to the population, Delivery of water to the population);

Factor "4" – *"Ecology"* (Pollution emission, Freshwater volume);

Factor "5" – *"Industry"* (Industrial production volume, Pollutant effluents volume);

Factor "6" – *"Medicine"* (Capacity of outpatient-polyclinic institutions);

Factor "7" – *"Agriculture"* (Agricultural profitability).

The analysis developed factors which optimally describe socioeconomic system behavior. Present approach is recommended for application while rating analysis.

6. Conclusion

In the paper we have calculated the integral index of territorial subdivision development level that allows indicating socioeconomic situation of a separate district in the region. Moscow region is logically marked by a high level of diversity of districts in the explored indicators. Integrated social indicator of a rich district tenfold exceeds the same index of a poor district, which represents a high inequality degree of territorial subdivisions of Moscow region.

Classification of districts by the development level enables to detect quite under-developed and depressed territories and to facilitate the search of effective forms and methods for supporting that sort of territories either through budgetary support of the district or by means of realization of a corresponding investment policy.

The hypothesis of dependence of the district's development level on the distance from the capital is confirmed with the application of quantitative and qualitative analysis. The capital has a profound impact on the development of surrounding districts and has no effect on remote districts.

Combination of rated approach with factorial analyses provides new subjectivity-free data, and, what is most important, it assures cross validation of results obtained with the application of different methods. New spatial economics data become apparent from the analysis.

The analysis of regional inequality peculiarities and dynamics is essential either for federal authorities or the authorities of the subordinate entities of the Federation. The State should aim its efforts at stable and sustainable development of its regions and at population high living standard provision.

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РЕЙТИНГОВЫЙ АНАЛИЗ СОЦИАЛЬНО-ЭКОНОМИЧЕСКОГО ПОЛОЖЕНИЯ РАЙОНОВ МОСКОВСКОЙ ОБЛАСТИ

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Ключевые слова и фразы: рейтинговый анализ; ранжирование территорий; интегральный показатель; пространственный эффект; факторы развития.

Аннотация: В работе проводится комплексный анализ структуры и динамики социально-экономического положения районов Московской области с использованием методик рейтингового анализа. Рассчитывается общий интегральный социально-экономический показатель для каждого района области. Производится ранжирование районов на группы с близкими показателями. Исследуется ситуация групповых индексов сформированных по близкой специфике. Определяется степень дисбаланса групповых индикаторов. Проводится пространственный анализ зависимости уровня развития территорий от расстояния до столицы. Применяется комбинированный подход для выбора групповых индикаторов для анализа.

Формирование эффективной бюджетной и инвестиционной политики обуславливает актуальность изучения социально-экономической неоднородности территорий Московской области.

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Problems and Perspectives of Russian Innovation System

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Key words and phrases: state innovation policy; modernization of the economy; national innovation system; priorities of innovation development; priorities of financing; development of high-tech industries; structural transformation of the economy.

Abstract: Modernization of the Russian economy is closely connected with the transition to innovative development. In this article, based on the study of domestic and foreign experience, we discuss the inherent problems of forming the effective national innovation system in the Russian economy and the justification of the required solutions. The proposed measures include the conscious choice of priorities and instruments of state innovation policy, improvement of mechanisms for financing innovative development, transformation of the architecture of economy aimed at the development of innovation-generating structures.

As the experience of developed countries shows, the development of full-valued national innovation system (**NIS**) in the country should become the major trend of the modernization of the Russian economy. This system must ensure natural inbuilt of innovation process into progressive development of economy and society. In spite of national differences of models of NIS, leadership of government is the uniting feature for all of them; the state power ensures three major priorities: development of science, development of education system and development of knowledge-intensive production. Whereby, the government should play an active role in the identification of priorities in scientific and technical development, in support of fundamental researches, motivation of business activity in innovation sphere, protection of intellectual property, reforming of education system. As for stages of applied Research and Advanced Development (**RAD**) and commercialization of pioneer projects, the priority in this sphere is to be given to private companies.

The efficient functioning of innovation system is possible only when its components, namely, governmental policy, legal base, education and industrial production, market and infrastructure are aimed at the creation of favorable environment for work and development of the major sub-system of knowledge generation and distribution.

Strategic reference points of NIS functioning and development are set up by priorities of scientific and technical development, that allows not only to overcome atomism of limited resources for the development, but to connect them with the appropriate priorities in real production. Accordingly, the significance of feasible identification of priorities of technological development will be sounder. Taking this into consideration, in 1993 the National Council for Science and Technologies with the federal agency status was founded in the USA by the Executive Order of the President. The major objective of this agency is to identify and present in a very clear format, the national goals and priorities for state investments in the development of science and technology. Similar governmental authorities have been established in European countries: Technology Assessment Board in Germany, Science and Technologies Select Parliamentary Committee in France, National Scientific-Research Board in Island, and Committee for Scientific Policy in Finland. European Parliament has adopted the Resolution on creation of European Parliament Committee for Examination and Selection of Priorities in Science and Technologies. The majority of countries issue “white books” to reflect priorities of their national innovation policies. On this basis, for more balanced approach in the identification of technological development priorities in Russia, which has limited resources for innovation development, it necessary to establish a state agency functioning on a continuing basis, in contrast to groups of experts that are gathered from

time to time. Such agency should study this question using constant monitoring of forecasting of situation in science, technology and geo-economy. Currently Russian experts identify as priority spheres up to year 2015 the following ones [2, p. 31–32]:

1. In information and communication technologies: applied software; intellectual support system of complex systems and integrated enterprise automation ; systems for unified telecommunication net, including the Internet, TV, radio; multimedia systems of different applications, virtual reality systems; systems for afield identification of people and objects with high accuracy level; referral database and services based on geopositioning technologies; unified electronic identification documents; systems for distance education and medical service.

2. *In nanotechnologies:*catalysts based on synthetic zeolites and other mesostructures; high-performance nanocatalysts of selective effect; catalysts based on nanotubes for photodegradation and waste water photo analysis; high-performance biocompatible materials for medicine; nanocomposites; intellectual materials with changing and set upproperties; nanodiodes and nanolasers; microcapillary chips; biosensors layers on microelectrodes.

3. In the area of new materials: ceramic and composite materials with critical behavior and prescribed functional properties; protective materials for metallurgy and space-based technologies; multifunctional optic electronic and magnetic materials; new liquid-crystalline materials for creation of "electronic paper type" displays; new types of electronic materials for nonferrous-metals industry.

4. For biological systems: new medications using membranes proteins and receptors as their targets; means for medical diagnostics of cancer, systemic infectious diseases; technologies of complex DNA-diagnostics of congenital diseases; testing of food products quality with biochips, enabling to minimize negative side effects on human health and environment after emergency situations of technogenic and natural disasters.

In Russian experts' opinion, in a long-term prospect up to 2025, the creation of complicated intellectual systems of control (means of evaluation of risks and planning of measures for emergency situations g in transport, communication and energy supply infrastructures; computer-based monitoring and forecasting of the dangerous climatic events and geologic natural disasters), as well as bio-information technologies, hardware base and architecture of nanoelectronic devices will become extremely urgent.

Along with the identification of the most significant trends of technological development, experts specify spheres where new technologies may be used with maximum efficiency. Thus, for nanomaterials *processing industry* (strengthening coating in machine-building; polymer materials with higher mechanical strength and chemical stability) may become the most advanced sphere, including the production of new types of machines (crystal materials for infrared technology, spintronic and phototronic devices and others); *transport (*crystal and nanostructured metal materials with improved structural and functional properties for aviation, space, vessels and automobiles construction); *power engineering* material that can be used in alternative energy sources, including solar batteries; portable fuel elements, hydrogen accumulators, electrochemical energy sources, thermoelectric sources of current, supercondensers); *production and processing of natural resources (*catalysis with laid on nanoparts of non-ferrous metals in oil processing industry and others).

Among tendencies, specified by the experts as key tendencies in a long-term period, it is necessary to mention radical enhancement of efficiency of traditional sources of energy (pure coal-fired electric power-plant; efficient technologies of hydrocarbon production of coal, gas vapor power generating units with efficiency factor over 60 %), development of new technological solutions for nuclear power engineering (fast reactors with combustibles breeding, ring closure for uranium, plutonium, minor actinides), utilization of unconventional energy sources (high-efficiency technologies of biomass gasification producing power gas, gasification of solid sanitary waste with further utilization of generator gas in power units), energy-efficient technologies (design and construction of buildings energy consumption reduced in 2,5–3 times, electro energy accumulation systems up to 10 GJ and others).

The above list of advanced tendencies of technological development complies with the world tendencies, has excellent market value and to some extent reflects technological potential accumulated in the country. At the same time, taking into consideration the current status of the

Russian economy, its production base, which is sometimes enable to receive technological innovation, it seems very uncertain to attract necessary amount of recourses to develop all trends of technological development listed above, say nothing about their practical implementation.

The development of high technology industries is known to be characterized by a high ratio of expenses on research and development (**R&D**) to the volume of released products. Advanced high technology industries with the highest level of science and resource intensity in international practice comprise industries that are actively developing in Russia, namely: air and space vehicles manufacturing, pharmaceutical and biotechnological products, computing technology, office and telecommunication equipment production.

Besides, in order to ensure the release of innovative products with high scale potential home and foreign market, along with conducting intensive studies, it is necessary to design and build new enterprises; develop and implement a set of actions aimed at the increase in R&D efficiency; reorganize higher education system in the direction of training specialists for new branches. All this requires time and investment.

We should bear in mind that competition in the markets of science-intensive goods is the most acute and has gained a steady tendency to strengthening. This tendency is justified by the growing appeal of science-intensive goods markets for manufacturers of various countries not only due to their high profitability, but also due to their ranking among capacious and fast-growing markets against the background of maturity of the majority of the traditional goods markets.

Thus, the world export of information, communication and office equipment (without taking into account home markets volumes of China, the USA and other largest manufacturers) has made 750 billion US dollars a year at average for the last five years; and that is considerably more than total volumes of oil export by all oil-producing countries. In the market of hi-tech pharmaceutical products and medicines the corresponding value makes 240 billion US dollars, and the annual gain of market capacity exceeds 20 %. Notice that preserving such rates, by 2020 the biotechnologies sector can reach by market volumes the ICT level. As for the products made with nanotechnologies application, their market volumes are predicted to make as much as 15 % of the total volume of all goods markets in 2014 [5, p. 11, 18]. Even aerospace vehicle markets which are relatively stable and not remarkable for high dynamism, have reached the capacity of about 100–120 billion US dollars a year (without taking into account home consumption of the countries-manufacturers). High growth rates are observed in the sector of intellectual sector, including computer, services and software development (8 % in a year).

In conditions of tough competition conquering and retention of the market share of hi-tech products, attainment of technological leadership positions in this area and, requires considerable volumes of expenses of all kinds of resources. For example, back in 2007, R&D expenses of 1 400 largest European companies only in the area of pharmaceutics and biotechnologies exceeded 70 billion EURO with average annual growth more than 15 % [4, p. 15], at the same time in Russia expenses for all kinds of R&D even during the pre-crisis period did not exceed 7,3 billion EURO [3, p. 347].

Thus, it is evident that the declared number of priorities does not comply with the real opportunities of the Russian economy and will lead to unreasonable dispersion of development resources.

Considering the prospects of the development of the scientific and research sector, problems related to the growing globalisation tendencies which have absorbed also the scientific and technical area, can not be missed. Insufficient competitiveness in the world market focuses home innovative enterprises mainly on meeting the demand for innovations of Russian consumers. Our research suggests that proportion of enterprises for which expansion of goods markets in the country is the most important result of innovative activity makes 24,2 %, in the CIS countries – 7,0 %, in far-abroad countries – about 1 %. Such weak involvement of Russia in the system of world economic links exerts a negative influence on the possibilities of innovative area development.

In recent years, against the background of involving globalisation, the increasing complexity and rates of technological changes the tendency for more active involvement of corporate research centres of science and laboratories in international innovative networks along with the intensification of their specialization is manifested more distinctly. It is explained by the fact that in 1970–1980s the large companies (IBM, AT&T,

etc.) could capture all or nearly all perspective technological development areas, but today the intensive expansion of technologies spectrum essential for innovations accompanied by competition aggravation and innovative risks increase contributes their transfer to new strategies. The innovative cycle is developed not only within an individual company, a branch or a region, but within the limits of international and intercorporate innovative interconnection. Large companies act as initiators of creating international intellectual networks and involve universities, independent laboratories, state scientific institutions, etc. – and become their centre. Open innovation ecosystems are generated; they are aimed at creating new commercial possibilities by shared use of complementary knowledge and competences of different partners, including not only suppliers, clients, research organizations, but even competitors. In this connection an important direction of innovative development becomes the growth of the number of technological alliances, transnational companies, and joint scientific and technical organizations. According to different estimations, domestic companies participate in 90– 180 international technological alliances; it is 3–4 times below indicators of such countries as Italy, Sweden, Switzerland, and 8–12 times below indicators of Great Britain, Germany, and France. The share of foreign organizations and cooperative forms of ownership in the scientific sphere in Russia was 1,5 %, while total expenditures on research and development – 3,2 %.

Insufficient attention is drawn to such important tendency of innovative development as quick growth of innovative services area that occupies more and more significant place in the post-industrial society and produces a large-scale demand for innovations. The increased interest to innovations in this sector to certain extent reflects smoothing of innovative policy highlights, elimination of historically developed misbalance towards industrial innovations. Thus, in Japan the average annual rates of expenses growth and developments in the area of services sector in 1990–2008 exceeded 30 % against 2 % in processing industry. Similar proportions are also observed in other OECD countries. Moreover, states with insufficient raw materials, scientific and technological resources, which are necessary for industrial and technological breakthroughs, ensure the growth of their economies exactly at the expense of the development of innovative services area. This way was chosen, in particular, by Italy, Portugal, Estonia and other countries [6, p. 30– 32]. The growth of the innovative services sector and their export supports the economy of these countries, determines their international economic specialization. This experience is of importance for Russia, especially under condition of its industrial and innovative potential.

The conditions of successful realization of priorities of technological development are in many respects defined by the national economic policy. It is supposed to meet the requirements of strict target orientation, the presence of the resources available in the society, and also the protection in legal environment of intellectual property, the rights of developers and innovation businessmen to technological rent, regulation of relations of innovative activity subjects in respect of forming mechanisms of legal support of technological transfer, regulation of purchasing and control of ways of application of the purchased innovations and control of profit distribution between participants of innovative process that was obtained from implementing innovations).

The state influence on the innovative area must be distinctly outlined. Determining priorities of scientific and technical development and remaining the main investor of innovative area, the state will receive revenues mainly from its taxation. Taking into account under-financing and shortage of development resources, scientific activity results, at least, in the nearest future, will be taxed at the least rate, and in some cases – be exempt from taxation. Application of such scientific off-shores must be combined with introduction of a special tax regime in hi-tech industries without taxing new technologies, but their export and manufacturing on their basis of products and rendering services are subject to taxation.

Simultaneous efforts of the state must be directed to the formation and development of infrastructural environment of innovative activity. It is intended to develop innovative infrastructure in order to provide scientific and technical organizations and business organizations with the access to necessary resources – financial assets (directly, or through the market share of businesses); buildings, constructions, equipment, essential information; human resources and special services.

Taking into account a special role of information in the development of innovative activity and globalisation tendencies of information flows, special efforts in the solution of infrastructural problems must be paid to the creation of own networks and access to existing global information networks, such as, the European Business Network (**EBN**), Innovation Relay Centres (**IRC**), and also to development and implementation of new technical means of data processing and communication technologies.

Considerable difficulties in the formation and development of Russian scientific and research sector are created by the underdevelopment of credit and financial component of innovative activity infrastructure. Owing to the specificity of innovative activity (high commercial risk, the necessity of attracting long-term investments), effective organization of its financing must be oriented at the plurality of sources providing fast and effective implementation of innovations.

In the world practice effective approaches to the solution of this problem have been found. Thus, in the USA, along with state financing, science receives wide opportunities of interaction with the private sector, and universities are allowed to patent their developments. Thus, patenting makes a considerable share of financing of the university science. Contrary to the USA practice, the European universities, as a rule, are completely state-governed and have a limited contact with business; faculties do not have the right of conducting commercial activity. But European universities have a high degree of autonomy and freedom in decision-making in financing and execution of certain research programs, in independent selection of scientific search priorities which is practically impossible in the universities of the USA where high schools are financed under strictly selected research programs.

On the whole, universities play a significant role in the formation of innovative potential of the developed countries. Their share in expenses for science on average makes 23 % in the EU countries, 13–14 % in the USA and Japan, respectively [2, p. 24–25], against 0,2 % in Russia. In the developed countries higher education institutions fulfil a considerable volume of research and development, they also serve as platforms for technologies transfer, creation of small innovative companies, contribute to the increase in scientists' mobility, perform training of unique specialists. Many new directions of technological development are generated there. The joint research centres created by private companies on the basis of universities has become widespread in the world.

The financing problem of innovative activity can be also solved through the development of effective partnership between the state, business and academic circles. Private companies are reluctant to invest into expensive and risky fundamental studies. Private companies begin to compete only after they have obtained the results of fundamental studies. However, the situation can be changed through the support of fundamental studies by the state. In Japan, for example, the state finances the early steps in the studies and private companies after becoming aware of support of the project by the state invest their capital into further development. At final stages the project is performed completely at the expense of private companies.

An essential role in innovations' financing is played by the banks. Banks can credit all stages of innovation life cycle. Commonly the credit is issued against the funds available for the applicant, guarantees of the state or superior organization, contracts made for purchasing of new products manufactured at the expense of using the credit. Thus, the interest rate for credit in innovative activity is determined depending on efficiency of innovations, terms of their return, conformity to priorities of scientific and technical development and the risk degree of actions being financed. The bank can become a joint owner of the result compensating its expenses in the form of profit from innovation operation. The Finance Agreement can stipulate the term after expiration of which the bank's share in innovation financing by desire of the legal entity that has received the loan can be redeemed by the legal entity. By leasing operations the bank can become the owner of an innovative enterprise or create a new manufacturing. The reconstructed enterprise whose owner or joint owner became the bank can be leased, and the sum paid by the leaseholder will be used for compensation of the bank's expenses.

Banks can participate in the organization of complex examination of innovations involving highly skilled specialists. Usually the cost of the complex examination makes 1 % of estimated value or contract price of the development. The bank can also render informative, intermediary, advisory, scientific and technical, advertising, prognostic, tactical services to innovative

enterprises. The bank can become an organizer of financial projects and joint ventures created on joint-stock basis.

Obstacles of wide involvement of commercial banks in the process of crediting of innovative projects in Russia are, as a rule, caused by the absence of reliable guarantees to the creditor of loans return and dividends receiving, as well as the underdevelopment of methodical aspects of crediting innovative enterprises taking into account risk factors.

In our opinion, the repayment of loans to commercial banks by the innovative company should be based on a differentiated approach to the value of the interest rate. Factors that must be considered in determining the amount of the interest rate include:

– profits received by an innovative project;

– the size of the costs determined at the stage of development activities on the basis of Value analysis;

– the share of borrowed funds of the investment fund or bank in the total cost recovery;

– the period of implementation of an innovative project that determines the terms of attracting credit resources for its execution and returning them to the lender.

Taking into account risky character of innovation projects and uncertainty of the final result, it is expected that the planned value of these factors may not coincide with their actual values.The ratio of actual and planned factor values will lead to the change of the interest rate that borrowers will be targeted at achieving the best results when using credit.

The development of innovative business in Russia will be also facilitated by the formation of securities institutes (investment banks and funds, insurance companies) intended at ensuring free flow of shares and other financial tools. Top range opportunities arise, for example, from the use of secondary financial tools. Use of options allows the enterprise to receive the interest-free credit, and the buyer-broker partially prepays future manufacturing of new products. Thus, the contract provides that in case of refusal from supplies the interest-free credit turns into commercial one at the corresponding rate. Such experience of trade with not manufactured so far products has been implemented by specialists of Tyumen-Moscow Stock Exchange. Their method provides that the enterprise can put up for tender sections of options for not manufactured goods, and the buyer having paid from 20 to 40 % of cost of the whole batch acquires the right to its distribution as manufactured. Payment of the remaining 60–80 % of cost is made during further deliveries.

The development of the system of venture financing of innovative enterprises in Russia becomes an urgent necessity, as venture business organically combines two businesses: financial and properly innovative. So far just creation of two funds can be discussed - branch and regional ones. The low rates of venture business development in Russia are caused, on the one hand, by the state evading from taking real risks of innovative activity, while abroad the state contribution in the creation of venture funds makes up to 40 % of funds' capital. On the other hand, in the current legislation there are no the legal forms adequate to the requirements of venture business, and procedures of venture funds registration are extremely difficult. Due to the underdevelopment of the stock market the low level of venture investments liquidity is observed and a narrow choice of available strategies. There are also problems connected with the shortage of qualified managers. Because of the mentioned circumstances the greater part of venture investments flows into the existing companies rather than new ones.

Venture fairs can be considered as an instrument to stimulate interest in the venture financing of innovation projects.The model of venture fairs was originally developed in the USA. Three main tasks are solved during fairs – estimation of investment potential in the hi-tech area, rendering intermediary services to manufacturers and consumers of science-intensive projects, increase of educational level of participants in the area of use of various financial tools. In the USA at the expense of holding venture fairs more than 90 million dollars a year are attracted in the science-intensive sector.

The transformation of knowledge into the main driving force for the development of society, the increasing pace of innovation require fundamental restructuring of the education system. It must be continuous, allowing professionals to absorb new knowledge, and strategically oriented, i.e. providing proactive training for new industries and activities. This approach assumes the state support for education on promising new directions, as well as subsidies for job creation in knowledge-intensive industries.

Since the principal consumer of innovation is the production, it is necessary to ensure its sensitivity to innovation, which in our opinion, is achieved if the following conditions:

– innovative activity actually becomes a prerequisite for survival and competitiveness of production;

– production has or is likely to attract the necessary resources for innovation;

– there is comprehensive information about the possibilities of innovative reforms and the expected effectiveness of innovative projects;

– public policy provides the necessary and sufficient preferences to motivate innovation activity of enterprises, taking into account the risks and long payback periods of innovation.

The development of innovation economy in the country demands new original solutions. Innovational activity also presupposes joint efforts in different spheres of activities. It means that branch or regional way of economy should be replaced by its structuring on the basis of innovation–generating clusters.

Another indispensable condition of effective scientific and research sector functioning is integration of innovative area into the market space. In spite of the fact that commercialization of scientific results creates preconditions of rooting of the innovative area in the system of market relations, without corresponding organizational and economic transformations this problem cannot be solved.

The current condition of the Russian economy suggests that it is at the industrial stage of development, and industry is the leading area of economic activity. Industrial production satisfies a considerable part of population's demand for workplaces, production, and services and in many respects defines possibilities of structural reorganization, technical modernization, and also labour productivity growth in other areas (branches) of national economy. At the same time due to the multiplier effect, it stimulates the development of the adjacent spheres and sectors of activity. Export-oriented industries produce the bulk of foreign currency earnings of Russia, and which is also used for investment needs. Therefore, the issues of modernisation and developments of industrial production, increase in its competitiveness, certainly, must be in the centre of attention of economic policy of the Russian state.

The highest level of industrial production development and incomes brought by it laid the foundation of post-industrial transformation of economically developed countries, the transfer of their economies into innovative way of development. In fact, gradual accumulation of quantitative changes – increase in the number of manufacturers and volumes of industrial output, growth of market fullness and intensity of competitive activity resulted in radical qualitative changes in the economy when the development and implementation of innovations, improvement of the product and the process of its manufacturing became an integral part of reproductive process at industrial enterprises and the principal means of ensuring their competitiveness. The existing situation made industry not only the main consumer of innovations, but also the main source of funds for financing their development.

This discussion takes us to conclusion that at the current stage of the Russian economy development the priority state financing of scientific area can hardly be recognized as expedient, as well as attempts to impose the innovative way of development from the top. This conclusion is confirmed by low productivity of this economic policy (only 5 % of developments financed by the state are implemented in the industry). In addition, a paradoxical situation when the country lacks an industrial base for the commercialization of the latest domestic developments, and industrial enterprises of Taiwan and South Korea are engaged in the embodiment.

The situation can be changed only through the replacement of priorities of the state support in the direction of modernization of technological base and restoration of competitiveness of Russian industrial enterprises that will enable making them full-fledged participants of market relations, including the scientific area. As soon as these conditions are created the transition to an innovative way of development will become a natural consequence of market relations development.

Developing and directing the action of market mechanisms in the innovative area, we need to their take into account the peculiarities that are caused by differently directed interests and behaviour strategies of economic subjects who participate in the realization of innovative process.

As the analysis has shown, the Russian embodiment of innovative segment of the market environment is characterised by a considerable

originality in many respects caused by the incompleteness of economic reforms, the lack of satisfactory market infrastructure, the shortage or lameness of a number of significant economic and social institutions. As a result, classical market laws in domestic innovative business work only in the modified manner. For example, free competition is a rather problematic phenomenon in the environment of the modern Russian innovative enterprise. Competitiveness is practically non-existent in the domestic market of scientific developments where "monopoly connected with narrow specialization of branch science is dominant" [1, p. 82]. This form of monopoly does not play a positive role in the development of innovative activity, but it also interferes with this development.

In contrast to Western economic reality, in Russia the struggle with competitors is not the determining motive of innovation. Especially, this tendency manifested itself in conditions where the price difference determined the lack of serious competition with Western manufacturers. As to cooperation in the Russian innovative area, it is present as a phenomenon, but it is difficult to speak about its strategic orientation to such type of relations from innovative enterprises. On the contrary, a tendency of minimisation of cooperative relations can be traced when they are preserved only in case of their acute necessity. Nevertheless, orientation on receiving the ultimate effect from innovations inevitably leads us to necessity to develop cooperation of scientific and research divisions with industrial sector.

Determining the conditions essential and sufficient for transition of the Russian economy to the new level of economic growth, one cannot miss questions of modernisation of organizational architecture of domestic economy in the direction of merging scientific, industrial and sales activity, increasing efficiency of the finished value for the consumer and strengthening the competitive potential of the Russian enterprises and organizations in the world market. It all requires, firstly, the transition from branch and regional type to the network and cluster principle of organization of scientific and production activity with the maximum account of possibilities of creating one's own and participation in operating international networks and communities of added value, secondly, stimulating integration processes in Russian economy (including foreign enterprises and the organizations) that will ensure the development of competitive structures capable to resist the influence of highly consolidated foreign manufacturers.

Finally, the success of realisation of actions aimed at modernisation of the branch structure of the Russian economy in many respects will be determined by how much they will be complemented by transformations and efforts in the institutional, socio-cultural and political spheres. For years of market reforms in Russia the full-fledged institutional environment essential for stable and efficient economic activities of economic entities, their economic and technological progress has not been created. Despite adopting the regulatory acts aimed at liberalization of economic relations in the society, in fact, there preserved administrative and economic barriers preventing the freedom of enterprise activity and causing the unreasonable growth of its costs.

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ПРОБЛЕМЫ И ПЕРСПЕКТИВЫ ФОРМИРОВАНИЯ НАЦИОНАЛЬНОЙ ИННОВАЦИОННОЙ СИСТЕМЫ РОССИИ

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Ключевые слова и фразы: государственная инновационная политика; модернизация экономики; национальная инновационная система; приоритеты инновационного развития; приоритеты финансирования; развитие наукоемких отраслей; структурная перестройка экономики.

Аннотация: Модернизация российской экономики неразрывно связана с ее переходом на инновационный путь развития. В статье на основе изучения отечественного и зарубежного опыта выявляются присущие российской экономике проблемы формирования национальной инновационной системы и обосновываются пути их решения. Предлагаемые меры включают в себя взвешенный выбор приоритетов и инструментов государственной инновационной политики, совершенствование механизмов финансирования инновационного развития, архитектурную перестройку экономики в направлении формирования инновационно-проводящих структур.

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Innovative Technology of Regional Development

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Key words and phrases: innovative management techniques; clustering; programming; zoning; subsidized region; growth center; creative industries.

Abstract: The article describes current approaches to the concept of regional development, and characterizes the key principles, advantages and disadvantages of popular technology of innovative management of the territory.

Variability of factors of external environment largely determines the policy of socio-economic changes in the overall concept of strategic development in the region. Modern management trends cause greater autonomy of the region in the choice of approaches to build its effectiveness. In accordance with the growth strategy, “2020” adopted by the Government of the Russian Federation, it is recommended to use innovative technologies as a fundamental stratagem of the overall concept of territory development [3].

A distinctive feature of the recommended management approach is to create prerequisites for stimulating the innovation potential of the region. The development of intellectual resources, primarily the residents of the region is in the center of attention. The focus of modern regional policy is a man as a key factor in the increasing competitiveness and the main source of income, not additional one.

Particularly acute is the question for the subsidized regions, since the formation of an additional source of profit is very urgent and the priority task is the growth of their self-sufficiency. According to the Ministry of Regional Development of the Russian Federation in 2010 67 out of 83 regions were supported from the federal budget. They accounted for more than 70 % of the total population. Institute for Regional Information – independent analytical consulting company, has made a rating index of the quality of life. This rating in 2010 showed that in 60 regions of Russia the quality of life of the population was below the average level [1]. Consequently, only 15 % of all federal entities of the country can boast the implementation of the strategic tasks of socio-economic policy in the region which is aimed at the improvement of the living standards.

It should also be noted that the subsidized regions, which have been actively applying the tools of the federal incentive, such as the creation of special economic zones and the target-program funding over the years, have not much changed the current situation in the region; it shows low efficiency and low sensitivity of the regional state economy to such methods of management. All this justifies the need for a significant change in the direction of extending the scope of innovation, including the management of the region. To implement an innovative approach in the regional development, we consider the modern technology of Territorial Administration:

1. Targeted programming of activities in the region.

The method consists in the development of the program of action, identifying the ways and means to solve a specific set of problems, based on promising areas of socio-economic development of the territory, and resource provision.

Strengths:

– can meet the challenges aimed at long-term destruction of negative trends, including those without the declared strategy;

– the efficient model of financing of industrial projects;

– enables to allocate resources efficiently and evaluate the capabilities of the regional economy objectively.

Weaknesses:

– fierce struggle of the various ministries and agencies for subsidized resources and as a result overstating the size of financial support;

– low level of analysis and methodological expertise, particularly in the financial area, and as a result ineffective monitoring and coordination;

– distortion of programs at lower levels of government, as well as their different values and target priorities.

2. Clustering of regional structures.

It implies the partnership of entities of the regional economy, based on the integration of common interests, goals, and competitive initiatives, manufacturing, financial and intellectual resources, as well as the creation of a unified regional (branded) products and their promotion to foreign markets.

Strengths:

– general interest, high motivation, result-oriented work;

– strong focus on creating supportive and related industry infrastructure;

– the use of economies of scale and synergy, the principle of cooperation, specialization and outsourcing.

Disadvantages:

– the creation of complex integration schemes using volunteer initiative and personal enthusiasm of cluster members;

– the possibility of corruption by public relations and business cluster members;

– formation of a “monster monopoly” that would dictate the terms of the operation.

3. Zoning

The method is aimed at the creation of geographically isolated area with favorable conditions for the development of research, investment, entrepreneurship and international trade. The main condition for it functioning is the preferential treatment provided by public authorities.Thus, a free economic zone – the “growth center” of the region is established, but nevertheless it cannot cover the entire territory of the municipality.

Strengths:

– attracting investments, including foreign ones in promising areas of the regional businesses;

– promotion of entrepreneurship and innovation activity of the population;

– increase in job opportunities, including those for highly qualified personnel.

Weaknesses:

– specialization centers of growth can not implement the complex nature of initiatives covering other areas of the regional economy;

– problems related to the development of territory infrastructure;

– creation of the free zones does not take into account strategic and socio-economic preconditions for the development of regions and districts.

4. Creating the creative industry in the region.

This technology of socio-economic development of the area relies on the creation of an effective model of the creative industry, so that freedom and creative self-realization of the population becomes a lifestyle. The main task is the development of cultural and historical heritage of the region on a commercial basis, creating the image of the territory that is good for the implementation of creative ambition of every person [2].

Strengths:

– focusing attention on human development and creativity throughout the life cycle, i.e. socio-cultural orientation of the regional economy;

– objects and cultural events, art are integrated into the marketing strategies of the region;

– attracting driving innovation, innovators, facilitators into the region.

Weaknesses:

– this approach is most effective for the development of individual cities, not the entire region;

– reluctance of authorities to manage the creative industries based on innovative principles of operation;

– the possibility of aggravation of social problems and the worsening crime situation.

The choice of technology development in the region should be determined by many factors, including structuring of the regional economy, strategy and tactics of local authorities, values and attitudes, financial and logistical situation. But the main attention should be paid to the existing action teams, innovative proposals and innovative enthusiasm of employees of the regional administrative agencies, and the intellectual elite, especially young people. Innovation must become a functional requirement of each entity of the regional economy, regardless of the legal form of ownership organization and target activities. Professionalism and skills of employees of every company should be determined by the efficiency of implementation of its creative initiatives. Only on the basis of these conditions, innovative resources

for long-term sustainable development of the region will be combined, and as a result, its competitiveness and profitability will increase, and what is more important the quality of life of all people living in the region will improve.

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ИННОВАЦИОННЫЕ ТЕХНОЛОГИИ УПРАВЛЕНИЯ РЕГИОНАЛЬНЫМ РАЗВИТИЕМ

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Аннотация: В статье раскрываются современные подходы к концепции регионального развития, а также характеризуются ключевые принципы, достоинства и недостатки популярных технологий инновационного управления территорией.

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ПЕРСПЕКТИВЫ ФОРМИРОВАНИЯ КОНТРАКТНОГО ГОСУДАРСТВА В РОССИИ

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Ключевые слова и фразы: контрактное государство; политический рынок; остаточный доход государства.

Аннотация: Автор статьи предлагает использовать авторский комплексный критерий с целью определения контрактного государства, состоящий из формального и экономического компонентов. В результате проведенного анализа характера отечественного государства автор пришел к выводу о наличии тенденций становления в России государства с преобладанием контрактных начал, выявил ряд проблем на этом пути и сделал на этой основе ряд рекомендаций по направлениям реформирования функций отечественного государства и принципов его взаимодействия с бизнесом.

Актуальность исследования обусловлена тем, что изменения экономической системы, происходящие в современной России, влекут за собой трансформацию всех ее субъектов, в том числе и государства. Переход к рыночной экономике объективно требует пересмотра функций государства, выстраивания отношений контрактного типа с другими экономическими субъектами.

Цель данной работы заключается в анализе процессов формирования государства с преобладанием контрактных начал и выявлении на этой основе возможных тенденций его становления в России в ходе постсоветской трансформации.

Теоретическую и методологическую основу исследования составляет неоинституциональный подход к государству как специфической экономической организации. На основе избранного подхода предлагается комплексный критерий отнесения государства к «государству с преобладанием контрактных начал». Данный критерий строится на сочетании «формального» и «экономического» компонентов, при приоритете второго. «Формальный» аспект заключается в наличии конкурентного и консенсусного политического рынка. «Экономическим» компонентом предложенного комплексного критерия отнесения государства к государству с преобладанием контрактных начал является превращение большинства субъектов хозяйствования в получателей остаточного дохода от деятельности государства. Под остаточным доходом государства понимается сверхдоход, возникающий в результате использования монополии на принуждение, обеспечивающей эффективное производство таких общественных благ, как охрана правопорядка и спецификация прав собственности, что, в свою очередь, приводит к повышению отдачи от всех экономических ресурсов.

Анализ российской практики показал, что возникшее в процессе распада Советского Союза российское государство сохранило традиционно авторитарный характер. Реально оно контролировалось достаточно узкой по составу «правящей группой», преемницей высшей советской номенклатуры. Целью реформ было формирование в России государства «невидимой руки», автономного от общества. По сути, в России была предпринята попытка «неконтрактного» насаждения рыночной контрактной экономики с формированием «малого» государства в модели «невидимой руки». Модели государства «невидимой руки», «помогающей руки» и «грабящей руки» разработаны А. Шляйфером и Т. Фраем [1]. Первые две модели принимаются нами в качестве двух видов контрактного государства.

Историческое развитие отечественного государства в постсоветский период в ходе приватизационного процесса привело к трансформации советского бюрократического рынка в постсоветский политико-бюрократический ры-

нок, где господствуют неформальные нормы, носящие локальный и персонифицированный характер. Такой рынок базируется на сети «статусных» по характеру и внелегальных по форме неявных контрактов между государством и другими экономическими субъектами. Субъектами возникшего «гибридного» по форме и содержанию политико-бюрократического рынка выступают: государство (в лице «правящей группы»), крупный бизнес, федеральная и региональная бюрократия. В связи с тем, что на российском «гибридном» политико-бюрократическом рынке отсутствует представительство большинства граждан, представленное на нем меньшинство получает возможность в широких масштабах извлекать политическую ренту. Таким образом, структура «рынков власти» в России не позволяет относить отечественное государство к контрактному государству «невидимой руки».

Окончательные выводы о природе отечественного государства были сделаны после анализа распределения его остаточного дохода. С целью исследования проблем распределения «остаточного дохода государства» в условиях России предлагается использовать в комплексе оценку структуры доходов и расходов консолидированного и федерального бюджетов; распределение прироста доходов бюджета между статьями расходов; механизмов дофинансирования функций региональных и местных властей за счет средств бизнеса. Предложенные элементы анализа оценивались на основе следующих положений. Для эксплуататорского государства свойственно распределять «остаточный доход» на рост доходов государственных служащих или на расходы, связанные с силовыми структурами. Контрактное же государство, скорее всего, направит его на финансирование науки, образования, здравоохранения и другие расходы социально-экономической направленности.

Проведенный анализ распределения «остаточного дохода государства» за 1994–2010 гг. показал как наличие существенных достижений по пути становления государства с преобладанием контрактных начал (снижение неналоговых доходов в федеральном бюджете (1999 г. – 6,96 %, в 2007 г. – 3,8 %, в 2008 г. – 4,8 %), рост собираемости налогов (собираемость налогов в 1996 г. составила 74 %, в 2005–2010 гг. – более 100 %) [1], растущая доля расходов на социально-культурные функции в консолидированном бюджете, более равномерное распределение прироста доходов государственного бюджета в 2006 и 2007 гг. между разными статьями расходов, использование практик дофинансирования для расширения производства общественных благ на региональном и местном уровнях [2]), так и наличие серьезных барьеров на этом пути (сохранение остаточного принципа финансирования расходов на социально-культурные функции государства, снижение доли пяти «рыночных» налогов в структуре доходов консолидированного и федерального бюджетов (до 2003 г. она составляла 60–70 %, начиная с 2004 г. этот показатель в обоих бюджетах снизился до 40–45 %), слабость «бюджета развития» и непрозрачный характер использования региональными и местными органами власти средств, собираемых за счет практик дофинансирования (ежегодное участие бизнеса в дофинансировании территорий составляет 110 млрд руб. (около 3 % расходов консолидированных бюджетов субъектов федерации [3]).

Таким образом, к настоящему моменту в России существует ряд проблем, препятствующих формированию контрактного государства. Характер российских властных рынков не соответствует формальному компоненту комплексного критерия контрактного государства «невидимой руки». Это показывает ограниченность возможностей для формирования в России контрактного государства «невидимой руки». В то же время, рост затрат на социально-культурные мероприятия, а также развитие контрактных практик в рамках «серой зоны» свидетельствуют о наличии элементов контрактного государства «помогающей руки».

Для стимулирования процессов становления в России государства с преобладанием контрактных начал в виде государства «помогающей руки» было предложено в ходе институциональных реформ реализовать две группы мер. Первая группа мер связана с необходимостью решения проблем, связанных с межбюджетными отношениями. Представляется важным согласовать распределение прав и обязанностей между государством и бизнесом с процессами перераспределения полномочий в рамках государственной иерархии.

В решении обозначенной проблемы можно обратиться к опыту Китая, который следует рассматривать как пример наличия контрактного государства «помогающей руки». Межбюджетные отношения в Китае строятся по сле-

дующему принципу: волостные власти действуют в условиях жестких бюджетных ограничений. Они не получают финансовых трансфертов от вышестоящих бюджетов, но при этом на них не возлагаются чрезмерные социальные обязательства. Таким образом, достигается, пусть во многом на неформальной основе, достаточная сбалансированность прав и обязанностей власти, бизнеса и населения, что стимулирует развитие экономики. Результатами такой политики является то, что среднегодовые темпы роста ВВП в последние годы составляют 10–11 % [4].

Следующая группа мер, направленных на формирование в России контрактного государства «помогающей руки», касается переопределения функций государства для сохранения так называемого «большого» и «сильного» государства. Исторически сложилось так, что государство в России всегда было «большим» и играло значительную роль в экономике страны. В наших условиях курс правительства на «минимизацию» государства, ограничивающего свои функции поддержанием макроэкономической стабильности, защитой прав собственности и мерами адресной социальной поддержки малоимущих является препятствием в процессе становления контрактного государства «помогающей руки».

Российское государство должно совмещать в себе одновременно и функции гаранта, и функции координатора. Только в таком случае есть возможность сформировать контрактное государство в его «неклассическом» виде государства «помогающей руки».

Следование предложенным рекомендациям в проведении институциональных реформ может способствовать становлению в России контрактного государства в неклассическом виде «помогающей руки».

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Prospects of Formation of the Contract State in Russia

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Key words and phrases: the contract state; the political market; the residual income of the state.

Abstract: the Author of article suggests to use author's complex criterion for the purpose of definition of the contract state, consisting of formal and economic components. As a result of the spent analysis of character of the domestic state the author has come to a conclusion about presence of tendencies of formation in Russia the states with prevalence of the contract beginnings, has revealed a number of problems on this way and has made on this basis a number of recommendations about directions of reforming of functions of the domestic state and principles of its interaction with business.

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Capital Structure: Theories and Empirical Results

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Key words and phrases: the theory of optimal capital structure; the trade-off theory; market timing theory; the theory of financial leverage.

Abstract: The paper studies the experience of determining the optimal capital structure on the example of Russian companies. Western practice of determining the optimal capital structure in the most prominent concepts has been investigated; the combination of factors influencing the decisions on the optimal ratio of own and borrowed capital is studied. In this case, the main criterion of optimality is the theory of financial leverage and its changes influencing the capital structure. In Russian conditions the packing-order theory is corroborated, a number of the most significant factors affecting the theory of financial leverage, namely profitability, market activity and liquidity ratios are examined.

The capital structure of the organization is an important economic category and it is the foundation of any business entity. There are a number of concepts that describe the logic of the choice of a particular capital structure, each of which has its own strengths and weaknesses. Despite the current conditions there is no concept of optimal capital structure, but its examination and analysis are very significant because during our research we can identify factors, confirming in practice the application of these theories. The choice of these factors that determine the decisions of the organizations about the ratio of own and borrowed capital is one of the central problems of modern theory of optimal capital structure.

Thus, the aim of this work is to study the basic concepts of capital structure, based on both Western European and the Russian experience, the choice of the most significant factors, as well as the assessment of the impact of these factors on the capital structure in Russian conditions on the example of the major local organizations.

The western companies are guided by three basic concepts of capital structure. One of the most common concepts of the theory of optimal capital structure is the Trade-off Theory, which argues that the organization by selecting a specific capital structure, reaches a compromise between the advantages of financing through borrowing (favorable taxation, lower risk loans) and increased shareholder value and costs associated with bankruptcy. Optimal ratio between debt and equity in the capital structure is achieved when the marginal cost of debt (agency costs and bankruptcy costs) and benefits of debt are equalized. The most famous works in this theory are: Kraus and Littsenberger ("A State-Preference Model of Optimal Financial Leverage" (1973)), Scott ("A Theory of Optimal Capital Structure" (1976)), Bradley, Jarrell and Kim ("On the Existence of an Optimal Capital Structure: Theory and Evidence" (1984)). In these works the main determinants of this concept are: maintaining the target level of debt, bankruptcy costs and benefits of the tax shield. In this case, a positive impact on the debt level is established by the factor of maintaining the target level of debt and negative impact on the drivers of bankruptcy costs and benefits of the tax shield.

The Pecking-Order Theory assumes that managers are better informed about the situation inside the organization, about the quality of investment projects and so on, and this may give rise to adverse selection costs that outweigh the benefits and costs to be considered in the concept of compromise. Besides, the hierarchy concept is based on the precondition that costs of attraction of additional capital sources (in particular, transactional costs and costs of information asymmetry) are high. Thereof for financing of the projects first the organizations will use its own resources (retained earnings), then a risk-free debt, and finally a risky debt. This theory is represented by the following famous works: Gordon Donaldson and "Corporate Debt Capacity" (1961),

Myers and Mayluf "Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have" (1984), Leland and Pula "Information Asymmetries, Financial Structure, and Financial Intermediation" (1977). Significant factors of this concept are: the positive influence – financial flexibility, the volatility of income, size of organization, the negative influence – the profitability ratio, ratio of market activity.

Based on the Market Timing Theory, there are also certain options and financing organizations. The company emits equity securities during the period of high prices in the market and buys back shares during the period of low prices. Thus, managers benefit from a temporary deviation value of equity relative to the cost of other forms of capital. Within this theory there are some famous works represented by Baker & Vegler "Market Timing and Capital Structure" (2002), Graham, J., Harvey, C. "The Theory and Practice of Corporate Finance: Evidence from the Field" (2001), Kayhan A., Titman S. "Firms' Histories and Their Capital Structures" (2007). The significant factors of the Market Timing Theory are: the value of the shares of companies on the market, changes in stock prices, and the fiscal deficit.

Another important task of the given work is to study the Russian experience of choosing an optimal capital structure; it is necessary to specify the character and degree of influence of some factors on capital structure on the example of the Russian organizations.

Using the dynamic model, that allows researching the influence of the most significant factors on the optimization of capital structure (financial leverage) we have chosen 50 Russian organizations from five most developed and perspective industries of the Russian economy: metallurgical, oil and gas, a consumer sector, electro power and telecommunication.

As a basic indicator, reflecting the impact of various factors on capital structure, we have used the financial leverage ratio, which characterizes the amount of debt used by the organization per unit of capital. This ratio is the lever that multiplies either positive or negative effect obtained by the corresponding value of its differential.

In the regression analysis of panel data we have identified the six most significant factors affecting the capital structure of organizations, namely:

X1 – Net profit ratio of sales, X2 – the effective tax rate, X3 – Ratio of market activity, X4 – Ratio of fixed assets, X5 – Current Ratio, X6 – the scale of production.

The basic formalized model of the influence of factors on the coefficient of leverage is as follows:

$$Y = \alpha + \beta 1 X_1 + \beta 2 X_2 + \beta 3 X_3 + \beta 4 X_4 + \beta 5 X_5 + \beta 6 X_6$$

where: Y – the leverage ratio; X_1 – the ratio of return on sales X_2 – the effective tax rate; X_3 – the ratio of market activity; X_4 – the coefficient of fixed assets; X_5 – the current liquidity ratio; X_6 – the scale of activity.

The results show that coefficient of the financial lever is one of the major characteristics of the organization in conditions of market inconstancy. The level of coefficient of the financial lever has constituted more than 60 % for metallurgical and oil and gas industries that characterizes the organizations of these industries, as active borrowers in the markets of capitals. The lowest value of the given indicator belongs to electro power industry that is connected with the ongoing reform in the given sector of economy; it is also influenced by the financial-economic crisis.

According to the conducted research, the most important factors influencing the coefficient of the financial lever are profit ratios, market activity and liquidity. Interrelation between profit ratio of sales and the coefficient of the financial lever and return is essential for all considered five industries. The high indicator of profit ratio promotes increase in internal resources of the organization and, hence, reduces the requirement for extraneous funding.

The coefficient of market activity has high value for all industries, except oil and gas that characterizes the big investment possibilities and growth for the organizations of researched industries. Besides, communication between the given indicator and the coefficient of the financial lever is a straight line in all cases (except oil and gas sector).

The current liquidity coefficient acts as one of the most significant factors and has feedback with coefficient of the financial lever that testifies that the organizations of the given sample, first of all, are focused on internal sources of financing that is quick assets will be implemented first of all, to form funds from profit, and only in case of their lack of extra financing will be considered.

Thus, our research confirms the provisions of the concept of hierarchy in the Russian conditions

and proves that the coefficient of the financial lever, as well as profit ratios, market activity and current liquidity are urged to play a basic role in optimal capital structure determination. First of all the organizations will use its own assets and only in case of their shortage, will be ready to address to extra financing. Last statement is especially important in conditions of financial-economic crisis when almost all companies of all sectors of the Russian economy have reduced the investment programs, and the most significant of them are financed at the expense of own capital. Thus it is necessary to bear in mind that the degree and the nature of influence of these factors depend on external financial-economic conditions, on internal conditions of the organizations, and also on specific features of each industry of economy function.

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ИССЛЕДОВАНИЕ СТРУКТУРЫ КАПИТАЛА: ТЕОРИЯ И ПРАКТИКА

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Ключевые слова и фразы: теория структуры капитала; концепция компромисса; концепция отслеживания рынка; коэффициент финансового рычага.

Аннотация: В настоящей статье исследуется опыт определения оптимальной структуры капитала на примере российских компаний. Также исследована западная практика определения оптимальной структуры капитала в рамках наиболее известных концепций и определен набор факторов, в той или иной степени влияющий на решения по оптимальному соотношению собственных и заемных средств. При этом основным критерием оптимальности служит коэффициент финансового рычага, изменение которого и влияет на структуру капитала при изменении влияния того или иного фактора. В российских условиях подтверждается теория иерархии и определяется ряд наиболее существенных факторов, влияющих на коэффициент финансового рычага, а именно: коэффициенты рентабельности, рыночной активности и ликвидности.

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The Transition to the "Green" Economic Model in Russia: Opportunities and Risks

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Key words and phrases: competitiveness; ecologization; environmental restrictions; metallurgical enterprises.

Abstract: The Russian government sets up a priority task of increasing its national producers' competitiveness, especially, among industrial enterprises. An increase in the foreign trade activity of both private businesses and state enterprises is not possible without competitive quality goods produced in full accord with the international standards and proved by the international certificates.

The society, the mass media and the internet resources have been expressing a great interest in ecologically healthy products and food. According to the latest polls more than 76 per cent of the Russian population is in favor of Eco goods. Moreover, the formation of a financially robust sector of consumers, who are sensitive to the ecological properties of goods & services, has been on the rise. That's why the ecological issue is vital not only for the state but for the metallurgical enterprises.

The results showed that industrial enterprises' competitiveness evaluation was based on the methods that completely ignored ecological factors as well as the damage caused to the environment in the production process. The author suggests that an "Enterprise' Ecologically Adjusted Competitiveness" parameter should be introduced. The parameter derives from a consequent correction of economic parameters that are included in an industrial enterprise' competitiveness calculation formula.

Global ecosystem and environmental security

Sustainable development has been defined in many ways, but the most frequently quoted definition is from *Our Common Future*, also known as the Brundtland Report [3]:

"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts:

- *the concept of* ***needs****, in particular the essential needs of the world's poor, to which overriding priority should be given;*
- *the idea of* ***limitations*** *imposed by the state of technology and social organization on the environment's ability to meet present and future needs".*

All definitions of sustainable development require that we see the world as a system – a system that connects space and a system that connects time.

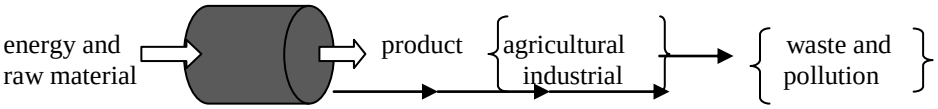
When we think of the world as a system developing over time, we start to realize that the decisions our grandparents made about how to produce metal continue to affect metallurgical technologies today; and the economic policies we endorse today will have an impact on urban living conditions when our children become adults [5].

So, the problems we face are complex and serious. The experts from UNEP consider that these problems can be solved if developing countries move away from the "Consumer" Economic Model to the "Green" Economic Model (fig. 1).

The green economy – offers a focused and pragmatic assessment of how countries, communities and corporations have begun to make a transition towards a more sustainable pattern of consumption and production.

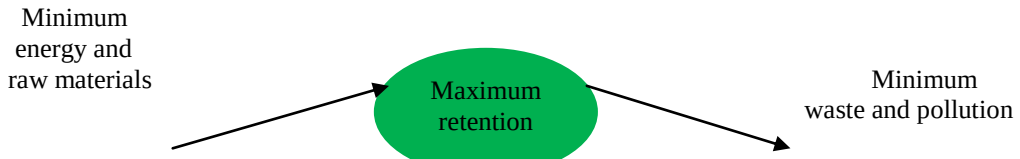
Greening the economy not only generates growth, and in particular gains in natural capital, but it also produces a higher growth in GDP and GDP per capita (fig. 2).

The "Consumer" Economic Model (linear - unsustainable)



To succeed (grow, expand):	Must do more of all this.
Human well being:	Equated with quantity of product.
Assumption:	If quantity of product increasing, then well-being OK.
Main indicator:	Gross National Product
To be more efficient:	Participant must "externalize" as many costs as possible.
Dynamic:	Towards the largest economic market possible – globalizing.
Features:	Energy-intensive production. Low skilled workforce.

The "Green" Economic Model (circular – sustainable)



To succeed (grow, expand):	Must do more of all this.
Human well being:	Equated with quality of life.
Assumption:	If well-being improving, then production OK.
Main indicator:	Economic, social and environmental indicators.
To be more efficient:	Participants must 'internalise' as many costs as possible.
Dynamic:	Towards the smallest economic market possible – localizing.
Features:	Diverse, local, human- based (energy-efficient) production. Flexibly skilled workforce.

Fig. 1. The old and new economics [1]

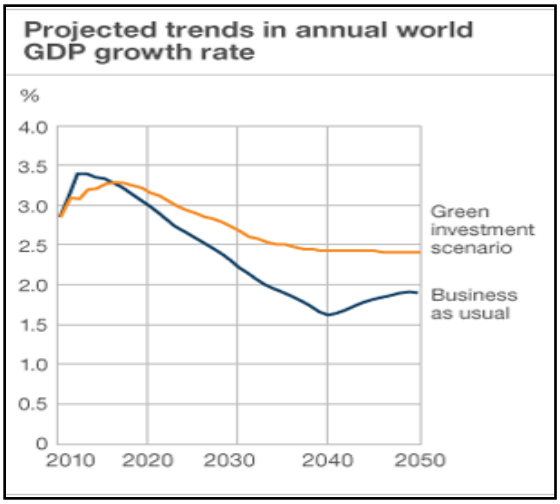


Fig. 2. Green investment scenario

According to Unep's experts from developed and developing nations, the green economy model would deliver higher annual growth rates within 5–10 years than a business-as-usual scenario.

Ecologization of the Russian economic

Russia is currently producing 3,8 times more greenhouse gases per unit of GDP than the leading European countries. It is expected, that the goods, originated from the countries with a high emission level, will be pushed out of the market.

However, the society, the mass media and the internet resources have been expressing a great interest in ecologically healthy products and food. According to the latest polls more than 76 per cent of the Russian population is in favour of Eco goods. Moreover, the formation of a financially robust sector of consumers, who are sensitive to the ecological properties of goods & services, has been on the rise. That's why the ecological issue is vital not only for the state but for the metallurgical enterprises.

The survey shows, ecologization of the Russian economic development will foster diversification of export of goods with a natural resources' deeper processing value and increase in Russian companies' competitiveness on the foreign markets.

As far as the producers and consumers of metallurgical goods are concerned, a product's environmental friendliness becomes a decisive factor that opens new opportunities in differentiating goods and services. But the transition to the sustainable development stage requires an introduction of ecology factor into the socio-economic parameters.

Conclusions

Changing the "Consumer" Economic Model to the "Green" Economic Model in Russia will lead to diversification of export products with a high value added goods and improve the competitiveness of Russian metallurgical companies in foreign markets, as in developed countries, the value environmental responsibility factor and energy efficiency is particularly high for products oriented on the end-consumers. Interest of enterprises in the results of environmental activities can be improved by adjusting performance indicators, taking into account environmental issues.

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ПЕРЕХОД К «ЗЕЛЕНОЙ» ЭКОНОМИЧЕСКОЙ МОДЕЛИ В РОССИИ: ВОЗМОЖНОСТИ И РИСКИ

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Ключевые слова и фразы: конкурентоспособность; экологизация; экологические ограничения; металлургические предприятия.

Аннотация: Российское правительство настраивает приоритетную задачу увеличения конкурентоспособности ее национальных производителей, особенно среди индустриальных предприятий. Увеличение деятельности внешней торговли частных фирм и государственных предприятий невозможно без конкурентоспособных качественных товаров, произведенных в полном соответствии с международными стандартами, и доказало международными свидетельствами.

Общество, средства массовой информации и интернет-ресурсы проявляли большой интерес к экологически здоровым продуктам и еде. Согласно последним опросам, более 76 % российского населения выступают «за» экологические товары. Кроме того, формирование финансово здорового сектора потребителей, которые чувствительны к экологическим свойствам товаров и услуг, повышалось. Именно поэтому экологическая проблема жизненно важна не только для государства, но и для металлургических предприятий.

Результаты показали, что оценка конкурентоспособности индустриальных предприятий была основана на методах, которые полностью проигнорировали экологические факторы так же, как ущерб, нанесенный окружающей среде в производственном процессе. Автор предлагает, чтобы было введено понятие «экологически приспособленная конкурентоспособность». Понятие происходит из последовательного исправления экономических параметров, которые используются для вычисления конкурентоспособности.

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Crisis Management as an Essential Prerequisite to Ensure Business Competitiveness

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Key words and phrases: competition; competitiveness; crisis management; sustainable development; business continuity.

Abstract: The paper discusses the essential prerequisites for increasing the competitiveness of the business structure to ensure its sustained growth and continuity. To realize these goals, it is recommended to use the functions of crisis management at various stages of the life cycle of the business.

Competitiveness is an integral index characterizing the degree of economic actors. Competitiveness can be defined as the ability to carry out profitable business in a competitive market, which provides skillful use of organizational, administrative, scientific, technological, economic, production, marketing and other resources to implement effective economic activity.

The basis of competitiveness is the goods and services that can compete successfully in world markets. High competitiveness of the organization is the basis of its profitability, providing the survival and development in the long run in a constantly changing market conditions [4]. Competitiveness is relative to different levels (from global to local) of the market. Competitiveness can be viewed as external (the ability to maximize their success with the opportunities and cope with threats) and internal (the ability to build capacity, delivering a competitive advantage).

In today's innovation economy we must constantly manage competitiveness, which involves the development and implementation of measures to improve its systematic, constant search for new channels, groups, customers, improve service, advertising, ensuring the promotion of the result of business structures in the market.

In different historical periods competitiveness was under the influence of various factors, the significance of which changed during the evolution of the market economy. So, in the era of market economy, its major factors are the comparative advantages: salaries, wages and exchange rates, as well as economic, fiscal, financial policy states. In the XX century, those were the value of the market, the scale of production and operations. At present we need to take into account new factors of competitiveness: knowledge, innovation and the ability of entrepreneurs, production flexibility, etc. It should be noted that competitiveness depends not only on the availability of factors themselves, but also on how efficiently they are used in some industries and specific business entity shall apply. In addition, the competitive position of businesses are defined as the level and degree of utilization of its internal capacity and ability to take into account changing conditions, typical of different stages of business.

Undoubtedly, the underlying factor in improving competitiveness is the stability and business continuity. By stability it is proposed to realize such state of dynamic equilibrium of a business structure in time at which the impact of the environment is absorbed by the mechanism of its self-regulation and, ultimately, allows the prescribed limits to save significant quantitative and qualitative characteristics. The stronger the impulse is able to mitigate the disturbing effects of self-regulation mechanism, the higher the stability of the business development is.

In market economy it is necessary to distinguish both external and internal mechanisms to ensure sustainability of businesses. Finance, production, information, innovation and market types of sustainability are of particular importance for effective business development. However, the characteristic feature of the market economy is the

persistent violation of sustainable development, which requires the development and implementation of a special anti-crisis strategy or strategic management in the real world.

The mechanism of effective crisis management strategy should be aimed not only at eliminating the consequences of the crisis, but also to meet the challenges of post-crisis period, associated with the further development of business, increasing its competitiveness. This task is an integral function of a special type of management, which is defined in the world as a “crisis-management”.

The concept of “crisis management” is interpreted ambiguously by modern specialists. This is due to the dual nature of any crisis, which simultaneously creates and destroys, forms the background and prepares the conditions for further development and elimination of the previous business strategy.

The theory, emphasizing the destructive features of the crisis, offered to take it as a situation acutely threatening the existence of the organization, and therefore requiring immediate containment and resolution to preserve, above all, its material basis for the continuation of industrial activity in acute shortage of working capital.

Considering the crisis as a phenomenon, the theory focused on breaking down the old and creating the new positive development. Therefore, the fundamentals of their proposals are based not only the struggle against the crisis, but restructuring of industrial and economic businesses according to new realities. It should be noted that the latter approach prevails in the foreign theory and practice of crisis management.

Currently, the developed countries under the crisis management activities mean to adopt management decisions and implement measures to diagnose, prevent, neutralize and overcome the crisis and its causes at all levels of the economy, preventing them in the future. In other words, it is a set of interrelated activities of the early diagnosis of the crisis and the measures to overcome it. The emphasis is on the diagnosis of crisis and risk situations, and precautionary measures which have positive effect on business development, ensuring its competitiveness.

In general, we can distinguish the following forms of crisis management, due to the development stages of a crisis situation:

- early crisis management (carried out in order to prevent crisis and improving profitability in case the demand decay and weakening of the company's position in the market or the risk of its loss);
- anticipatory crisis management (implemented with a weak signal about the threat of crisis, a loss of competitiveness of products and businesses in general);
- crisis management during the period of insolvency (the observation of financial rehabilitation, external control), which is accompanied by loss of profitability, sustainability and possible insolvency. The aim is to ensure the survival of the organization, the ability to recover business, pay and conditions for the transition to preemptive crisis management;
- crisis management during the bankruptcy (bankruptcy proceedings), which takes place in a persistent loss of pay, carried out with the recognition by the court debtor organization – bankrupt. There is no regular management, and only the functions of crisis management are implemented. In this case, it is required the greatest possible satisfaction of creditors' claims, maintaining the organization as a property system, as well as jobs and allows you to resume business to other owners.

In the first two cases, the organization can conduct the so-called pre-crisis management, in which the special legal acts are not regulated. It is implemented through such forms as restructuring, financial recovery, etc.

Bankruptcy organization means that the crisis management is the “formal” in nature and will be in accordance with the regulations in force in crisis management. Formalized crisis management includes: crisis management in rehabilitation bankruptcy procedures and crisis management, business and property of bankrupt enterprises in bankruptcy proceedings.

Today in Russia crisis management has mainly liquidation thrust, which has adverse effects on the economy. According to the data published by the Court of Arbitration of the Russian Federation in 2009, the number of cases that were opened bankruptcy proceedings was 10,032. During the period of monitoring procedures has been appointed to 13,200 cases, and introduced financial restructuring or external control only in 396 cases [5]. It seems relevant to strengthen rehabilitative focus of crisis management in Russia, which allows keeping the business and ensuring its competitiveness.

One of the factors in the successful crisis management is the organization's readiness for it, based largely on anti-crisis plan, which has proven to have many major international companies. This plan is tailored to each organization's individual features, the trajectory and the cycles of development, it is influenced by various external and internal factors. However, the Russian experience shows that only a few organizations have developed plans for crisis management, and most structures have not taken any action towards preventing crises and minimizing potential risks, competitiveness, independence and security.

The implementation of the functions of crisis management requires specialists with specific professional competencies to enable them to efficiently manage their business not only in stable, but in a crisis situation, and develop and implement a program of stabilization and further development to ensure continuous competitiveness. Preparation of such professionals is an important problem in modern high school.

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КРИЗИС-МЕНЕДЖМЕНТ КАК ВАЖНЕЙШАЯ ПРЕДПОСЫЛКА ОБЕСПЕЧЕНИЯ КОНКУРЕНТОСПОСОБНОСТИ БИЗНЕСА

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Ключевые слова и фразы: соревнование; конкурентоспособность; кризисное управление; устойчивое развитие; непрерывность бизнеса.

Аннотация: Рассматриваются предпосылки для того, чтобы увеличить конкурентоспособность деловой структуры и гарантировать ее устойчивый рост и непрерывность. Чтобы понять эти цели, рекомендуется использовать функции кризисного управления на различных стадиях жизненного цикла бизнеса.

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Forest: Bio-Paragenous of Sun

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Key words and phrases: quantum system; forest; bio-paragenous of the Sun; material thinking of Nature; nanosynthesis of Nature.

Abstract: The paper discusses the essence of the forest as the main element of biosphere; the role of the Sun and its bio-potential is considered. The author explains the term “bio-paragenous of the Sun” and introduces the law of bio-paragenous of the Sun. The research is based on bio-location analysis.

Currently almost 30 % of the land is occupied by the forest. It only contains about 350 *billion* m^3 of wood, that in terms of burning energy equals $5{,}3 \cdot 10^{21}$ *Joul*e, and its “Einsteinian” energy bio-potential (from expression $E = mC^2$) reaches $2{,}5 \cdot 10^{31}$ *Joule*. General annual increase of the wood in the mastered forest is 1,8 *billion* m^3, and on the whole area – 5,5 *billion* m^3. With annual forest increase the Earth accumulates $8{,}3 \cdot 10^{19}$ *Joule* of energy (at heat capacity) or $3{,}9 \cdot 10^{29}$ *Joule* (at mass and energy interconvertion). It means that due to forest the Earth “bathes” in the streams of divine energy. Everything is the Sun’s gift. We consider that it is gratuitous to interpret the gift as the process of one-sided energy transfer. But this interpretation is mistaken. It leads to the idea of “heat death” of the Universe. However the all-knowing and all-powerful Nature can’t go down to the act of pointless self-destruction. It means that continuously repaying earth’s debt to the Sun exists, but we are not aware of it.

The Earth is the world of the Sun’s light. Everything, which exists on it, is created by the Sun, the energy of which reaches $4 \cdot 10^{33}$ *erg/sec* («sun’s wind» adds to that 10^{27}… 10^{29} *erg/sec*). The power of the Sun’s integral radiation is estimated in $3{,}8 \cdot 10^{26}$ *watt*, and what the Earth receives (from circumterrestrial sun constant – 1,95 *cal/sm*^{2} per minute), doesn’t exceed $2 \cdot 10^{17}$ *watt*, but it creates inexpressible charming landscapes of earth’s Nature and maintains the life of its mankind. Each second the Sun loses 4,3 *million ton* of its mass (from positions of relativistic proportions of mass and full energy). Only 1,9 *kilo* of star matter warms and ennobles (improves its life forms) the Earth on its lighted (photosynthesizing) side. It is supposed the coefficient of efficiency of plant photosynthesis (light utilization) doesn’t exceed 0,5–1,2 % and only rarely in conditions of land it can reach its record sizes – 3,5–5 %. In general work of photosynthesis 2/3 annually connected carbon and 5/6 of accumulated organic mass is the share of forests.

In photon Universe there is a “quantum system”. The forest is no exception. Though in the doctrine of quantum fields has a lot of uninvestigated area (we have examined more or less only electromagnetic component of four-linear space plasma and we can’t say more about its gluon, mezon and gravitation fields, especially near the points of maximum bend of space and time – peak singularity and collapsing masses of “black holes”), but it is thing of the near future. Tightly closing the quantum theory in the spheres of micro-world, “rough physical” sciences continue look with caution at “non-quantum” conception of Einstein, completely forgetting about the use of its main “effect” – equation of relativistic energy: $E = mC^2$.

The energy of any quantum system can’t be less than mC^2. This energy is for the creation of its mass. In the case of “rest” of quantum system it is minimal, but always equals mC^2, which defines the hidden “energetic” of its processes. “Speeding up” the system till light speed, we risk obtaining endlessly big mass and proportional energy to it (Universe therewith is involved in absolute motion, which just “exists”: universal and all-pervasive). Thereupon the potential of power intensity of unit of volume of planetary body at its average density 5,52 *g/sm*^{3} in four times higher of power intensity of radiation of sun matter of the same volume and average density 1,4 *g/sm*^{3}. However all

perturbations of mass and energy transformations happen because of informational (qualitative) content of radiations. The Earth, radiating itself from the center of "differentiation of masses", receives its own – Earth's crust. The forest obtains forest, invariant itself in time. The human obtains human. The star (Sun) obtains star. It can't be differently. And still a huge part of radiations, except "bases of Life" (self-reproduction), goes to the "common pot" of all-space plasma (in the name of mutual understanding and supporting), from which as the need arises everybody get to know about everything in a flash, sensitively correlating their individual development (essence of "non-locality of links" in Nature and base of its infinite wisdom).

How big is the radiant energy continuously shedding by the forest? In essence it can be infinite but always corresponds to the condition (requests) of lactate-local zone of development of sun-planetary-biostrome system, each participator of which receives such its quality that is enough for the support of its system balance – homeostasis (existence in spite of changes). The forest radiates much more than its lactate-local invariance – invariability in time. Seeming surpluses of energy go to the correlation support of bio-sphere and inside terrestrial processes, and also return to the Sun feeding its essence.

In search of universal "formula" of energetics of forest bio-paragenous, we relied on conceptual basis of research methodic of radiant nature of matter, offered in works of A.G. Gurvich, V.P.Kaznachyev, I.S. Marchenko, S.D. Kirlian. A.E. Akimov, G.I. Shipov. Yet, the main method of our search works in the forest was bio-location analysis – "thought experiment", implemented using a two-handed ansate metal frame. The bio-location in the forest (in the atmosphere of its radiant development) is quite easy task. The main thing is to put correctly the problematic questions. The Nature (universal and "forest") with its all-penetrating information and energy fields is always ready to prompt unmistakably the right variant of answer. Nevertheless, for the tight communication with Nature two immutable methodological conditions are needed, even if they request their more accurate definition later. First of all, it is a well worked out initial theoretical platform – axiomatic of researches. Secondly, as far as Nature always speaks on its language, even resorting to the analytical apparatus of human, it is required a well developed work of mind with use of artistic "link" of imagination, presentation, impression and sensation with going out to the level sense sounding, it means the right thinking ("recollection" of forthcoming – future). It may seem that the given method is unreliable, as it bases on psychometrics of the human. However, the development of experimental science of the latest time points more often on the unity of man, device and aim. The method of bio-location is widely used today in geological practice, during probing of emptiness in the areas of nuclear power stations building, diagnostics of diseases by sanitary technicians, telephone operators, etc.

There are many empirical assumptions to the *law of forest bio-paragenous* and its *axiomatics*: a) forest is a symbol and personification of the integrity of planetary biostrome, implementing itself the *law of Above-necessity of cut union of Matter*; b) forest spreads its radiations everywhere in itself, making them a homogeneous and free condition – its active bio-field, carrying all in itself and itself in all, that is how the *law of immutability* is obtained: *everything that enters the forest must live the life of "forest unity", it means carrying its "will", as its own;* c) forest is continuously under the influence of two "magnets" – *outer* (earth) *environment* and *inner* (solar, cenotic) *condition*: continuously overcoming the earth's factor-powers and strengthening the inner unity, the forest is evolving; d) bio-field of forest (united) has two polarized "conditions" divided by earth's surface – *overground* (storage of tincture of Life – power, implementing any changes in it) and *underground* (dissipative structures in zone of soil and hypergene chaos): struggling with chaos (processing it into inner order), the forest continuously proves itself (its homeostasis) on the arena of Life; e) forest is an open system, which is characterized by the trinity of principles: the existence of the predetermined field of development; probabilistic movement in this field (volatility) and the selection work (adaptability), due to the external environment and the objective set by the predetermination; f) life of "the whole" (complicated crossed unity of parts) is fastened together by *"link energies"* with arising *"force defect"* of process, which on quasi-stationary stage is similar to "mass defect", accompanying the unity of nuclear particles; g) forest is the essence, that that keeps its Life in itself, being (an "obvious concentration of received unifications"), that lets (as ides of Life unity) it exist in the structure of

earth biosphere throughout hundred millions years.

Proceeding from the above-mentioned "assumptions", we can formulate the *law of forest bio-paragenous.* It says: *"Everything that enters the forest by crossing develops the united condition (combined condition), reaches an equilibrium on pro rata basis" (combined answer to the demands of outer environment creating conditions as their negation in the name of firmness of asserted order of inner unity – invariance to itself in time).* Or pushing aside from the reason and showing the *essence of law*, as the consequence expressed in it, it can be said: *"Everything that enters forest and finds the support there becomes the forest"*. To become a forest in the forest means to start voluntarily carrying its will (demands), as its own without any contradictions.

The forest is the steady condition of all its beginnings. *Native forest* must be balanced. The balance is an integral condition of forest entered in its final (climax) condition (type of forest paragenous and type of balance is the one): principles controlling the balance and creating the forest paragenous are equal.

Naturally determined multilevel combination of forest vegetation creates its *atmosphere of development*. The atmosphere of forest is *its main creation.* It is *"live chemistry"* of forest, adequately reflecting the "condition of its all conditions" (it means "the spirit of forest"), and serves as a new tool of collective struggle for the existence. "Atmosphere" is *life spatial image of forest* (hiving hologram of happening in the forest by forest), its biological (information and energy) field, its *soul* (spatial guide of its condition), "weaved" from innumerable multitude of *aura "threads"* – medullar rays of deep auto-wave processes ("free radicals" locked on each other. Superposing and interlacing in space of forest with analogical rays they form *united essence of forest* – "above-gene" or "sociogene", it means *"paragene"*. Due to all-unity in the forest there is no (and can't be) competition – there is no "oppressors" and "oppressed". There is only continuous *test* of each "migrant" on *entering in united Life.* The forest is immersed (and can't be without it) in its atmosphere as *its Life*. Its undergrowth ripens there – the product of specific conditions of atmosphere of "forest Life". Among it there is no opposition, there is no struggle for existence. That visibility which is created during evaluation of abundant sprouting of seeds and high density of wood rises under its cover is illusive; it means mistaken (proceeding from the theory of all-unity). In conditions of forest unity there is no left to the arbitrary of accidental events of undergrowth. Intensively developing the undergrowth fills the "forest atmosphere" by high quality *psychological energy* of its growth (by essences of thin material radiations in it is information «life aroma») frees into the space the *biological energy of seed* (positive vitality) and its seemed death is only the *crossing* of undergrowth types in *field condition*, it means the undergrowth *raises* from soil "cells of memory" of Nature, the preserved experience of "previous" Life in bio-field of forest by "following" – forest (property of everybody). Accumulated information essence of undergrowth in the seed (experience of the whole unity) doesn't leave the invariant of formed essence of forest, but it strengthens it by its radiations in it. That is why the forest and "survived" undergrowth in it receive the additional impulse of motion (development) and ability to live a full life of forest nature on the edge of the time. There where we see the "competition" is the united Life. In the forest there is continuous transfer of biogenome of sort in destiny of future generations – speciation and cenotic accumulation by types of gender experience of Life.

Forest is the order. The environment is the element forcing the order.

Without clear understanding of essence of forest "atmosphere" it is impossible to understand the content of planetary solar interconnections, as the Sun speaks with the forest only through its "atmosphere" ("psycho-sphere" of forest), brining to motion the tiny levers of its energy and information whirlpools.

All regularities of "forest life" creating mathematically well-functioning beauty of planetary landscapes come from the content of universal *law of Over-necessity of divided union of Matter* – all-unity of Space. It is based on *principal non-screen Gravitation*, coming from Vacuum together with the birth of Matter. It (Gravitation) is the consequence of *decompression* of vacuum at influence on it (perturbance, polarization) of energy-mass and its nature is that anti-gravitation doesn't exist. There is only "*Over-necessity of divided union of Matter"*. This fact of influence on Vacuum with event of "decompression" was called "*boomerang effect*". It appears in any attempt of activization of eternal Vacuum (its essence is

always "passive" because it is everywhere and in everything as *absolute Knowledge* – Information, Truth). Meanwhile (aspirations to "*wake up the Snake*" – Vacuum) together with the birth of elementary particles (identifying of hologram of happened) the *waves of time density* (event sequence) appear, *pressure* of which takes away "the granules" of new redacted Mater on Life into the Universe (including forest) according the type of imprinted Information in them.

It must be understood that Vacuum is a kind of material environment "isotropic filling the space (and free space and matter), having quantum structure and unobserved in undisturbed condition" [1, p. 40]. This "united environment" can be indifferent phase (polarized) conditions. It means that "in Nature there is only Vacuum and its polarized conditions" [there, p. 45], displaying as power (gluon, mezon, electromagnetic, gravitation) fields. G.I. Shipov [2–3] names Vacuum as "matrix of possible" (it means there everything is "united and happened" – hologram of happened), where there is absolutely everything, but there is no "event consequence", and disposes it (as "Incognizable" – Truth: Universe of Ideas of Universes) beyond the "boiling bouillon" ("curtain") of virtual particles of "Dirac's sea" – firstly degenerated by condition of Absolute Vacuum (Physical Vacuum). G.I. Shipov [2, p. 90] sees also two different conditions of non-initial (Absolute) Vacuum: *non-ordered* (it is impossible to say anything concrete about it) and *ordered* (with given geometry of "absolute parallelism"). We prefer to name the given conditions of Vacuum as "*low" and* "*upper" streams of Absolute*. At the same time the low ("underlying" the Universe) stream is the condition of "dark" (unexcited, *plasma*), and the upper is fire and lightproof (*synergetic*): of high "inspiration" of Matter. The Evolution of Vacuum in itself and all existing in It (as Knowledge developing Knowledge – Truth, which it is by itself) comes in Universe from *"dark"* (always bounded Base of "Nature Pyramid") to *"light"* (its Peak, where the Fire of upper achievements flames). Between the "Base" and the "Peak" there are other material conditions of Nature (rough physical and organic, "unreasonable" and "reasonable"), it means that earth's Nature from is depths is underlain with plasma Vacuum; and on the Peak there is flame-colored Sun. By means of wind of high energy radiations the Sun continuously boils the inner earth Plasma and gives the impulse to the development of Nature, straining the spheres and levels of its display (*in Nature there is no particles which can be isolated from Vacuum and* it builds from its boiling bouillon – virtual and elementary– "body of necessity" for one Life, making itself).

In the forest there are two *energy* (mass synthesizing) *"matrixes"*. One of them (well known) is low productive (**LPM**). Its base is photosynthesis utilizing FAR. The second is high productive (**HPM**). It is not widely discussed yet because the essence of interaction of Nature and Vacuum is not examined by the science. HPM functions due to the presence of "Pre-existing Center of Thinking" (**PCT**), which is here, there and everywhere, as *the condition of rebirth* of Matter, is *Eternal Present*: "point" of sliding moment of Eternity in "mirror" of inter-reflections of its Past and Future. All energies and all artistic possibilities of Nature are concentrated in it, and "it is one for everything" (it is immeasurably small compared to the Universe, but it can easily contain much more content of the Universe). PCT is a Single Heart of the Universe. Plants have a similar Center (Heart, which is one for everything), where continuously their Past and Future cross, it is the inner essence of empty canal of the stem, and for trees it is the core (concentration of hidden parameters of Life as the stationary generator of torsion field of Matter: Information), the section of which often looks like star pentagon (pentagonal star signifies the Absolute Vacuum, it adds the unique form to universal "Formless"). The core rays come out as the channels of torsion field, taking away the new corpuscular Information (Matter) into outer space (into the atmosphere of forest and further) and penetrating the opposite requests of parameters of all-united solar planetary "society" according to the Ray: Sun – "United Heart" of forest (Sun and "Heart" – two opposite conditions of one Vacuum: disturbed and non-disturbed, it means that between them there is no distance). The Solar Ray having reflected from the "Heart" of the forest (from Itself to Itself) "comes back" to the Sun, compensating with density time wave its lost mass – energetic Information (Life). "The return" as a kind of psychological energy created by earth's Life again transforms into Life by the Sun which without any hesitation gives on lease to its "planetary borrowers". As far as the ball waves of time density in Solar System create the one "wave package" of all possible standing conditions, the energy doesn't go anywhere and doesn't come, but stays forever (integral and

without quality), filling all thinkable and unthinkable spaces, in "Life vessels" where it obtains one or another form.

Simultaneously the electromagnetic radiations of the Sun (its Light), falling on the chlorophyll of green leaf of a plant and spin turning in it (and further) on "cords" of genetic spirals of inherited Information, create the evolutionally meaningful "matrix" for the hiving Vacuum which (from the reverse untwisting of code cord of Life's biogenome and embroiders by needles of its elementary particles the specific patterns of all gender life-forms of planet) creates, maintains, and corrects the development of all bodies of Nature. We call this process *the material thinking of Nature* (Nature: *"During birth"* – continuous birth itself from itself) – faultless unfolding of biogenomes of everything in it.

The effectiveness of photosynthesis of NPT predetermines that power (mass-energy-Information) with which the Sun commensurably "throws the boomerang" of its "inoculating radiation" in PCT APM (not standing the Vacuum activity) of forest wood-building, bringing it to "exciting" condition. Only hiving Vacuum generates the continuously replaceable short-living elementary particles, which form nuclear molecular substance of planetary spheres of Life, but on "sketches" and demand of NPT reflecting *individual essence* of each forest participant.

Until now quite reliable mathematical models of growth and development of plants within NPT have been created. However practice and theory follow the "small circle" of energy and information transformations: FAR coming – coefficient of FAR – biological productivity utilizing FAR (on calorie content of biomass unit). The coefficient of FAR is determined as relation of energy intensity of dry mass of harvest to FAR coming for vegetation period expressed in percents. But we forget that Earth's biosphere is one from the Sun's plantations, where it continuously separates the Matter making the psychological energy (Absolute) and Life for itself and for others (including Earth).

All calculations must be made from the initial phase of photosynthesis ("request" to Vacuum), actively running in biochemical laboratory of green leaf, and must not to be based on residual calorie content of gathered organic mass which is always second towards "trunk life" of forest. If we assume a growth rate of green mass produced by "the method of halves" (offered by Yu. Saks in the end of 20th century), it will turn out that the maximum hour additional weight is 1,8 *g* on each square meter of leaf surface. In especially favorable conditions the daily increases in dry mass can reach 500–600 *kilo/hectare* on the same green surface. Under leaf area index 7– 8, characteristic of broad-leaved oak, it turns out that 1 hectare of forest per day produces up to 4800 *kg / hectare* of dry mass, and for the 150-day vegetation period – 720 *ton / hectare*. It means that with every productive season of the year the oak-forest doubles itself in biomass. We know from our calculations of residual phytomass that annual production of wood of oak-forests rarely exceeds 10–15 *ton/hectare* (3–5 *ton/hectare* of new mass goes with dead leaves).

Where does the intensively developed forest's phytomass continuously *"disappear"*?

It goes into radiation (mass defect) and becomes *"link energy"*, due to which, first of all, *the forest remains in all its integrity and constancy* that is how the unique "psycho-sphere of forest" is created due to which "small ring" of united energy functions, and secondly, the radiations of "missing mass-energy" of forest flows together with Solar radiation locking "big ring" of energy, it means the solar planetary systems become «link energy». Proceeding from the equation $E = mC^2$, the annual energy of planetary solar link, conditionally put in a hectare of forest, is $6{,}5 \cdot 10^{22}$ *Joule (kilo·m^2/sec^2)*. It means that the density of this energy flow is bigger than the energy output of forest under the same volume through burning (fig. 1).

The small circulation of energy is utilized energy of forest biomass slowly "burning" in trophical chains or gained as coal and oil. In 15 *ton* forest increase it is no more than $2{,}8 \cdot 10^{11}$ *Joule*. It is this energy which revolves in landscape and brings to the motion its many mechanisms. The landscape is fully closed on Life. There is no point in it without Life. Accounting the heat period of balance radiation of middle latitudes $1{,}5 \cdot 10^{9}$ *Joule/m^2* we discover the coefficient of efficiency of biosynthesis in forest paragenous, exceeding the limits far from 100 % (but only in "big circle"; coefficient of efficiency of "small circle" remains the same – on the level 1,8–2,0 %).

The energy of forest bio-paragenous is practically *infinite* and is predetermined not by current arrangement (requests) of evolving "low productive cell matrix", but its fluctuations from Vacuum. Photosynthesis is only the initial stage of location of evolving specific "matrix" (hologram)

of gender's idea, and according to its information request (its near-empty "cells") Nature embroiders the cell pattern by knitting needles of elementary particles continuously swarming with synergy from "United Heart" of forest, hidden behind impervious virtual undergrowth of "Dirac's sea". It is a *nanosynthesis of Nature* in its unmistakable "*material thinking*", perfect creation, to which a human should work a lot.

Without "growing thin" the forest intensively "melts", strengthening itself in space of its atmosphere and not only there (also in biosphere, planetary and space volumes) informationally (by continuously renewing pattern of all real in itself) and energetically (socio-genetically). Intensity of this "melting" makes (according to the "method of Sachs") at first glance, a tiny amount – 0,0005 g/m^2 of leaf per second. But this is *the active part of "boomerang"* ("trigger mechanism" of the flow of all biosphere processes), because *"the weapon" of Light "is thrown" inside the material of Vacuum "armored" by fields of its passiveness.*

In other words deep plasma structures of Vacuum play a very important role in *biosphere creation of forest.* They intensively throwing the information streams of elementary particles and Light from hidden masses of its "virtual sea" (and that *"Unknown"* that is behind it) in the World. This *"nanotechnology" of Real* feeds the forest in all its undertaking (and first of all in extreme conditions of development).

It means that today we are not fully aware of the role played by forest in the structure of biosphere and World. *By means of the effect of double boomerang (as by law of Above-necessity of cut union of Matter) – "Sun-Earth-Sun" and "Earth-Sun-Earth"* – the forest *continuously doubles itself*: with the increase it rehabilitates its "body" and about the same (as *full "reflection-imprinting"* of itself in *its "radical" space image – aura: true forest*), in every sliding moment of present it is given to them in *space of "atmosphere development"* (in *synergy of forest – its soul*) and taken away to the Sun (as a report of made work) – for a good cause of everything in it. *The forest is a voluntary sacrifice* brining to the "altar" of Common Good (not only for the forest). *While there is a "Sacrifice", there is a forest – there is a biosphere and human in it*. We should *learn* this valuable *quality of "sacrifice", comprehending the true nature of forest.*

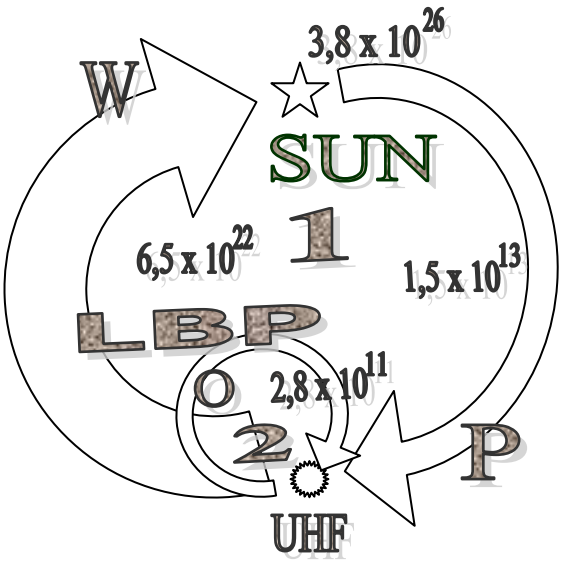

Fig. 1. Energetics of forest bio-paragenous:
LBP – forest bio-paragenous; UHF – united "Heart" of forest as Pre-existing Center of Thinking Nature (PCT); P – entrance of solar energy in LBP with radiation balance of middle latitudes of European Russia; W – reverse energy of LBP through UHF; O –residual energies utilizing by forest; 1 – huge circulation of energy; 2 – small circulation of energy; $3{,}8 \cdot 10^{26}$ – amount of energy (*Joule*), radiated by the Sun per second; $1{,}5 \cdot 10^{13}$ – radiation balance 1 *hectare* LBP for vegetation period (*Joule*); $6{,}5 \cdot 10^{22}$ – energy of "elasticity" of Vacuum in PCT of Nature, as return to the Sun from 1 *hectare* LBP for vegetation period (*Joule*); $2{,}8 \cdot 10^{11}$ – energy utilized by 1 *hectare* LBP for vegetation period (*Joule*)

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ЛЕС: БИОПАРАГЕН СОЛНЦА

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Ключевые слова и фразы: квантовая система; лес; биопараген Солнца; материал, думающий о Природе; наносинтез Природы.

Аннотация: Работа рассматривает сущность леса как главного элемента биосферы, а также роль Солнца и его биопотенциал. Автор объясняет термин «биопараген Солнца» и вводит закон биопарагена Солнца. Исследование основано на анализе биоместоположения.

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The Iliric Biotic Index for Karst Rivers in Croatia

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Key words and phrases: the Iliric Biotic Index; karst rivers; macroinvertebrates; Croatia.

Abstract: In this study we present the results of a ten year survey of the aquatic macroinvertebrate fauna along the four karst rivers: Jadro, Žrnovnica, Grab and Ruda, all of them situated in the Middle Dalmatia region of Croatia, in an attempt to construct the Iliric Biotic Index, which will be more applicable for the water quality analysis than the most frequently applied biotic index in Croatia, the Italian Modification of Extended Biotic Index. The rivers geologically belong to the Dinaric karst, unique geological phenomena in Europe. The Iliric Biotic Index was proposed as the standard of karst river water quality in Croatia in accordance with the EU Water Framework Directive.

It is well known that benthic macroinvertebrates are the best studied faunal community of running waters. Over two decades ago there were at least 19 biotic indices in use all over the world based on macroinvertebrate bottom fauna [14]. A review of biological methods applied in the monitoring of rivers in European countries reveals that indices of macroinvertebrate communities are one of the most widely used tools in the biological assessment of rivers. In Croatia, the most applicable biotic indices were the Extended Trent Biotic Index [2] and the Saprobity Index [7], used on continental rivers and Mediterranean rivers, including the karst ones. The national standard, which would reflect the water quality based on the specific composition of the benthic community, was not done. Therefore, biotic indices from Western or Central Europe must be used with reserve. The purpose of this investigation was to define a macrozoobenthos based biotic index that would reflect water quality and specific structure of the macroinvertebrate community for Karst Rivers in Croatia. Fauna surveys confirmed that the macrozoobenthic community of those rivers is composed of some different taxa in comparison to continental rivers in Croatia, especially some endemic taxa whose indicator values are unknown [8; 5; 15]. The proposed Iliric Biotic Index (**IBI**) is presented as a possible new biotic index model, based, so far, on the study results of four karst rivers. However, some ongoing and further investigations could modify this model and make it applicable as a national standard for all karst rivers in Croatia.

The proposed Iliric Biotic Index (**IBI**) is the combination of three metrics: 1- The relative abundance of taxa (RA – the number of taxa/total number of taxa in a sample); 2 – Biotope quality (**BQ**) based on the Shannon-Weaver Index sample diversity at the family group level; and 3 – Groups (**G**) of invertebrates according to organic pollution tolerance values, from 0–5 (Table 1). The pollution categories include the following: 0–1,5 – very heavily polluted; 1,6–3,5 – polluted; 3,6–4,5 – clean waters 4,66–5,5 – streams. IBI is calculated as the mean of the three metrics on a scale 0–5,5 [12].

Mollusks, amphipods and insects were the principal components of the community with regard to number of identified species, frequency of occurrence, as well as with regard to relative abundance in the karst rivers in Croatia. This is a quite different community structure from that of the continental rivers in Croatia in which chironomids and oligochaetes are the principal components [3; 6]. Investigations of the macroinvertebrate community on other karst rivers in continental Croatia show the community structure similar to those of the Mediterranean karst rivers, but the continental karst rivers share general taxonomic groups [3; 6; 9]. Previous surveys of the Jadro, Žrnovnica, Grab and Ruda rivers found fewer taxa with similar abundance of mollusks, amphipods and insects through seasons [1; 4; 10; 12; 13].

In its conception and mode of use, the presented IBI model is most similar to the BNBI index (1999), but with significant modifications

Table 1. Groups and their characteristics according saprobity level

GROUP	characteristics
0– 1	– no dominant species, – low biodiversity, – 1– 2 specimens of other group in sample.
1	– dominant group is family *Chironomidae* (more than 100 specimens in sample) – family *Tubificidae (Naididae) – Oligochaeta* – family *Psychodidae- Diptera*
2	– *Ephemeroptera* (*Baetidae – Cloeon, Caenidae – Caenis*) – *Trichoptera* (*Hydropsichidae*) – *Chironomidae* (*Chironomus* – dominant taxon) – *Isopoda* (*Asellidae - Asellus aquaticus*) – *Mollusca* * – family *Tubificidae (Naididae- Nais* – dominant taxon) – *Oligochaeta* – *Hirudinea* (*Erpobdellidae*).
3	– *Mollusca* (*Lymneidae, Viviparidae,Neritidae – Theodoxus, Bythiniidae – Bythinia*) – *Ephemeroptera* (*Ephemerellidae – Ephemera, Heptageniidae – Heptagenia, Caenidae – Caenis, Baetidae – Cloeon, Baetis*) – *Odonata** – *Trichoptera* (*Hydropsichidae* and *Limnephilidae*) – *Chironomidae* without *Tanytarsus* and *Tanypus* – *Diptera* (*Simuliidae* and other taxons, except *Psychodidae*) – *Heteroptera** – *Amphipoda* (*Gammaridae – Gammarus* – the most dominant taxon) – *Oligochaeta* without *Nais*
4	– *Turbellaria** – *Mollusca* * – *Oligochaeta* (*Eiseniella, Lumbriculus*) – *Hirudinea (all families* except *Erpobdellidae)* – *Amphipoda* (*Gammaridae*) – *Plecoptera* (*Perlidae – Perla, Isoperla, Leuctridae – Leuctra*) – *Ephemeroptera* (*Heptageniidae – Ecdyonurus, Rhitrogena, Baetidae – Baetis*) – *Trichoptera* (*Sericostomtidaea, Rhyacophilidae*) – *Coleoptera* (*Elmidae*)
5	– *Turbellaria* * – *Ephemeroptera* (*Baetidae – Baetis*) – *Trichoptera** – *Diptera* (*Simuliidae – Prosimulium*)
	* – macroinvertebrate group with families without indicator values for karst rivers

and additions resulting from faunistic specificities of the studied area. Of the published indices, the EBI is the most applicable biotic index for karst rivers in Croatia, probably because of the geological connection between the Italian and Croatian seaside.

Limitations of the IBI model are the inclusion of taxa encountered only once in metric calculation and the inclusion of higher taxonomic categories (i.e. the orders Plecoptera, Ephemeroptera, Trichoptera) without considering the individual species response. For example, Rađa (2006) showed that the macroinvertebrate fauna in karst rivers has a high taxonomic diversity where large numbers of different taxa were found with a small number of individuals per taxa. It confirms the fact that an appropriate biological method based on indices or a score system is possible only when local communities are properly scored. The differences between the IBI and similar indices from western and central Europe are as follows: diversity, which can be used independently as a factor of ecological quality of the habitat, relative abundance in the sample as evidence of community structure and a list of bio-indicators according the pollution level specific for karst rivers.

Karst rivers in Croatia are a very important part of the Dinaric karst but investigations of macrozoobenthos community were made mostly on continental rivers. The water quality of karst rivers in Croatia was measured mostly using the Extended Biotic Index, but it was obvious that the faunal composition of the karst rivers differs from west or central European macrozoobenthos. According macrozoobenthic community in karst

rivers we propose a new biotic index named Iliric Biotic Index as a model which could be most appropriate for the water quality evaluation because the comparison between IBI and some other biotic indices confirms that European and American indices must be used with the reserve.

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БИОТИЧЕСКИЙ ИНДЕКС ДЛЯ КАРСТОВЫХ РЕК В ХОРВАТИИ

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Ключевые слова и фразы: биотический индекс; карстовые реки; макробеспозвоночные; Хорватия.

Аннотация: В этом исследовании мы представляем результаты десятилетнего обзора водной макробесхарактерной фауны вдоль четырех карстовых рек: Jadro, Žrnovnica, Grab и Ruda, все они расположены в средней части Хорватии. Представлен биотический индекс, который может быть применен для анализа качества воды. Данные реки являются уникальным геологическим явлением в Европе. Биотический Индекс был предложен как стандарт карстового речного качества воды в Хорватии.

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ЗАКОНОМЕРНОСТИ ИЗМЕНЕНИЯ КОНЦЕНТРАЦИИ АЭРОИОНОВ ПРИ ПЕРЕНОСЕ ИЗ ЗОНЫ ГЕНЕРАЦИИ В ЗОНУ ВОЗДЕЙСТВИЯ

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Ключевые слова и фразы: воздух рабочей зоны; зона обработки; аэроионы; коронный аэроионизатор.

Аннотация: Приведены экспериментально обнаруженные закономерности изменения объемной концентрации аэроионов по мере удаления от источника образования – коронного ионизатора отрицательной полярности. Обсуждаются теоретические основы установленных закономерностей. Предложено эмпирическое соотношение, позволяющее формировать в зонах воздействия аэроионный режим с заранее заданными свойствами.

Вопросы учета при рассмотрении производственных факторов «тонких» параметров качества воздушной среды, к которым относится аэроионный состав воздуха, на современных предприятиях машиностроения в настоящее время являются актуальными в силу необходимости обеспечения безопасности как воздуха рабочей зоны [1], так и обеспечения требуемого качества воздуха в зоне обработки металлов резанием [3; 4].

Широко применяемые для коррекции аэроионного состава воздуха в зонах воздействия коронные аэроионизаторы имеют существенный недостаток, ограничивающий или усложняющий их практическое использование – ярко выраженную неравномерность объемной концентрации аэроионов в зависимости от расстояния до аэроионизатора. Таким образом, решение задачи определения закономерностей в изменении объемных концентраций, характерных для ионизаторов конкретного типа и мощности, позволяет формировать в зонах воздействия требуемые концентрации аэроионов.

Предметом исследований выступали объемные концентрации отрицательных аэроионов подвижностью более 0,1 см^2/(В·с), сгенерированных при помощи коронного аэроионизатора, а также закономерности изменения концентраций в зависимости от расстояния до аэроионизатора.

Исследования проводились в помещении в отсутствие людей (кроме исследователя) с помощью интегрального аспирационного счетчика аэроионов [5].

Исследования проводились для воздуха, ионизированного при помощи двух различных по производительности (величине генерации) электрических коронных аэроионизаторов (далее по тексту – аэроионизатор типа I и типа II). Различные значения генерации отрицательных аэроионов объясняются величиной напряжения, подаваемого на коронирующие электроды: 36 кВ для аэроионизатора типа I и 5,8 кВ для аэроионизатора типа II.

Автором установлено, что для обоих типов аэроионизаторов изменения концентраций аэроионов в зависимости от расстояния d (рис. 1) до аэроионизаторов с большой степенью точности описывается соотношением:

$$n = K \cdot e^{-bd^2},$$

где n – объемная концентрация аэроионов (см$^{-3}$), d – расстояние до аэроионизатора (см), K и b – некоторые числовые коэффициенты, характеризующие конструктивные особенности аэроионизатора: для аэроионизатора типа I K = 455113, b = 0,0003 с достоверностью аппроксимации R^2 = 0,9960; для аэроионизатора типа II K = 402635, b = 0,0004 с достоверностью аппроксимации R^2 = 0,9987.

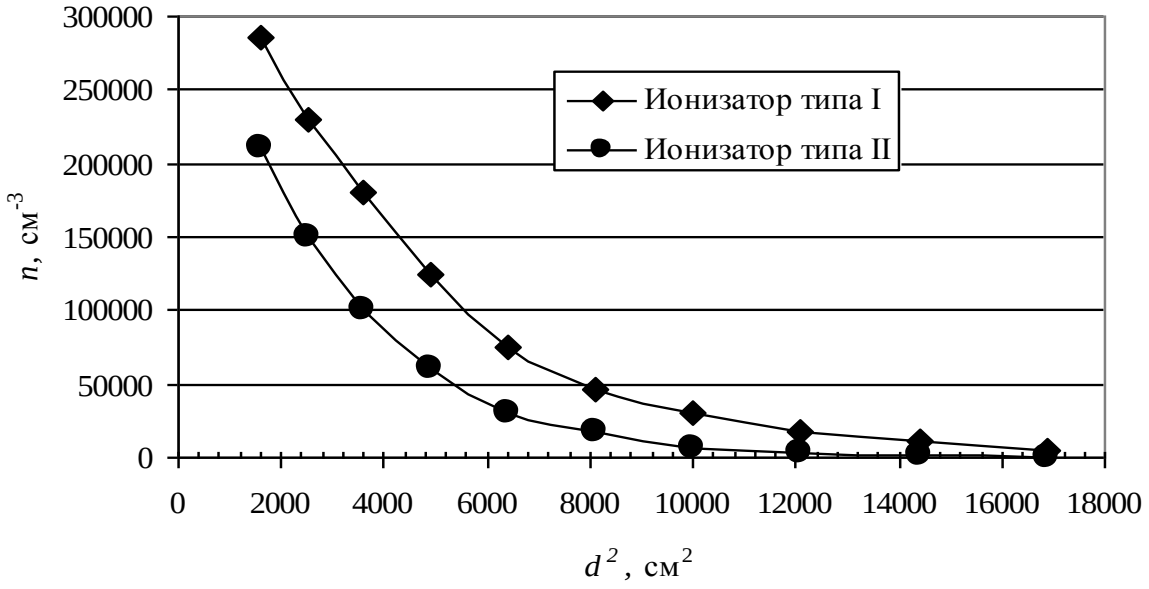

Рис. 1. Зависимости концентрации аэроионов n от расстояния d до аэроионизатора

Отметим, что полученные закономерности изменения концентрации аэроионов в зависимости от расстояния до аэроионизатора не согласуются с результатами [6], согласно которым зависимость концентрации от расстояния определяется экспоненциальной функцией от расстояния, а не от квадрата расстояния, как в нашем случае.

Причиной тому видятся следующие соображения. С одной стороны, закономерность уменьшения концентрации аэроионов с расстоянием можно рассматривать как следствие имеющих место процессов рекомбинации аэроионов, подчиняющихся закону показательной функции. В результате рекомбинации убыль числа аэроионов в различных сечениях аэроионного потока является экспоненциальной функцией расстояния. С другой стороны, уменьшение концентрации аэроионов с расстоянием связано с увеличение сечения аэроионного потока и должно убывать обратно пропорционально квадрату расстояния. Очевидно, что закономерности уменьшения числа ионов являются следствием суммарного действия указанных причин. По-видимому, приоритет в реализации одного из обозначенных выше механизмов уменьшения аэроионов в конкретных исследованиях приводит к различиям в форме закономерностей убыли аэроионов с расстоянием, однако указанные гипотезы требуют дальнейшего теоретического и экспериментального изучения и проверки.

Полученные зависимости концентраций аэроионов от расстояния до аэроионизатора позволяют организовать заданный ионный состав непосредственно в зоне воздействия, например, в зоне наиболее продолжительного пребывания работника, путем изменения расстояния до аэроионизатора и, тем самым, позволяют разработать рекомендации по размещению конкретного типа аэроионизатора в помещении.

Отметим, что вопрос о необходимости указания в эксплуатационной документации аэроионизаторов величин концентраций аэроионов при различных расстояниях до него ранее уже отмечался в литературе [2] и автор полностью солидарен с этим мнением.

Использование полученных эмпирических выражений при контроле уровней ионизации воздушной среды делает возможным более полное обеспечение безопасности труда и трудоспособности работников, а также позволяет повысить качество и производительность труда на современных предприятиях машиностроения. Кроме того, выявленные закономерности позволяют научно-обоснованно разрабатывать методики применения аэроионизаторов и проводить новые исследования в области искусственной аэроионизации.

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The Regular Dependence of Air Ion Concentration in the Process of Transfering from Generation Area to Effect Area

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Key words and phrases: working air; workpiece range; air ions; corona ionizer.

Abstract: There are the experimentally observed patterns of change in volume concentration of ions with distance from the source of forming – a negative corona ionizer. The theoretical bases of the established laws are discussed. An empirical relation that allows forming in zones of air ions mode influence with given properties is suggested.

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Methods of Students' Competencies Assessment in Distance Learning Systems

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Key words and phrases: distance learning; e-learning; students' competencies assessment; third generation federal state educational standard; e-learning management systems.

Abstract: The paper analyzes the current state of market information systems enabling to realize the functions of e-learning. We describe the patterns of the functions of distance learning systems. The possibility of implementation of decision support module in distance learning systems is investigated. The way of students and trainees' competency assessment is presented; the basic tools of assessment of students' competencies development are described.

The transfer to the third generation educational standards of HPE dramatically increases the attention to the assessment of students' competencies, as they contain the description of the basic competencies that graduates are supposed to have. Measuring the level of students' competencies development enables to improve their training.

Currently the system of higher education is going through some serious changes. The practice shows that in recent years, the modern higher education system does not provide a sufficiently high level of training because it primarily focuses on the transfer of some amount of knowledge rather than competencies. As a result, university graduates meet the requirements of higher education, but in real professional life they are unable to use their potential in full, especially in the early stages of their career. Numerous attempts to overcome this problem have not led to positive results so far. In order to gain career-related experience third-year students try to find work, as a result, they have to miss classes at university.

The solution to the problem can be a transition from knowledge-based model to professional competency model. The implementation of this model provides training of specialists who are very *knowledgeable,* but also practical and *able to apply* that knowledge to *different* commercial *situations* [1].

The word competency is derived from then Latin word *competentia*, it means a specific range of skill, knowledge, or ability. Competency in the dictionary of methodical terms is explained as "the totality of knowledge, skills, formed in the process of learning a particular discipline, as well as the ability to perform a particular activity". In the thesauruses it is defined as "the field of knowledge, range of issues in which someone is well-informed", "terms of reference, the rights of any authority or officer" [2].

In the early 1990ies the concepts "competency" and "management competencies" were widespread in foreign literature. Since then the scope of the term competency has expanded significantly. Knowledge, skills and abilities form the basis of the competency. Then it was expanded with the behavioral models and value orientation. Later it was expanded with the context of a particular organization, and finally, most recently – with the ability to development.

Specialist competency model is focused on innovative competitive strategy of the university and increase in compliance with the requirements of the educational programs of the modern economy. Competency approach to learning is the provision of demand for graduates on the job market. On the basis of the types and objectives of professional activities we distinguish knowledge, skills and personal qualities of graduate which are demanded in a particular area of the economy. Analysis of this information allows generating a unique map of the competencies in a specific educational program. The main role in this process is given to the Federal state educational standards (**FSES**), which have been developed over the last few years by the leading universities of Russia.

The third generation of FSES distinguishes two groups of competencies – the first universal group covers general scientific, instrumental, social-personal and general cultural competencies, and the second includes professional competencies. Thus, currently at the federal level there is a fixed transition to competence model of training specialists. Based on the new HPE FSES every teacher should adjust his curriculum so that his subject ensures the development of competency of a student as a result of studying a specific subject. In the beginning curriculum should be established, where all competencies will be described and linked to relevant subjects in accordance with FSES. The main problem with this approach is that it is difficult to evaluate the development of students' competencies. Nowadays there are no effective methods for assessing competencies with regard to the educational process. It's difficult because the new FSES contains 16 general cultural competencies, and 11 professional competencies for Bachelors in Computer Science and Engineering [6].

At the beginning the majority of methods which are used to assess competency were developed for counseling: tests, questionnaires, interviews, conversations and observations. Tests and questionnaires are formalized methods which have strictly regulated the processing procedure (the exact compliance with regulations, non-interference in the activities of the subject, clear standards). Observations and interviews are weakly formalized methods, which despite its apparent simplicity, are more complex and time consuming. Weakly formalized methods generally provide valuable information about the person. Both groups of methods complement each other for better result of assessment of competencies. There are many factors that cannot be detected by any tests. Therefore, with such a responsible matter as the assessment of competencies, we can not only rely on formal procedures, whether testing or analysis of documents.

Modern information systems such as distance learning systems (**DLS**) and their functional tools can be used to solve the problems of assessment of students' competencies. Currently, there are a lot of open source learning management systems (**LMS**) which are used for creating DLS at the universities. These systems include: Moodle, JoomlaLMS, ATutor, OpenACS, etc. All DLS have the same pedagogical tools: online tutorials, workshops, forums, chat, file sharing, ads, tests for self-examination and for results and some others. Most of these solutions are open source, and a lot of universities are extending the systems core, due to which the LMS gain new functionality. Due to the development of DLS in higher education, they can acquire such additional and essential modules as: "electronic deanery", "library module", "SMS – notification module". Typically, the extended DLS are used not only in distance learning, but also in traditional forms of education. These types of systems are often called – e-learning systems (e-learning). E-learning comprises all forms of electronically supported learning and teaching using computers and computer networks. Unlike distance learning (e.g., sending materials by mail or through the information portal), e-learning, as it is called in the west, take full advantage of modern personal computers (PDA, Smartphone): graphics, sound, three-dimensional scenes and animations, virtual simulators, virtual laboratories, etc. Unlike computer-based training (CBT, computer-based training, when you are working one to one with a PC), E-learning involves the use of network capabilities: the transfer of training results to the teacher and management, collaboration, consultation and discussion, sharing experiences, support for teachers, etc.

To assess the development of students' competencies it is assumed to implement an additional module within an existing institution in the DLS (eLearning). This module should handle all the necessary information about each student based on the tools and specific features of DLS. The output of this module generates a report containing the development of competencies in the group of students, or individually selected student.

Self-examination tests allow students to see and print the testing protocol. Tests make sense only when the questions are not repeated in the final tests. Setting time limits for the test, the teacher encourages students to study subjects, because if a student finishes a test not in time, he actually disrupts the learning process and becomes backward. It's easy to control the process of taking the test by students even if there are a large number of groups. If the teacher does not want the questions and answers to be available, he makes the examination status for tests. This type of test is called progress test, which is used to control the knowledge of the material by students and if they don't pass the test they will have to re-examine the theoretical material and re-take the test. Students don't have detailed protocols of the test, when they

are taking final tests. If the test is performed by students in the audience with the teacher's control, the results can show the level of mastery of the material pretty well. If students take the final test not in the audience, the value of this estimate is significantly reduced, because there is no certainty that the test is actually taken by the students on their own. Testing results can be easily controlled by a teacher. For the assessment competencies module (**ACM**) based on the test results, the following information can be useful: speed, the number of mistakes, the number of repeating exams.

Electronic library module has a supporting role for the skills assessment, although it gives the opportunity to become acquainted with the theoretical material if the student missed the lecture or practical session. Students use the textbooks and manuals which they download from the library module for practical tasks at home. In addition, during classroom lessons the teacher can refer to the information from the electronic textbook. It will be useful to know the following information for ACM: how often a student downloads manuals and textbooks and in what quantities.

Virtual laboratory module (**VLM**) is hardware – software complex that allows a user to obtain practical experience working with different software and hardware systems. A range of systems to which VLM can provide access is quite broad and it includes both specialized hardware - software systems, and widely used systems (eg programming languages). Users' work with virtual laboratory (**VL**) is organized in separate sessions, known as laboratory work (**LW**). Users also can have guidance on the implementation of specific LW. Methodological guidelines may include questions for testing the user's knowledge. ACM receives from VL the following type of information: speed of processing of the laboratory work, the correctness of work and the number of mistakes, a count of mistakes in additional questions.

The statistics module passes the information to ACL regarding the statistics such as: the number of visits in a certain period, the frequency of visits, sections which were visited, and on-line period in the system.

Forums are usually used in two ways. Firstly, it is a consultation forum in which the student has the opportunity to ask the teacher, without waiting for the next class, for example, a question that arises during the implementation of practical tasks. Students can organize their own forums, and communicate with each other and provide mutual help each other. Secondly, it is a forum, which discusses some of the issues proposed by the teacher and the teacher expects a response from each student. This forum serves to survey and monitor students' learning of this material. When using the forums one should take into account the following features. Forums are usually organized for the group, i.e. all information on forum open to all members. A consultation forum is a good way to show all students the information about all questions and answers. However, if the forum is designed for questioning students, it is not very useful to make the answers available to all the students, as this provokes students to copy other people's answers and pass them off as their own. Therefore, if you want to test students via the forum, you can make a separate forum for each student. In this case, students' answers are only available for the instructor.

Chat rooms are created in real time and it is a problem because using chats during the classroom is not appropriate. But using chats at other times causes difficulties because of the necessity of students' simultaneous access to the Internet. Chat rooms are generally used for communication among the students. ACM will take from forums and chat rooms the following information: students' activity, helpfulness of tips.

Electronic logbooks keep all information about students' progress similarly to the conventional logbooks where teachers put down information about the progress. All information contained in these logbooks is transmitted to the ACL.

Collecting and analyzing all information from the available tools of DLS (eLearning), give us possibility to generate reports on changing competencies of students' groups, or about a particular student.

Following the requirements of the structure of the major educational programs which are included in the third generation of FSES, we have a list of professional and general cultural competencies for each discipline. Thus, each specific competence is developed throughout the learning process by studying a number of disciplines. Every discipline which affects the development of competency has its value H, which is calculated as follows:

$$H = T \cdot V$$

Value H consists of the complexity T and the importance of discipline V. In this method, the complexity T – it is studying hours which are specified by the curriculum. The coefficient of the importance V is affixed to each discipline and affects the development of specific competence:

$$\sum_{i=1}^{n} V_i = 1,$$

where n is a number of disciplines.

If we have a list of estimates Mi for a certain discipline, we can calculate the coefficient of performance of a student per semester:

$$M = \sum_{i=1}^{n} M_i C_i,$$

where n is the number of student's ratings for the entire semester, including the assessment of the course project and the final score on the exam or a credit. Pass-fail courses are accounted as 0 if failed and 5 if passed. C is a value factor, affixed to each assessed task as follows:

$$\sum_{i=1}^{n} C_i = 1,$$

where n is a number of assessed tasks. You should take into account the importance of getting credit, grade in the course project, grade at the exam and it is advisable to assign appropriate values for these categories.

As the semester coefficient R, we will use values which are generated by ACM, based on the following data: DLS visiting statistics, test results, attendance, results of laboratory work, the activity on the forums and chat rooms, using of library material. Values of R coefficient are ranging from 0 to 5.

To determine the level of competencies development λ, we use a competence model of the graduates presented by MS Gaspariana in Development of students' professional competency in Applied Informatics. In this model, six levels of development competencies are distinguished, for each level ways of achievement are determined. These six levels represent a sequence of increasing depth of knowledge, as reflected in the table 1 [4–5].

Table 1. Levels of depth of knowledge

Level λ	Depth of knowledge
1	Knowledge formation
2	Understanding formation
3	The ability to use
4	The ability to analyze
5	The ability to synthesize
6	The ability to assess

We should distribute by semesters different ways of reaching the levels which are shown in the Table 1. For the subjects taught in the first year it is typical to achieve levels 1–2. For the specialized subjects taught in the 4–5th year it is typical to achieve levels 5and 6. The other levels can be distributed among disciplines which are taught between 2nd and 4th years.

Now, when we have all needed coefficients for calculating the development of competencies we can write the final formula for assessment of the development of competencies:

$$X = \frac{\sum_{j=1}^{m} H_j M_j R_j \lambda_j}{\sum_{j=1}^{m} H_j \lambda_j},$$

where m is a number of subjects affecting the development of specific competencies (fig. 1).

Thus, having a visual representation of competency development during the period of study, you can analyze the progress of a particular student. The obtained data enables to see what competencies a student has developed and what subjects have given a greater or lesser effect.

Therefore, application of the above-mentioned tools of distance learning systems and the proposed method for competency assessment presents wide opportunities to assess the level of students' training. Timely and objective assessment of competencies can produce various recommendations to improve their level.

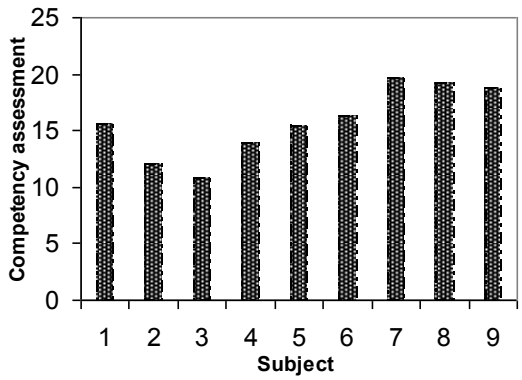

Fig. 1. Number of subjects affecting the development of specific competencies

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МЕТОДЫ ОЦЕНКИ КОМПЕТЕНЦИЙ СТУДЕНТОВ В РАМКАХ СИСТЕМ ДИСТАНЦИОННОГО ОБУЧЕНИЯ

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Ключевые слова и фразы: системы дистанционного обучения; оценка компетенций студентов; третий федеральный государственный образовательный стандарт; электронные системы управления обучением.

Аннотация: В работе проводится анализ современного состояния рынка информационных систем позволяющих реализовать функции электронного обучения. Расписаны способы применения функционала систем дистанционного обучения (**СДО**). Исследуется возможность реализации модуля поддержки принятия решений (**ППР**) в рамках СДО. Предложен оригинальный способ оценки компетенций студентов и обучающихся в рамках модуля ППР, а так же расписаны основные инструменты позволяющие оценивать развитие компетенций у студентов.

Переход к третьему образовательному стандарту ВПО резко повышает внимание к оценке компетенций учащихся, так как в нем прописаны основные компетенции, которыми должен обладать выпускник. Знание уровня развития компетенций у учащихся обеспечивает подготовку человека не только обладающего знаниями, но и умеющего их применить в различных ситуациях. Все вышеизложенное показывает актуальность оценки компетенций в процессе обучения.

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Aesthetic Potential of the Name in E.I. Zamyatin's Prose

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Key words and phrases: name; poetics; art image; the aesthetics of national life.

Abstract: The paper discusses the artistic and aesthetic value of the name as cultural phenomenon in E.I. Zamyatin's prose. The link between the name and national and local identity is revealed.

The problem of national existence became one of the central problems, which were discussed by E.I. Zamyatin in his works. The desire to understand the present and the past of Russia contributed to the aesthetic and philosophical perspective of his work. Zamyatin studied the forms of national life, reflecting on the identity of Russian culture, an important stratum of which is the name.

The person's name reflects the history of nation, its life and existence. In the literature the name conveys a certain meaning; it is the key to understanding the artistic image and acts as an element of artistic and aesthetic integrity of the literary work. P.A. Florensky argued that "only a genius poet has the ability to endow their creations with the names that express themselves. The name should be the image" [1, p. 5] According to the M.V. Gorbanevsky, names and titles "can convey a clearly expressed meaning, and have hidden associative background, they can have a special acoustic image; names and titles are able to express the national and local identity, reflect the historical period to which the action of the novel, stories, possess social characteristics belong" [2, p. 4]. O.I. Fonyakova in the "Proper Noun in the Literary Text" speaks of the artistic and aesthetic capacity of the name in the context of its association and indissoluble connection with the manner, style, character, age [3, p. 41]. According to the author, "it is the property that foreign scholars have called "the magic of names" [3, p. 41].

The names of the heroes in Zamyatin's prose became an important tool in creating the artistic world and the colorful images of national types. It is important to emphasize that "the word" surname comes from the Latin word familia – family. "Once upon a time in Russian "name" could mean "family", to be reminded of the phrase "family resemblance", "family's tradition", "family Jewels" ... Ivanov, Kuznetsov, Vereysky in the last century were defined as "the family's nickname" , then as surnames. Thus, the connection between the words "family" and "name" is not accidental. Surname is the family name, added to the name and patronymic" [4, p. 3].

Yevgeny Zamyatin was fully aware of the artistic and aesthetic value of the name. The writer was able to feel the name, its energy, that's why it h became a central element of the Zamyatin's prose.

The name as a means of expression is used not only in his fiction, but in journalism. A vivid example can be found in his interview with Frederic Lefebvre: "My best and most beloved building is the icebreaker Lenin". In those years, I had no idea that I was building a ship with such a loud name: then the icebreaker was called "St. Alexander Nevsky", and only after the revolution, she repented and changed her name" [6, p. 16]. In this case, the name of the ship serves as a means to create irony and reveals the panorama of the era.

In E.I. Zamyatin's work we find the reflection on the original theme of peasant life. He reflected on the patriarchal way of life and the village with its ancient folk traditions and beliefs. Therefore, in E.I. Zamyatin's the works, who was born and raised in Tambov Lebedyan, we find the names which were common in the black earth region of Russia. A vivid example of E.I. Zamyatin's look at the peasant's life was the character of the story "In the middle of nowhere" (1913) with a "talking" name "Arzhanoy". L.V. Polyakova says that «no wonder the soldier's name reminds of the land and the field. In Tambov villages in Zamyatin's homeland people called rye bread as Arzhanoy" [7, p. 70]. This man is a hard worker, a real Russian man separated from his native land, which

is the source of his vitality. His surname predetermined his character and destiny: he wanted to be a farmer, a husbandman but not a warrior; he wanted to farm his land. The memories of abandoned native land give Arzhanoy strength to live on in God-forsaken garrison in the Far East.

Zamyatin often gives his characters emblematic, symbolic names, which, along with extremely concise details portray a holistic and artistic image, for example, batman Neprotoshnov in the story «At the middle of nowhere». his name is symbolic, its semantics is disclosed in the first conversation with Andrei Ivanovitch:

"– Well, Neprotoshnov, a year back home, eh?

– So sick, Your Honour.

– Have you got a wife?

– So sick, your honor ..." [5, p. 137]. In this context, the word "sick" possesses another meaning: it characterizes not only the personality of the character who utters it, but also the life of the Far East Garrison, opposed to a real life in Russia.

The name is always associated with the cultural traditions of the people. E.I. Zamyatin felt that blood ties. His prose is built on a solid national foundation, and traditional peasant names, such as the name "Ivan" serve as a means of creating a special national flavor. The play "Birth of Ivan" is emblematic; the author states: "It shows the fate of the ordinary, average Russian peasant Ivan, there are thousands of them" [5, p. 536]. Ivan is the main protagonist. The reader observes his life from the birth. The turning point in the life and the mind of the hero was the war when he and killed with a bayonet a German soldier. The dramatic situation was intensified by the fact that the German before his death called him a friend and gave him a photograph of his beloved – the most precious thing he had with him during the war. "When Ivan saw the photograph of a woman with a child, he realized: the German soldier had a wife Maria, and his wife was called Maria too! They are the same, they are people, and he killed him with the bayonet!" [5, p. 540]. The thoughts of his own family and his wife and his murdered namesake's wife helped Ivan to understand the meaning of what was happening around, think about the commandment "Thou shalt not kill!" and realize the truth, that different people shared common spiritual values and that the most valuable asset was human life.

The surnames "Columb" (1918) and "Mamay" (1920) occupy a special place in the names of the characters in Zamyatin's prose. The writer gives the simple inhabitants the great names of the heretics to emphasize the antinomy of national life, the tragic discrepancy between ideal and reality.

Not only the meaning of a character's name, but its sound, melody is important for Zamyatin. Therefore, he chooses for some of his characters surprisingly musical and poetic feminine names: for example, "Talya" and "Pelka".

Often the name in Zamyatin's prose changes the fate of the character. Thus the name of the central heroine of the story "Womb" (1913) determines the change in the spiritual image of a woman showing her hidden moral potential. "Afimya" is a variant of the name "Euphemya", translated from Greek, meaning "good name, decency, prayerful chant" [8, p. 384]. The theme of this literary work is infertility of a woman with unrepentant soul, but in the final of story, we witness the transfiguration of Afimya: with tears of repentance and forgiveness her pain recedes, because these tears redeemed a grave sin – murder.

The name can determine the nature and destiny of a man. This idea finds support in the story "Misfits of Science" (1928). Sacrificing her own happiness, the central heroine saves her son by giving him a new name: "Rostislav Stolpakov no longer existed: instead Rostislav Bordyug was "born", indisputably he would make a student and a future professor" [5, p. 156]. But she had to sacrifice her love for the happiness and welfare of the child, although her love for to Misha, who was the same age as her son, deprived the tragic duality her character: "A woman leaned out the window. From there, she smelled beer, lilac, happiness, and from there came the word "Varechka" [5, p. 154].

The name in the prose of E.I. Zamyatin has a powerful aesthetic potential: it is an important tool of featuring a literary character and a piece of the artistic image, a specific component of the author's poetics. Thus, the name conveys the vivid features of the peasant way of life; it reflects the essence of Zamyatin's aesthetics and its link with national tradition.

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ЭСТЕТИЧЕСКИЙ ПОТЕНЦИАЛ ИМЕНИ В ПРОЗЕ Е.И. ЗАМЯТИНА

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Ключевые слова и фразы: имя; поэтика; художественный образ; эстетика национального бытия.

Аннотация: В статье анализируется эстетический потенциал имени в прозе Е.И. Замятина, которое определяет художественно-эстетическое единство произведения и выражает бытийную сущность национальной жизни.

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Stages of Constructing an Individual Trajectory of Specialist's Professional Development in Higher Education Process

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Key words and phrases: stages; individual trajectory; professional development; higher education process; diagnostics.

Abstract: The paper considers the stages of constructing an individual trajectory of specialist's professional development in the higher education process; the basis of stages of constructing an individual trajectory of specialist's professional development is described.

Socio-economic, political, social and cultural processes in the modern society take dynamic character to an even greater degree: new technologies are introduced, political and state doctrines are changed, alternative sources of public opinion emerge, steady growth of scientific knowledge is taking place, and information content is rapidly widened. There is an absolutely new task for the system of higher education – to define the conditions for forming a man that is able to find and identify his own professional and life trajectory, to overcome fundamental fragmentariness of knowledge and to acquire his own intellectual and moral integrity and originality.

It is possible to solve these problems just on condition that an individual trajectory of specialist's professional development in the process of training in a higher educational establishment takes into account capabilities, interests and abilities of each student.

Professional development during the process of training in a higher educational establishment is of great importance because it is the place where professional values and self-consciousness are formed and an individual style of one's professional behavior evolves. All this defines the process of specialist's further professional development throughout all his life.

There are invariant and variant components in the structure of an individual trajectory of specialist's professional development. Invariant components are defined as requirements to a specialist in a particular field and the complex of competences the specialist should have. Variant component is based on students' individual characteristics that make it possible to choose methods and means of their professional development.

The process of constructing an individual trajectory of students' professional development in a higher educational establishment can be presented in the form of successive stages. The methodological basis of defining these stages is the system development law of the system which in relation to the field of pedagogical realities was conceptually presented in the works of S.M.Godnik. There are four phases of procedural phenomena development: object phase, subject-functional phase, subject phase and the phase of reformation. The connection between the phases and the stages of teacher's activity that are supposed to create favorable conditions for an individual's self-movement, self-realization and self-confidence is also identified.

On the basis of this methodological issue we outline four stages of constructing an individual trajectory of students' professional development in a higher educational establishment.

The first stage is the stage of final professional self-identification and future profession adaptation. As a rule, at this stage one have to get used to the conditions and requirement of the educational environment, adopt new social status and get involved in the intensive educational process. The problems of future profession are often ignored. That's why it is very important for a first-year student to be familiarized with his future profession and professiogramma of graduate students, try to realize and construct his own

individual trajectory of professional development on the basis of both his own individual characteristics and social demands to a specialist in a particular field.

At this stage it is very important for a teacher to promote students' positive motivation, develop their interest in education and their future profession

The basis of individual trajectory forming must include the system of students' individuality diagnostics (motivation, the level of intellectual development, directivity of interests, needs, the level of being trained), and also monitoring of the changes that have taken place in students' individuality.

The process of diagnostics must consist of the following stages:

- preliminary diagnostics of student's individual characteristics;
- analysis of the results of diagnostics carried out by the teacher to give recommendations on choosing an individual trajectory of professional development;
- student's self-examination of the results of diagnostics, identification of his weak and strong points and the vector of his further development; the most important thing for the student in the process of constructing his individual trajectory is to assess his own capabilities, abilities, prospects;
- joint detection of an individual trajectory of professional development and its checkpoints;
- the student and teacher interaction during the year with the purpose of controlling and self-controlling the student's individual development;
- correction of the individual trajectory of professional development in accordance with the intermediate results.

The second stage involves understanding individual professional development possibilities. At this stage the process of active acquiring of important professional knowledge takes place, significant personal professional characteristics are developed. Students' independence in choosing activity categories, the aptitude for self-control and self-regulation (self-discipline, orderliness, patience) are increasing. Primary professional abilities and skills are acquired. Personal professional experience is gained. On this basis the individual trajectory of professional development is corrected.

Students have already acquired fundamental educational activity categories, have taken their stand in the higher educational establishment, learnt to analyze their own activity, and their shortcomings. A student reveals his individuality is revealed: students' behavior is guided by their own experience in overcoming the difficulties as well as the views, opinions that have been formed in the process of adaptation to the higher educational establishment. Their aspirations and motives increasingly correspond to the external conditions. The students' position has become more active and subject-activity oriented. It is essential to take into account all these changes in organizing the educational process.

Students should be offered both compulsory courses and electives at this stage. The number of electives is to be increased with each next academic year. The studies must ensure students' subject position. In the process of studying active forms of organization of educational process must be used.

At this stage intersubject coordination and interdisciplinary core courses are of great importance. All this promote the integrity of knowledge of the professional future and ideas as to the professional activity.

The third stage is subject-professional development. It is the stage of self-actualization in the higher education process, at which the student is a real subject of professional development on the basis of a clearly formulated individual trajectory. The student initiates both educational and socially significant outclass activities. He does scientific research, professionally oriented practical work, and corrects his individual trajectory of professional development in accordance with the gained knowledge, personal experience and new tasks in the process of training.

The teachers and students' interaction is based on subject-subject relationship. The student's position is considered to have an active influence both on the content and organizational-procedural spheres of education.

The fourth stage of transition to a new qualitative stage of professional development is task-oriented, independent constructing of an individual trajectory of further professional development with regard to the necessity of developing professional competences, the choice of specialization of future professional activity, necessary methodological material preparation,

detailed scientific problem research, experimental work, self-planning.

At this stage students' work practice being the final step in the process of training specialists is of primary importance. It helps to check and extend students' knowledge gained from theoretical courses in practice; promotes development and consolidation of professional skills and abilities, develops professional consciousness, culture, creative thinking, talent for organization and other personal professionally significant qualities of students.

The stages of constructing an individual trajectory of students' professional development are successive. Every new stage keeps structural elements of the previous one, enriches these elements and eliminates those that have exhausted all their constructive possibilities at the next stage. This continuity is expressed in the successive resolution during the transition to a new stage of contradictions between the system of aims, motives, personal pretensions and real abilities, between requirements to a personality and actual level of personal development. These contradictions in the resolution process become the source of professional development. The student's ability to take an active and conscious part in positive resolution of contradictions, overcoming different complications in educational and cognitive activity in a creative way, fostering necessary specialist's qualities on his own is increasing.

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ЭТАПЫ ПОСТРОЕНИЯ ИНДИВИДУАЛЬНОЙ ТРАЕКТОРИИ ПРОФЕССИОНАЛЬНОГО РАЗВИТИЯ СПЕЦИАЛИСТА В ОБРАЗОВАТЕЛЬНОМ ПРОЦЕССЕ ВУЗА

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Ключевые слова и фразы: этапы; индивидуальная траектория; профессиональное развитие; образовательный процесс вуза; диагностика.

Аннотация: В статье рассматриваются этапы построения индивидуальной траектории профессионального развития специалиста в образовательном процессе вуза, описывается основа построения индивидуальных траекторий и системы их диагностики.

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Integrated and Differentiated Tendencies in University Lecturer Training in Russia

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Key words and phrases: integration; differentiation; integrated and differentiated tendencies; risks of higher education.

Abstract: The paper considers the relation between the phenomena of integration and differentiation, the integrated and differentiated tendencies in university lecturer training in Russia in the context of two-level system of education.

Global education is going through the stage of substantial integrative transformation in the knowledge-based understanding and disclosure of generality of the studied objects and phenomena. Currently, Russia is moving towards the implementation of the decisions of the Bologna Declaration. In this context we treat the tendency as "the focus of interests and actions", "an idea, a direction of thought and statement", a trend in which "the development of a certain phenomenon is observed" [5, p. 811].

In our point of view, the understanding of integrated and differentiated tendencies within the framework of higher education in Russia, influencing the enhancement of their constructive and innovative aspects will turn "the methodological leverage" of the university education in lecturers' training and give it a purposeful invariant movement with diverse variative components.

Now we would like to define our understanding of such categories as "integration" and "differentiation".

According to the encyclopedic dictionary, the word "integration" is derived from Latin *integratio*, which means "recovery", "replenishment"; "integer" and can be translated as "whole", "entire".

The term "iIntegration" means "the state of combining separate differentiated parts and functions of a system into the coherent whole as well as the process leading to this state" [7, p. 358].

The word "differentiation" is derived from Latin *differentia* ("difference", "distinction"), which means "the process of division, splitting, fragmentation of the whole into various parts, forms, grades" [6, p. 401].

Most probably, in the process of establishment of the world education we are currently at the stage of transition from the prevalence of differentiation to the prevalence of integration. However, the category of integration is used more often in understanding the problems of the development of higher education and university lecturer training. Actually, the implementation of this process results in the perception of the term "integration" as "the arrangement of separate elements into an integral system that acquires fundamentally new (systematic) characteristics. The degree of integration can show the level of the development of any object" [7, p. 358]. Thus, the inclusion of a new element into the established system is likely to cause a change in the links amongst its other elements. The question is: "How to preserve the essential features of the established system and simultaneously not to lose some important features of the new element, as its identification with the system is likely to cause the loss of its own achievements and how to provide the new element with the function of a follower".

These problems are the most debatable in the context of the development of the innovative system of higher education in Russia and in university lecturer training, in particular.

Integration may also be regarded as "the process of drawing together and connection of sciences, which takes place simultaneously with the process of their differentiation". It may be observed in the concurrent researches of the

scientists from different countries, who approach the problem in different ways and try to solve it on methodological, theoretical, as well as on technological and practical levels. Such actions facilitate intercultural communication based not only on the verbal discussion (which, undoubtedly, helps to build up a strategy and tactics of the process), but also on the basis of making decisions, organizing cooperative actions, social and psychologically-pedagogical support of the developing education.

Not only future, but also nowadays can show what connections and what innovative systems are going to be created; which tendencies (integrated or differentiated) are going to prevail at different stages of implementation of the Bologna Agreement.

The contemporary researches regard integration as a process of creating the new whole based on the definitions of typical elements and parts in different objects and phenomena (e.g. educational programs, curriculum, subjects); and further adaptation of these elements and their parts, the unification of these elements and their parts into a new block.

Is it going to be observed while correlating educational systems of different countries, in particular, correlating our educational system with international ones? The typical element in correlation of educational systems of different countries may be represented by educational invariants of each system, the reconciliation of which will allow creating a common invariant of education of those countries which participate in the Bologna Process. It may be referred both to the whole educational system of a university lecturer training (In Europe, Asia and the whole world) and to the subsystems (education in particular countries, regions, cities, colleges and universities, in different departments) as elements of this common system.

The analysis of such phenomena as “integration” and “differentiation” leads to a conclusion that in perception, establishment and development of any system (particularly university lecturer training) either integrated or differentiated tendencies are likely to prevail in the context of targeting, contents, technology, organization, interaction of subjects of education, etc. At the same time, the tendencies are realized at different levels: methodological, theoretical, technological and practical.

As the analysis of the existent practice shows, the differentiated or even disintegrative tendencies prevail in university lecturer training in present-day educational conditions. Thus, considering the importance of interconnection and interdependence of all the levels, mentioned above (from methodological to practical), in training a university lecturer, the movement from general to particular and the movement from particular to general are still fragmentary.

On the theoretical level the integrated tendency in the correlation of personal and competence-based approaches in university lecturer training is evident [1]. At the same time the lack of research on the risks of two-level educational system implementation in Russia, concerning university lecturer training, may result in the development of “trial and error method” and “the so called well-known truths” tendencies.

We regard the risks of a university lecturer training and their further professional self-realization as a probable ambiguousness between the process and the result, connected with the degree of effectiveness of the contradiction resolution between the formally-stereotyped settings, contents, technology and remarkable creatively-acmeological changes at the level of the organizationally-administrative, professional and personal decisions.

The major risk, the understanding of which is the most important in the conflict is the danger of fragmentary succession in the transition into the two-level educational system, including the process of university lecturer training. The realization of reflexively-acmeological and integrated-differentiated approaches can help to avoid this risk.

The purposeful component is currently based on the revision of knowledge and skills, as some “readiness” and “abilities”. The most important point is not just to save the previous knowledge and skills, by simply giving them a new form. Nowadays in the sphere of education development, it is important to move from the competence to their explanation through general and particular, especially in relation to those disciplines, which are expected to be studied by the students not only through accumulation and reproduction of knowledge and skills, but also through cooperative and self-studying process.

A technological component is a specific difficulty. This difficulty is confined in the fact that most of the time designated for studying a

particular discipline, including university lecturer training is devoted to self-studying. Here we may distinguish several particular risks: the readiness and ability of a lecturer to change the methods of teaching students dramatically; the students' capability to organize their own individual educational activity and to get evident results; the availability of well-equipped "working" places for regular individual work with students, etc. We should consider that the tendency of redirection from the prevailing theoretical components to the prevailing practical ones in university lecturer training is at the level of the real experience recognition.

Thus, a university lecturer training in Russia is one of the most important issues of the educational policy. Both integrated and differentiated tendencies, which are already evident, need a thorough analysis and a creation of the innovative system of university lecturer training.

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ИНТЕГРАТИВНЫЕ И ДИФФЕРЕНЦИРОВАННЫЕ ТЕНДЕНЦИИ В ПОДГОТОВКЕ ПРЕПОДАВАТЕЛЯ УНИВЕРСИТЕТА В РОССИИ

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Ключевые слова и фразы: интеграция; дифференциация; интегративно-дифференцированные тенденции; риски высшего образования.

Аннотация: В статье рассматриваются соотношение феноменов интеграции и дифференциации, интегративные и дифференцированные тенденции в подготовке преподавателя университета в России в контексте двухуровневой системы образования.

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The Impact of Information and Communication Technologies on Culture, Education and Training in Foreign Language Learning

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Key words and phrases: culture; information culture; a foreign language; military education; information and communication technologies.

Abstract: This article presents a general overview of the available technologies for foreign language (**FL**) teaching and learning today in high military educational establishment of Russia, as well as various applications of information and communication technologies (**ICTs**) in this sector of education. It highlights the importance and the role of the teacher in ICT foreign language learning environment and shows how this environment can contribute to cross-cultural understanding.

Information and communication technologies are characterized by a new type of communication, giving foreign language learners the chance to enter new information space at all levels, from global to local ones. The result is a new type of thinking that focuses on self-development and learning; it is formed during the liberation of human from routine data processing and intellectual work.

Under person's information culture we understand a combination of information world outlook and the system of knowledge and abilities, providing goal-oriented independent activities meeting individual information requirements on the basis of traditional and modern technologies. Information culture of a person is one of the most important factors for professional and non-professional activities, as well as for social protection of a personality in information society.

Information culture of a person contributes to the development of mature personal senses and formation of adequate and dynamic inner world of a person; effective information exchange of developed information skills (evaluation, selection and revision of useful, true and personally important information, communicative abilities); increasingly high level of information requirements; working out and perfection of effective means of keeping and learning information; information psychohygiene (self-regulation and correlation of information processes with actual state of a living organism) and morality.

Hence the identity of the carrier of information culture is well versed in the ways of finding and obtaining the necessary channels of information, he can use the received information in different spheres of his activities; he can find the ways of extrapolation of new information, he is the one of the Internet community and does different forms of activities in the Internet. Creative information media must not only give the possibilities to every user of educational and socio-cultural services to develop initial creative potential, but to motivate for self-education, creative development and to form objective self-evaluation.

The application of the new media in language learning and language teaching helps to present the Internet as a forum for exchange between practitioners and researchers, to reveal the potential of the new media to improve the quality of foreign language teaching in military universities and academies and increase the number of successful foreign language military learners. The aim of this report is to give some information on military school language teaching and language learning.

Today, we are facing the information revolution, which accelerates the integration of information media, and communication technologies create new products and services to promote cultural and business exchange. The impact of foreign language learning on culture, education and training is especially important in Russia, and there is an increasing awareness that changes of paradigm are inevitable

and greatly needed, provided that the new media are used effectively for the common good.

Successful and continued growth of new development, brought by ICT, requires further discussion. The purpose of this publication is to demonstrate the possibilities and importance of the various technical resources for teaching foreign languages in the 21 century. Effective implementation will require partnerships of militaries with public and private entities, common formats and standardization, development of information resources, databases, knowledge, and information infrastructures in military universities that are equally available for all other institutions and regions. However, for this to happen, the prerequisites for effective application of the new resources for foreign language learning and teaching in military schools should be clearly established.

Today the world is split by cultural and religious differences; the potential of new means of intercultural exchange is enormous. In the history of humanity the need the information and knowledge at various levels has never been so huge. ICTs can encourage and sustain cultural and linguistic diversity in individuals and in the society in general.

The application of ICT in FL teaching is really important to acquire knowledge and skills. In this respect it has more in common with the subject like Music than History or Geography. Besides we must point to the need for teachers and learners to acquire and master new skills involved in the appropriate use of the new media.

The Internet moves away from its original function of the exchange of information, turning into mass media with constantly decreasing interactivity. In our opinion, the tendency of the passive use of new means of communication can be compensated by a new approach to teaching FL, which encourages cooperative, collaborative procedures, where teachers abandon traditional roles and act more as guides and mentors, exploring the new media themselves as learners and thus acting as role models for their learners. Case studies show that there is closer interaction between teacher and students when the new tools are employed. Language learners who have experienced this kind of approach are most likely to transfer the skills acquired to their daily practice in the use of the new media in the mother tongue. And, above all, this experience should lead to the development of a “user culture”, implying appropriate behavior, which respects other people as well as the diversity of their opinions.

However, there is a risk of the World Wide Web to be dominated by one or a few world languages, similarly to the English language dominance in Russia. From the history of foreign language learning in Russia we know that in different periods French and German used to be very popular. Getting access to information and knowledge acquisition is limited to those who are good at these languages, as the level of linguistic diversity on the Internet is still a low. Predominance of English is the main obstacle for the majority of the world's population. But not only the content is a problem, there is also a shortage of guides and tutorials on the language of users. In many cases, taking full advantage of the Internet requires training in a foreign language. Lack of FL skills is identified as the principal barrier to successful use of ICTs. Consequently, the importance of foreign language learning and teaching is increasingly growing. And the problem is not just expanding the influence of English worldwide, but even if we disagree with this, English remains primary in education, business, trade, politics and other critical areas of human interaction on a global scale. Since the language is a universal mind, there is a risk of dominance of one language over others in terms of standardization of speech and “cultural homogeneity”.

Regarding the impact of ICT in the high tech society, teachers can hardly ever answer the question of how and to what extent these technologies are included in educational environment. Many studies have shown that if ICT is successfully implemented, the teacher remains a crucial factor for successful integration of the teacher and ICT. New tools do not just automatically improve the quality of learning and knowledge, but are transforming the learning process.

Educational technology for the military requires precise organization, effective use of the so-called “round the clock, full support” educational system. The key to the success of the military educational system in Russia is the use of well-trained professional teachers, on condition that military schools are free to plan their own education system, provide an opportunity to enjoy the autonomy of their teachers and have independent students solving their problems themselves.

ICT can enhance access to language programs and improve the quality of teaching and learning FL as a whole. The World Wide Web expands the classroom context and provides access to current, up-to-date materials from the country or countries of the target language, offering learners and teachers teaching materials in different modes, bringing the foreign culture and language to life and making it more tangible.

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ВЛИЯНИЕ ИНФОРМАЦИОННЫХ И КОММУНИКАЦИОННЫХ ТЕХНОЛОГИЙ НА КУЛЬТУРУ, ОБРАЗОВАНИЕ И ОБУЧЕНИЕ ПРИ ИЗУЧЕНИИ ИНОСТРАННОГО ЯЗЫКА

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Ключевые слова и фразы: культура; информационная культура; иностранный язык; военное образование; информационные и коммуникационные технологии.

Аннотация: В статье представлен общий обзор имеющихся технологий обучения иностранному языку (**ИЯ**) в высшем военном учебном заведении России, а также в общих чертах дано различное использование информационных и коммуникационных технологий (**ИКТ**) в этой области образования. В статье освещается влияние информационной культуры личности на изучение иностранного языка и влияние образовательной среды на межкультурное взаимопонимание.

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Love of Homeland, Nation and Family as Principles of Patriotic Education

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Key words and phrases: patriotism; love of homeland; yehlyu; otany; zhirau-spiritual mentors of the nomadic people; the national spirit.

Abstract: The paper shows that only those states are known for their patriots, where moral, patriotic spirit of the citizens is high and national traditions are strong. All this is proved by the history of Kazakhstan.

Old-centuries history teaches that only those countries get out of crisis and have a secure place the international community, which are famous for its patriots with high moral and patriotic spirit and strong national traditions.

Patriotism is one of ancient sociological phenomenon. Originally it was reflected in affection to native land where a man was born and grew up. Being formed all the way along, the sense of patriotism comes down from father to son and it is very steadfast.

The history of Kazakh nation goes back to ancient days. The earliest patterns of written language of distant ancestors of modern Kazakhs are called Orkhon-Yenisey or Old Turk runic letter. These written monuments include the most famous inscriptions on stones in honour of Bilge Khagan and his brother commander Kul-Tegin (VI century).

There are carved sayings about life, culture and about exploits of ancient nomads on background of common history of Turk Empire.

Khagans, beys, tarxans acted as spirit leaders, prophets, commanders, masters of destinies. An iron-hard wills of leaders of Turk Empire, who loved their people and their country, is astonishing. Not by chance the word motherland is translated into kazakh as “otan” and a derivative word from the word “ot” means fire (“otau” is house, “otagasi” is head of family, “otbasi” is family).

The Middle Ages was the time constant struggle of kazakhs for their national independence. “Heroic age” was a time of ethnopolitical consolidation from the XIV century to the middle of XIX century. It was the fourth century, full of important events, fight for independence, consolidation of Kazakh nation.

Akins-zhirau XV-XIX centuries (Asan Kaigy-zhyrau, Shalkiiz-zhyrau, Zhiembet-zhyrau, Aktamberdy-zhyrau, Bukhar-zhyrau, Schaal Akin, and others), being the spiritual leaders of the nomadic people, concentrated the most valuable traits of character of their nation and shared these traits of character with youth. They stressed that the protection of of their native land from foreign invaders is the sacred duty of every Kazakh. The support of honour of clan, nation means to die for motherland in honest fight, to be a genuine batir, as ancestors, who fought and passed away, not being sorry about anything. “Er” is a man, hero, protector. An honour of man glorifies his clan: “Er namisi – el namisi” (“An honour of man is pride od state”). A man who has pride, must be dedicated to the honour. And there is nothing strange that in military-nomad conditions, ten-years-old boys became poets and twelve-years-old boys became warriors, considering that their life assignment is a service exploits. Having shown valour in front of native clan and tribe, they met the death adequately.

One of the important elements of patriotism is national spirit or national patriotism. It’s love of one’s nation with which a person is united by blood unity and generality of provenance, territory, language, and way of life, temper, psychological and ethnographical features, well-established historic traditions

Kazakh patriotism is a unique phenomenon. It’s evidenced by the “content of highly complicated and demanding history of Kazakh

nation. According to famous poet and political figure M. Shaxanov, there are three first-rate historic events in the source of Kazakh patriotism, implying three stage of struggle of Kazakh nation for freedom and independence:

1. Otrar exploit of nation, six months struggle against the army of Genghis Khan, which informed the whole world about high-spiritual quality of Kazakh nation.

2. Nearly half-century struggle against Zhungar conquerors to preserve independence and national independence.

3. December 1986 events. The first objections to totalitarism were born on Kazakh land and reminded to the world about unfading national spirit, although both the tsarist and Stalin's empires destroyed the dissent with special cruelty.

Recent events have confirmed that economic disintegration, social differentiation of society, the devaluation of moral values had a negative impact on public consciousness of the majority of social and age groups in the country, sharply reduced the educational influence of culture, arts and education as the most important factors in patriotism development. These events brought down the educational influence of culture, arts and education like the most important factors of forming of patriotism. The gradual loss of traditional patriotic consciousness has become increasingly evident. Objective and subjective processes significantly exacerbated the national question. Patriotism was “reborn” in nationalism in some places. Besides, patriotism excludes the idea of exclusivity of any people or nation.

Today the importance of the problem of patriotism is confirmed in the works of present-day philosophers. Without denying the ideological influence on the understanding of the essence of patriotism in specific historical conditions, we should mention that love of one’s country has always existed and will always exist.

Historical experience has confirmed that remoteness of learners from the roots of their people, national traditions, moral principles have led to separation from the sources, to destruction of communication and continuity of generations, decline of morals, spirituality.

According to Sh.Sh. Khairullin, patriotism carries out its social purpose through the implementation of a number of functions:

1. Information-orientated function which means that patriotism conveys a certain set of knowledge of the homeland and duties which are acquired by a person and transformed into acts and actions.

2. Incentive function which in the conditions of military activity is expressed that the sacred feeling of patriotism inspires and induces soldiers on feats of arms, helps to overcome difficulties and to reach concrete results in fighting activity. The given function is realized in readiness for military service, heroic acts, self-sacrifice, in aspiration to self-education.

3. Regulatory-evaluation function of patriotism expresses the ability of people to determine the conformity of their actions to the interests of their homeland. It is a criterion of a moral evaluation of their behavior by their counterparts.

4. Integration function is shown in a unification of compatriots irrespective of their age, social and a national identity.

Patriotism is not only a social-historical phenomenon, but also the quality of a person expressed in the devotion and love of their homeland, their people.

Socio-political and economic changes bring new aspects into such categories as “patriotism”, “morals”.

Representatives of pre-revolutionary Kazakh intelligentsia A. Baytursynov, Z. Aymautov, M. Dulatov, M. Zhumabaev, S. Mendeshev, S. Sadvakasov and others saw the task of education in instilling the love of his homeland, native language, national culture, spiritual and moral values, national traditions and customs. They considered the mother tongue as the main base and means of education, development of civil feelings, qualities of the person, formation of national consciousness, development of spiritually-moral qualities of the people.

At the present stage, the problem of patriotic education in a pedagogical science is one of the most important in the system of all-around development of the person. It is known that a person is shown by means of a set of sights, beliefs, actions. Ideas arising in the individual consciousness, find reflection in the mass mind, getting material and spiritual force. The consciousness orientation on realization of personal and public interests, valuable orientations become to a motive power of public progress. That is why the expression “If not me, then who?” becomes an expression of ideas patriotic education of youth. The system of patriotic education provides the development of socially-significant

values, civilization and patriotism in the course of education and training in educational institutions of all types.

The main methodological principle of patriotic education should be the knowledge and awareness of homeland, the communion of the younger generation to the timeless Russian cultural-historical values, freedom of choice of activity, without which self-determination and creative realization of a person is impossible. The development of Kazakhstan patriotism and ethno political generality of inhabitants of Kazakhstan depends on how the government and the ethnic groups can manage the ethnic conflicts in the course of ethnic integration and construction of a democratic legitimate state.

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ВОСПИТАНИЕ ЛЮБВИ К СВОЕМУ ОТЕЧЕСТВУ, НАРОДУ, РОДНЫМ И БЛИЗКИМ - ОСНОВА ПАТРИОТИЧЕСКОГО ВОСПИТАНИЯ

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Ключевые слова и фразы: патриотизм; любовь к родной стране – елю, отану; жирау – духовные наставники кочевого народа, национальный дух.

Аннотация: В статье показано, что лишь те государства славятся своими патриотами, где высок моральный, патриотический дух граждан и крепки национальные традиции. Все это доказывается на примере истории Казахстана.

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The Content and Essence of the Category “Human Attitude to Cognitive Activity” as Attitude to a Particular Type of Activity

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Key words and phrases: cognitive activity; attitude; cognitive actions; types of cognitive activity; adaptive; efficient; strategies of learning process; the strategy of receiving information; scanning strategy; the strategy of focusing.

Abstract: The paper discusses the content and essence of the category “human attitude to cognitive activity” as an attitude to a particular type of activity. Cognitive activity is regarded as the ability to learn, it comprises different kinds of cognitive activities aimed at obtaining new knowledge. The paper presents the definition of the structural elements of cognitive activities, the types of cognitive activity, the types of strategies used in the learning process.

The majority of modern human-oriented concepts focus on the idea of self-development and self-realization in the learner-centered education and humanization on the basis of universal values (K.A. Abulhanova-Slavsky, A.G. Asmolov, E.V. Bondarevskaya, V.P. Zinchenko, A. Maslou, D.M. Mallaev, E.B. Morgunov, K. Rodzhers, E. Fromm, etc.).

The positive attitude of children to cognitive activity is based on the ideas of humanistic pedagogy.

Modern pedagogical thinking focuses on the development of humanistic orientation, creating the necessary conditions for personal development. In this context, great importance is the problem of human relationships, in formulating guidelines that were specifically contributed by V.M. Bekhterev, A.N. Leontyev, V.N. Myasishchev, S. Rubinstein and other researchers.

V.A. Yadov analyzes the attitude as the disposition of an individual, the state of readiness of an individual to a specific mode of action, fixed in the social experience of an individual’s predisposition to perceive and evaluate the possibility of personality.

“The attitude as a position – emphasizes I.F. Kharlamov, is variable and situational, it is influenced by new factors until a stable and firmly entrenched attitude that guides human behavior in any changing conditions is created; such attitude becomes the personality quality of an individual [8, p. 314].

The essence of consciousness is constituted by attitudes that perform integrative functions. Mental activity as the activity of consciousness can be studied from the perspective of the role attitude plays in it. In this regard L.S. Vygotsky wrote: “The overall structure of consciousness is characterized, above all, by a certain system of relationships and dependencies that exist between the individual parties, certain kinds of its activity [2, p. 257].

Individual personality is manifested in the attitude. It implies sensibility, intellectual and emotional coloring. A.N. Leontyev noted: “The higher is the value and the meaning, the brighter and stronger is the attitude”. In characterizing the attitude of B.F. Lomov identifies such parameters as modality, intensity, emotion, resistance, dominance [4, p. 332]. Attitude manifests itself in three forms: rational, emotional, and behavioral.

It is impossible to understand the content and essence of the category “human attitude to cognitive activity” as the attitude to a certain kind of activity without disclosing the concept “cognitive activity”.

Cognitive activity is one of the kinds of educational activity. Its purpose is the development of the attitude to cognition, learning, and cooperation with others in the process of teaching. In the cognitive activity the mental capacity of children is developing, the range of knowledge is increasing, the child’s philosophy and his attitude to the real world is formed.

Cognitive activity is a unity of sense perception, conceptual thinking and practical activities. It is implemented at every step of life, in all the activities and social interaction of learners, as well as through the various practical activities in the educational process. But only in the learning process cognition becomes clearly defined in a special, unique form of cognitive or learning activities.

The concept of "cognitive activity" by definition, which gives the GI Shchukina: "compulsory, systematic work done by the younger generation, the purpose of which determined by the state" [10, p. 95].

Cognitive activity is the system of certain actions and their constituent knowledge [7]. In a global sense, cognitive activity is regarded as the ability to learn [7], and consists of different kinds of cognitive actions (general or special), aimed at obtaining new knowledge.

Cognitive actions, in their essence, are the techniques of logical thinking: elementary, basic, combined. Cognitive activity in didactics is represented as the following algorithm: interest-will-attention-thought-searching, the final element is the search for an optimal method of learner's knowledge acquisition that can be considered as the result of successful cognitive activity. Organization of learning process through interest – will – attention, in the first place, is related to the psychological factor.

Any cognitive activity has the following structural elements (by G.I. Shchukina [9, p. 20]): objectives and motivations, educational activities, operations, activities and educational activities – skills and abilities, reflective components – emotional assessment, critical analysis, the formation of experience [1].

Starting from the basic functions of, A.M. Matyushkin conventionally distinguishes between two types of cognitive activity: adaptive, providing individual adjustment to a changing environment, and productive – super-adaptive "going beyond the required level of adaptation" [5, p. 5– 17].

Cognition of something new and unknown is a difficult and complicated process; its implementation requires intense mental activity aimed at creating new strategies, plans and methods of obtaining and processing information. John Bruner studied the three main strategies used in the learning process-strategy for receiving information, strategy, and strategy of focusing

Knowledge that people acquire in the learning process, exists in the form of images, ideas, thoughts, ideas, theories, concepts, hypotheses, projects, etc. All these forms are the product of sensory, perceptual and intellectual processes that underpin the cognitive activity [6, p. 85–88].

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СОДЕРЖАНИЕ И СУЩНОСТЬ КАТЕГОРИИ «ОТНОШЕНИЕ ЧЕЛОВЕКА К ПОЗНАВАТЕЛЬНОЙ ДЕЯТЕЛЬНОСТИ», КАК ОТНОШЕНИЕ К ОПРЕДЕЛЕННОМУ РОДУ ДЕЯТЕЛЬНОСТИ

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Ключевые слова и фразы: познавательная деятельность; отношение; познавательные действия; типы познавательной деятельности; адаптивный; продуктивный; стратегии процесса познания; стратегия приема информации; стратегия сканирования; стратегия фокусирования.

Аннотация: В статье рассматривается вопрос содержания и сущности категории «отношение человека к познавательной деятельности», как отношение к определенному виду деятельности. Познавательная деятельность рассматривается, как умение учиться, и состоит из разного вида познавательных действий, направленных на получение новых знаний. Также в статье предлагается определение структурных элементов познавательных действий, типов познавательной деятельности, видов стратегий, применяемых в процессе познания.

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УДК 378

Development of Foreign Language Professional Communicative Competence on the Basis of Problem-Modular Technology

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Key words and phrases: problem-modular technology; professional linguodidactics; foreign language professional communicative competence; forms; methods; means.

Abstract: The paper discusses the problem-modular technology of the development of foreign language professional communicativecompetence. Forms, methods and means of its development as well as the stages of modules realization are described.

The change of value orientations in education, its humanization, globalization and internationalization make the problem of pedagogical personnel training up-to-date. In conditions of cross-cultural communication extension it becomes especially urgent for specialists of non-language specialties who are supposed to have sufficient speaking skills and be able to acquire new information, which provides future specialists with the ability to participate in culture dialogue, foreign exchange programs, economic seminars and conferences.

So, the achievement of the goal of a foreign language teaching is connected not only with the ability for cross-cultural communication development but also with the development of the ability for professional communication in poly-cultural area.

The objective social necessity of engineers, scientists and other professionals has led to the purpose of foreign language actualization and modernization of the teaching content in a foreign language for specialists, theoretical systematization of objective knowledge about rapid expansion of a foreign language in the professional sphere. It has provoked the appearance of professional linguodidactics [1].

As foreign language teaching is based on the communication, professional linguodidactics is connected with the theory of communication, which includes professional, business and cross-cultural communication.

Professional linguodidactics is aimed at foreign language professionalization; its application is impossible without appealing to a special subject and knowledge extension which is realized through the means of a foreign language. Besides, professional linguodidactics is realized in the process of professional abilities development – foreign language professional communicative competence; it deals with professional psychology and psycholinguistics.

In fact, professional linguodidactics concerns the research of the strategy of specialists' professional competence development (professional pedagogy) in the process of teaching a foreign language (linguodidactics).

Professional linguodidactics is based both on the generally didactic and purposeful principles of linguodidactics (integrative, interdisciplinary, functional, problem-oriented, continuity, multilevel, modularity, autonomy, selectivity, variation, communicativeness and interactivity) and on the linguo-professional principles (selectivity, foreign language professionalization, internationalization, world level harmonization and advanced foreign language specialization).

The goal of professionally-oriented foreign language teaching is the development of foreign language professional communicative competence. The specification of the goal of foreign language teaching to specialists has led to the creation of a linguo–professional model including general (invariant) components for all the specialties: general, strategic, linguistic, discursive, information, cross cultural, business; and special (variative) component – for certain types of professional communication.

Selection of the forms and methods of professionally-oriented foreign language teaching

(science papers contests, translations and papers on specialty, competitions, projects, speeches at the scientific seminars and conferences) is aimed at the development of creative and research tasks, professional activity modeling, critical and professional thinking. Teaching which fringes a foreign language and some special disciplines, fixes foreign professionalization level and future specialists readiness to participate in a business communication taking into account language and cultural peculiarities of the English speaking countries.

The actualization of the goals of foreign language teaching, selection of the content, forms and methods of professionally-oriented foreign language teaching require developing of the means integrating foreign language content and a special subject.

With the introduction of the state educational standards of “the third generation” it has become necessary to apply problem-modular technology in the educational process. Problem-modular technology involves knowledge mobility, method flexibility and thinking criticality [2]. Problem concept is considered as the necessary thinking development and important motivational and emotional means. Modularity is “the compression” of the learning information (generalization, enlargement, systematization) and its fixation in modules.

The development of foreign language professional communicative competence requires the development of such qualities as dedication, self-organization, as well as the development of problem-solving abilities on the basis of problem-modular technology. That is why the development of foreign language professional and modular technology is very urgent today.

Problem-modular technology allows using the subjective form of teaching and provides students with the development of their motivational sphere, intelligence, self-dependence, collectivism, capabilities, and abilities to realize self-management of learning and cognitive activity. Besides, problem-modular technology supposes explicit structuring of teaching content and provides creation of positive motives owing to the novelty of content, emotional content, learning search organization, personal experience support, overcoming of cognitive problems.

The key characteristic of module textbooks is their concentration on students. A student is an active subject of the learning activity. Module textbooks are created depending on students’ personal abilities, their plans, personal and professional experience. All the material must be represented in a hierarchical form; the transition from one level to another is realized through the monitoring process by testing. It is evident that learning activity success depends on the students’ position in learning activity and the way of its realization. These two key positions should be implemented in the real learning process of module type.

The nominal and quantitative selection of the appropriate syntactic structures, vocabulary, linguistic-cultural factors is supposed to be realized in each module. Each module provides integrated teaching of all types of speech activity making an emphasis on one of them. The choice and sequence of modules is based on specific learning objectives, and the module content is formed in accordance with the level of proficiency.

Problem-modular technology is based, on the one hand, on the given forms of learning process organization and, on the other hand, stimulates students’ individuality development, their creative potential and self-dependence in the process of cognitive activity [2]. Problem-modular technology is closely connected with an individual approach in teaching. One of the main principles is students’ subjective position, initiative transfer to students in organizing and realizing of their learning [2]. The biggest advantage of problem-modular technology is concentration on students’ needs. Problem-modular technology is “polyphonic”, integrating the achievements of the problem teaching theory, “compression” conception and module teaching.

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ФОРМИРОВАНИЕ ИНОЯЗЫЧНОЙ ПРОФЕССИОНАЛЬНОЙ КОММУНИКАТИВНОЙ КОМПЕТЕНЦИИ НА ОСНОВЕ ПРОБЛЕМНО-МОДУЛЬНОЙ ТЕХНОЛОГИИ

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Ключевые слова и фразы: проблемно-модульная технология; профессиональная лингводидактика; иноязычная профессиональная коммуникативная компетенция; формы; средства; методы.

Аннотация: В статье рассматривается проблемно-модульная технология формирования иноязычной профессиональной коммуникативной компетенции, выделяются формы, методы и средства ее формирования, описываются этапы реализации модулей в процессе формирования иноязычной профессиональной коммуникативной компетенции.

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Peculiarities of University Lecturer Reflexivity

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Key words and phrases: lecturers' reflextion; reflexivity as professional and personality quality; reflexivity levels of university lecturer; internality – externality.

Abstract: The article reveals the role and the peculiarities of the lecturers' reflection in a modern university, their reflexivity as professional and personality quality as well as the results of empirical research on studying the connection between reflexivity level and subjective control locus.

Social, political and economic changes of modern society, Russia entering in the world educational space have led to the special requirements to lecturerы, their professional and personality competences. Lecturers must have all the necessary competences for students' teaching and training. It is possible to mark out some contradictions; their disambiguation makes the task of lecturers' reflection research and development easy. They are the following: between increasing demands for lecturer professionalism and the level of their psychological and pedagogical competency which is not high enough; research and pedagogical potential of a lecturer; between lecturer mission and pedagogically unreasonable form of existence in the profession; between lecturer creative recourse and the possibility of its realization; between personality and professional components in scientific and pedagogical activity; between the demand for professional self-perfection and lecturer reflexive culture which is not formed enough; the necessity to analyze scientific and pedagogical activity and the absence of such reflexivity technology.

The reflexivity processes penetrate into all areas of the lecturer's professional activity [2]. They appear in the situations of communication with students, in the process of planning their academic, professional and research activity, at the stage of self-analyses and evaluation of their own independent activity.

There are numerous definitions of reflection in the scientific literature. One of the scientists A.V. Karpov considers reflection as synthetic psychic reality; it is a unique human inherent feature, the state of awareness of something, a process of psychic representation of its own content [1].

Professionally important lecturer qualities are considered as personality qualities which influence their professional activity. The productivity of scientific and pedagogical activity depends on forming these qualities; one of the most important is reflexivity. Reflexivity as personality quality reveals in thinking over everything in life, own and other people acts; as the principle of human thinking, guiding them to the understanding and awareness of their own forms and assumptions; as subject consideration of knowledge, critical analyses of its content and cognition methods; as self-knowledge activity revealing inner structure and person's spiritual world specificity [3].

Reflexivity is connected with lecturer's intention to analyses, awareness, conceptual comprehension of own experience, ability to be an opponent to oneself. Many scientists regard it as the condition of professional development and lecturer self-perfection (A.A. Bizyaeva, A.K. Markova, M.I. Sitnikova and others).

In order to examine lecturers' reflection peculiarities we conducted the empirical research to detect the proportion of reflexivity and control locus. As the hypothesis there was an assumption about the connection between reflexivity and subjective control locus, notably: the higher the lecturer reflexivity level is, the higher their internality level is.

Voronezh State University and Voronezh Air Engineering University became the research bases. There were 115 assistants, lecturers, senior lecturers, associate professors and professors (65 men and 50 women). Their age was from 23 to

69 years old. The lecturers' practical experience was from 8 months to 40 years.

In accordance with the research goals, we used questionnaire method, qualitative and quantitative methods of data processing operation, technique of control locus detection (G. Rotter), technique of reflexivity level detection (A.V. Karpov, V.V. Ponomareva), technique of forming pedagogical reflection level detection (E.E. Rukavishnikova); author's technique "Lecturer pedagogical reflection".

The correlation analysis of connection technique rates was carried out which allowed estimating the degree of manifestation of lecturers' reflexivity and internality level. The results showed that most lecturers (69,1 %) are internals. They tend to think that their successes and failures are not incidental and depend on competency, purposefulness, abilities level and they are the result of the purposeful activity. High level of subjective control over any meaningful situation is peculiar to internals. Internal lecturers feel as active subject of their own activity and their life. It says about their so called inner (internal) control.

The minority of lecturers are externals (30,9 %). These lecturers don't trace the connection between their activity and significant events in their life. They don't consider themselves able to control the development of such events and suppose the events are occasional and other people's activity results. The inclination to attach the reasons for everything around to external factors (such as environment, fortune or occasion) dominates. It proves they have outer (external) control.

The frequency of every reflexivity level in two lecturers groups – internal and external, using the criterion φ^* – Fisher angular transformation was checked. As a result of the correlation analyses low reflexivity level is found with the same frequency both among external and internal lecturers ($\varphi^* = 0{,}808$); below the average reflexivity level is found among internal lecturers ($\varphi^* = 1{,}63$, $p = 0{,}052$); the average reflexivity level is revealed more in the group of internal lecturers ($\varphi^* = 2{,}41$, $p = 0{,}007$); above the average reflexivity level in both groups is found with the same frequency ($\varphi^* = 0{,}401$).

On the basis of these results the connection between below the average reflexivity level and the average level and internality high level was verified statistically. But the connection between high, low reflexivity level and high internality was not confirmed. It should be noticed that internality itself as a personality quality does not determine reflexivity development as lecturer professional and personality quality.

As the result the research hypothesis about the connection between reflexivity and subjective control locus was confirmed partly. The connection exists between factors, but level connections can't be proved identically, it means that the higher reflexivity level a lecturer has, the higher his internality level is.

In conclusion, the average reflexivity level dominates among the lecturers who can prove their interest in the activity and sensible relations with students and colleagues. However, there are some troubles and obstacles to lecturers' professional advancement and development. It is probably due to the lack of time for self-analysis and reflection. The connection between lecturer reflexivity level, their age, official status and special psychological and pedagogical training was not revealed.

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ОСОБЕННОСТИ РЕФЛЕКСИИ ВУЗОВСКОГО ПРЕПОДАВАТЕЛЯ

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Ключевые слова и фразы: рефлексия преподавателя; рефлексивность как профессионально-личностное качество; уровни рефлексии вузовского педагога; интернальность-экстернальность.

Аннотация: В статье рассматриваются роль и особенности рефлексии преподавателя современной высшей школы, его рефлексивность как профессионально-личностное качество; отражены результаты эмпирического исследования по изучению связи между уровнем рефлексии и субъективным локусом контроля.

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УДК 378

Optimization of Attestation Actions on the Basis of the Time Model of Monitoring of Academic Achievements of Trainees

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Key words and phrases: monitoring; rating of trainees; time model; multi-alternative optimization.

Abstract: The paper describes the procedure of designing time model of an individual and group rating of trainees within the limits of monitoring of the results of attestation actions. Using this model the problem of optimization of the number of attestation actions for the planned phase is generated and the approach to its solution is justified.

In educational institutions, the major source of information on the trainees' academic achievements based on monitoring and rating system are the results on the assessment of the portion of the knowledge acquired [1].

The main purpose of monitoring and rating in the academic evaluation of trainees is reaching the level of accomplishment π or the degree of training [1]. Evaluation is based on the fact, that in the course of professional training, a trainee passes a number of transitional stages $\alpha_i, \mathrm{i}=\overline{1,n}$, each of which is characterized by a certain level of accomplishment $\pi_i, i=\overline{1,n,(0\le\pi_i\le 1)}$. His transition from stage a_i to stage a_{i+1} proceeds as a result of acquiring a certain amount of information I_i.

The level of accomplishment is evaluated by not only the amount of information I_i, but the previous stage a_i as well.

$$\pi_{i+1}=F(\pi_i, I_i).$$

The criterion of the level of accomplishment is the degree of correspondence to the standard information required by the curriculum.

$$\pi_i = F(x_i, x_i^э).$$

where x_i – the information, accomplished by the user $x_i^э$ – the standard information.

In the course of training, the material is presented in the form of discrete approximately equal portions. The level of accomplishment is characterized by statistical probability [2]:

$$\pi_i = \frac{M_i}{N_i}$$

where M_i is the number of accomplished portions; N_i is the total number of the portions suggested for the evaluation a_i.

On the basis of the ratio between the accomplished portions in i – subject ($i=\overline{1,n}$) and the total number of the portions suggested for the evaluation of the degree of accomplishment [2], the value of the individual rating of j – trainee is found ($j=\overline{1,\Im}$) for the assessment period T_a^{ki}, where k_i is the number of the assessment period ($k_i=\overline{1,K}$).

$$r_{ij}(T_a^{ki}) = f(M_{ij}, N_i). \quad (1)$$

For each assessment period a possible maximum rating in a subject is evaluated.

$$r(T_a^{ki}) = f(\pi_i^*), \quad (2)$$

where π_i^* is an optimal mean value of the level of accomplishment [2].

According to (1), (2), time characteristics are constructed

$$r_{ij}(\hat{k}_i) = \sum_{k_i=1}^{\hat{k}_i} r_{ij}(k_i), \quad (3)$$

$$r_i^{макс}(\hat{k}_i) = \sum_{k_i=1}^{\hat{k}_i} r_i^{макс}(k_i). \quad (4)$$

The control of assessment process on the basis of monitoring (3), (4) is carried out by the choice

of the optimal number of the test procedures during the planned period $T = \sum_{k=1}^{k} T_a^k$.

The choice is made on the basis of the analysis of the group academic achievements of the trainees in each *i* – subject. The dependence of the group rating on the time "k" appears to be the sum total of the incidental realizations of individual ratings (3). Each *j* – realization of the function $r_i(\hat{k}_i)$ is represented with a subjacent accuracy in following form:

$$r_i(\hat{k}_i) = r(a_0, a_1, a_2, \hat{k}_1),$$

where (r) is the functional dependence on $\hat{k}$, which is analytically expressed, a_0, a_1, a_2 are the parameters of *r* – function.

The sum total of the incidental realizations of *r* – function is considered to be a result of stochastic character of $\tilde{a}_0, \tilde{a}_1, \tilde{a}_2$ parameters. Then, the time model of the results of the trainees' monitoring and group academic achievement look like this:

$$r(\tilde{k}_i) = r(\tilde{a}_0, \tilde{a}_1, \tilde{a}_2, \hat{k}_i).$$

To estimate the numerical characteristics of the mathematical expectation $m(\tilde{r}(\hat{k}_i))$ and dispersion $D(\tilde{r}(\hat{k}_i))$, approximate formulae for estimating on basis of numerical characteristics of the parameters $m(\tilde{a}_0), m(\tilde{a}_1), m(\tilde{a}_2)$ и $D(\tilde{a}_0), D(\tilde{a}_1), D(\tilde{a}_2)$ are used.

Since each *j* – realization represents an increasing function moving to the function $r_i^{\text{макс}}(\hat{k}_i)$, it is useful to use an exponential time model for accounting the sum total of the functions:

$$r(\hat{k}_i) = \tilde{a}_0 - \tilde{a}_1(1 - e^{\tilde{a}_2 k}), \qquad (5)$$

where the method of exponential smoothing is used to determine the model coefficient [3].

On the basis of the real results of $r(\hat{k}_i)$ function monitoring, the following specific features of the model numerical parameters are ascertained (5):

1) A parameter a_0 is characterized by the initial degree of accomplishment π_{ij}^0 [2] and is determined by $a_0 = m(\tilde{\pi}_{ij}^0)$.

2) A relative mean square variation for $\hat{a}_i$, is much less than the same value for $\tilde{a}_2$:

$$\frac{D^{\frac{1}{2}}(\tilde{a}_1)}{m(\tilde{a}_1)} << \frac{D^{\frac{1}{2}}(\tilde{a}_2)}{m(\tilde{a}_2)}.$$

Consequently, the following value of the parameter can be used:

$$a_1 = m(\tilde{a}_1).$$

3) The realization of the incidental value $\tilde{a}_2$ follows the common law of distribution.

$$\Im(\tilde{a}_1) = \frac{1}{\sqrt{2\pi} D^{1/2}(\tilde{a}_2)} \exp\left(-\frac{(\tilde{a}_2 - m(\tilde{a}_2))^2}{2D(\tilde{a}_2)}\right).$$

Then, the numerical characteristics of the function $r(\tilde{k}_i)$ are determined as follows [3]

$$m(\tilde{r}(\tilde{k}_i)) = a_0 - m(\tilde{a}_1)\left\lfloor 1 + e^{-m(\tilde{a}_2)\tilde{k}_i}((\tilde{k}_i)^2 D(\tilde{a}_2) - 1)\right\rfloor$$

$$D(r(\tilde{k}_i)) = \left[m(\tilde{a}_2)\hat{k}_1 e^{-m(\tilde{a}_2)\hat{k}_i}\right]^2 D(\tilde{a}_2).$$

The choice of the optimal number of the assessment procedures k^* during the planned period T is made on the following basis. On the one hand, each test assessment in i – subject on the basis of automotized monitoring – and – rating system requires certain expenses Z_{ki}, expenses for the planned period T must be minimized

$$Z(T) = \sum_{i=1}^{n} \sum_{k_i=1}^{k_i} z_{ki} \to \min. \qquad (6)$$

On the other hand, the assessment materials in each i – subject should be distributed so, that:

$$\Delta r(\tilde{k}_i) = (r^{\text{макс}}(\tilde{k}_i) - m(\tilde{r})(\tilde{k}_i)) \to \min,$$

$$D(\tilde{r}(\tilde{k}_i)) \to \min, i = \overline{1, n}. \qquad (7)$$

Thus, we have multi-criteria ((2n+1)-criteria) optimization problem, the solution to which gives an optimal number of the assessment procedures in each subject during the period T – $K_i^*, i = \overline{1, n}$.

To get a solution, some transformations are needed: the local criteria (6), (7) are changed into the global criteria in the form of the mean weighted collation

$$\psi(K_1, ..., K_i, ..., K_n) = \alpha_0 Z(T) + \sum_{i=0}^{n} \alpha_i \Delta r(k_i) + \sum_{i=n+1}^{2n} \alpha_1 D(\tilde{r}(k_i)),$$

where, $a_i, i = \overline{0, 2n}$ are the weight coefficients, which are up to:

$$0 \le \alpha_i \le 1, \sum_{i=0}^{2n} \alpha_i = 1.$$

Weight coefficients are determined on the basis of randomized algorithm of disposition using

the examination information (4). The value K_i is presented in double calculus, assuming $K \leq 8$.

$$K_i = 1 + x_{1i} + 2_{2i} + 4x_{3i}, i = \overline{1,n}.$$

where $\overline{x_{1i}, x_{3i}} = \begin{cases} 1 \\ 0 \end{cases}$.

In this case, to find a solution, the procedure of a directed incidental serch of the multi-alternative optimization is used [5].

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ОПТИМИЗАЦИЯ ПРОЦЕССА АТТЕСТАЦИИ НА ОСНОВЕ МОДЕЛИ КОНТРОЛЯ УЧЕБНЫХ ДОСТИЖЕНИЙ СТАЖЕРОВ

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Ключевые слова и фразы: контроль; оценка стажеров; модель времени; мультиальтернативная оптимизация.

Аннотация: Статья описывает процедуру проектирования модели времени человека и оценки группы стажеров в рамках контроля результатов процесса аттестации. На основе этой модели разработаны пути решения проблем оптимизации аттестации.

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Psycho-Pedagogical Support of University Students in the Process of Career Strategies Development

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Key words and phrases: psycho-pedagogical support; professional development; career development strategies; subject-to-subject interaction.

Abstract: The article is dedicated to an important problem of psychological and pedagogical support of students in the professional development process; various options, forms, methods and means of psychological and pedagogical support are justified depending on the types of difficulties faced by students.

Psycho-pedagogical support is interpreted as the creation and development of diverse conditions for assisting the subject in making optimal solutions in various life situations, including identifying career strategy; teacher-student interaction, aimed at problem solving in the process of professional formation and career strategies development.

The process of professional growth of university students as well as the development of their future career strategies is actively carried out at the stage of getting higher professional education.

In general, speaking about professional development of a personality, E.F. Zeer interprets this term as the process of forming a personality according to the requirements of professional activity [3]. The following processes of solving professional cognitive, moral, and communicative tasks of students are carried out at university; future specialists acquire business and moral qualities necessary for profession.

The most important component of professional development of university students is the formation of future career strategies. The phenomenon of “professional development” is described in detail and analyzed in psychological and educational literature but the formation of career strategies of university students is still unexplored. Professional development success of a graduate depends on how well a career strategy of a graduate is defined. Taking into account that labor is the leading activity of an adult it is necessary to mention that properly chosen vector of professional development (career strategy) is the basis of life self-determination of a personality. Career Strategy – is an organic part of human life. Conscious Career Strategy building of a university student (future specialist) is the foundation for the most desirable future. This makes importance and relevance of the problem investigation.

Emphasis should be placed on the fact that the understanding of a particular career is always subjective, that career does not mean a success or failure, but for a personal judgment. It’s for an individual who is building a career to judge it. It can be successful in the eyes of an individual, though it may look from outside like a chain of failures and life conflicts.

Mastering the ways of building a career strategy is necessary in order to consciously realize a professional career.

Career strategy includes career goals, their correlation with lifetime values, main principles and rules of implementing career goals.

The fact that a subject may be a career author as well as its object is highlighted in the professional development conceptions.

Currently, there are different criteria for classifying careers and career development strategies consequently.

Subjective criteria are correlated with career value concepts of a subject as well as his or her wishes and perception of a career future development.

I.V. Afanasenko thinks that a successful professional career is closely connected with a successful professional self-concept, which he

represents as a specifically organized system, meaningful and updated in connection with the profession under the influence of subjective or objective factors, including a set of conceptions about themselves and their professional qualifications, conjugated with their emotional estimate [1].

Career building strategy is a particular system of actions intended to develop a career itself and an individual in it, in order to transform an individual to achieve career goals.

There are no universal career strategies. Development of an individual plan to achieve personal and professional goals depends on many factors, including instrumental and terminal values of an individual, mental processes formation features (cognitive, emotional, volitional), mental personality traits (temperament, character and abilities), mental components (knowledge, skills, experience, attitudes).

Formation of career strategies of university students is the process of informed personal choice of one or more career vectors based on value orientations, assessment of existing individual psychological characteristics, potential and actual achievements.

The period of getting higher professional education that is also the time for the future professionals to develop career strategies, is noted for some obstacles emerged due to the solution of tasks concerning choosing an individual route to achieve personal goals. These goals are based on several groups of contradictions: the contradiction between existing and required level of knowledge, skills, techniques that enable a student to realize current goals; the controversy about the definition and evaluation of their life perspective: between being able to express themselves in different activities and the need for self-restraint requirements, between the leaning towards the profession and the awareness of their overall development level; the contradictions associated with the assessment of their professional aptitude: between interests and abilities, professional ideal and self-esteem, between the level of aspirations and actual capabilities, between specifics of health, character, habits and requirements of the profession.

All the foregoing provides the necessity of psycho-pedagogical support for students in the process of the development of career strategies.

Psycho-pedagogical support is interpreted as creation and development of diverse conditions for assisting the subject in making optimal solutions in various life situations, teacher-student interaction, aimed at problem solving in the process of professional formation and career strategies development.

Psycho-pedagogical support of a student in the career strategy developing process is implemented through the set of methods, techniques and tools of social impact on an individual, aiming to create the system of certain relationships, value orientations, beliefs and professionally significant qualities. It's important to recognize that forecasting itself into the future, the personality itself generates. Therefore, from the great variety of psychological and pedagogical support tools, it's necessary to select only those that are specific to the individual in terms of vital importance; distinguish those value-meaningful objectives of student life that will help to realize the rights and responsibilities for student lives; create appropriate conditions for all the participants of a problem situation to be able to resolve it.

In the process of psycho-pedagogical support of university students, their individual aptitudes are actively engaged in activities. Students are able to practically fulfill their potential, to demonstrate internal locus of control, what contributes to consistent achieving of life goals: personal and professional as well as overcoming difficulties and obstacles in personal problems solving.

Overcoming of obstacles is determined by the key concept of psycho-pedagogical support due to the following reasons. First, realizing the phenomenon of "being an individual", a student is not always conscious and purposeful. Everyday obstacles can develop into problems that occur on a spontaneous and emotional level, which forces to seek assistance from teachers. Conduct regulations as a traditional form of assistance alienate students from teachers, increasing complexes of dissatisfaction with themselves and teachers. Secondly, the phenomenon of the battle "I" – the real and "I" – the ideal is implemented in successful overcoming of obstacles, which leads to self-identity and self-determination, which again need support [4]. Thus, overcoming of obstacles is a part of psychological and pedagogical support. For successful overcoming of obstacles, for development of intellectual, moral, emotional and volitional potential it is necessary to create conditions in which a student should be able to act, to make an informed decision in the process of professional development to form a career strategy.

Psycho-pedagogical support of students in the process of career strategies development includes various options for student – teacher interaction:

– information and analytical maintenance of separate stages of professional development;

– development and self–projection of particular stages of the formation of career development strategies;

– psychological support and assistance of a student personality in overcoming of difficulties in professional development;

– assistance in crisis bailout and stagnation in identifying professional plans;

– correction of socio-professional and psychological profile of the personality of a future professional, etc.

There are four conventional groups of student problems in the process of professional formation and development of career strategies and four types of psychological and pedagogical support for future professionals respectively:

– information and analytical;
– diagnostic (in self-cognition);
– moral and emotional support;
– assistance in choice and decision making.

Each of these problems can be solved at different levels of complexity:

– the problem is solved without a student (passive position of the student, the student is not yet a “subject” of choice, subject-object interaction);

– the problem is solved “together” (in collaboration) with a student (subject-to-subject interaction, it’s necessary to come to dialogue, interaction and cooperation (in case of success the student is already a subject of the career strategy development process);

– progressive formation of student willingness to solve problems by themselves (the student becomes the real subject of a career strategy development: subject-object interaction between student and teacher) [2].

Psycho-pedagogical support is flexible and diverse. It has a single conceptual framework, but suggests a tactical variety. The teacher designs and implements its activities by examining the ratio of students to the problem, taking into account the problem nature, occurrence circumstances as well as conditions which may affect the student's desire to act, to develop a career strategy. These makes volumetric representation of the problem and necessary actions, various tactical steps associated with the specific situations.

Psycho-pedagogical support helps students to find and understand their problems, stimulates the development of professional identity, highlights the strengths and weaknesses of a personality and outlines real-life scenarios of future professional life.

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ПСИХОЛОГО-ПЕДАГОГИЧЕСКОЕ СОПРОВОЖДЕНИЕ СТУДЕНТОВ ВУЗА В ПРОЦЕССЕ ФОРМИРОВАНИЯ КАРЬЕРНЫХ СТРАТЕГИЙ

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Ключевые слова и фразы: психолого-педагогическое сопровождение; профессиональное становление; формирование карьерных стратегий; субъект-субъектное взаимодействие.

Аннотация: В статье анализируется актуальная проблема психолого-педагогического сопровождения студентов в процессе профессионального становления; обосновываются различные варианты, формы, методы и средства психолого-педагогического сопровождения в зависимости от типов затруднений студентов. Психолого-педагогическое сопровождение рассматривается как создание и развитие разносторонних условий для принятия субъектом становления оптимальных решений в различных ситуациях жизненного выбора, в том числе, выбора карьерной стратегии; субъект-субъектное взаимодействие педагога и студента, направленное на разрешение возникающих проблем профессионального становления студентов вуза.

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Psychological and Pedagogical Support of Students' Self-Development in Professional Development

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Key words and phrases: psychological and pedagogical support; self-development of a student's personality; self-evolution; self-consciousness; goal-setting; professional development.

Abstract: The paper discusses the importance of psychological and pedagogical support of self-development of a student's personality in the process of professional development while studying at university. Self-development is considered as an activity of self-evolution in accordance with the image of a professional future. Self-development is possible if there are basic psychological acquirements such as self-consciousness, goal-setting, planning, and forestalling of the results of personal activity. Psychological and pedagogical support is aimed to determine goals, opportunities, and means of overcoming difficulties, which keep a student from reaching a success himself.

In the process of the professional evolvement the personality of a student is seen as relatively autonomous and complicated phenomenon, having its own way of development and self-development. The understanding of pedagogical support of self-development of a student's personality is possible only under the conditions of humanistic paradigm of high education. This process is a subject of special educational work which should help a student to become more active and independent in the process of professional formation and provide him with moral and educational values.

Psychological and pedagogical support of a student's personality self-development in the process of professional development contributes to the inner conditions (attitudes, values, needs), encourages development of the individuality, creates friendly external environment for the development and establishes the humane micro social environment as a result of an active cooperation of teaches and students. A teacher's understanding of the individuality of a student helps to establish a motivating environment which stimulates his self-development. [1]

Self-development is a fundamental ability of a person to be and to become the doer in his own life, the ability to convert his life-sustaining activity into a practical form. The act of development (L.S. Vygotskiy) is associated with the development of a social situation which can be understood as a person's interaction with the environment. Social development takes place when the person himself experiences all the things that are given to him and what is given suits his inner ambitions. This social development in the process of studying is the forestalling of the natural activity of the personality of a student and modeling of the relevant forms, methods and means of the realization of his inner ambitious.

The higher professional education in this case is the natural environment in which the development is performed. It determines the general direction of the self-development. Pedagogy and psychology understand self-development as a self-promotion which goes beyond the spontaneous changes and moves to a higher level. Self-development of a college student in the process of professional growth is the development of his Real Self and a means of searching of forms and methods used to learn new levels of life. In this context we consider self-development as a socio-cultural process of self-determination, self-education and self-teaching which are focused on successful self-realization in the future profession. Goal-setting, planning, forestalling of the results of personal activity, self-consciousness are the basic psychological forms of the student's personality on which the process of self-development is based since its driving force is the conflict of motives, overcoming the contradictions between goals and means of meeting goal objectives, between the ambitions

and internal and external opportunities [2]. The main point of psychological and pedagogical support of a student is to set goals together, estimate means of overcoming difficulties in the process of self-development in the professional development at university.

Psychological and pedagogical support which is connected with the student's self-development cannot be standardized, for the most important role here is played by the student himself – the doer of this process. It is focused on the development of his individuality, the choice of his own way for the professional development, conflict resolution by the means limited for his personality. The main principles of psychological and pedagogical support are the principle of understanding the personal psychological peculiarities of a student, the agreement of a student to get pedagogical help, kindness, and confidentiality, lack of judgment, advisability, and focus on the person's ability to overcome the difficulties himself. The teacher's job in the process of psychological and pedagogical support is to make conditions for the self-development of the student's personality, to help him understand his professional future, to create a way of his professional realization. A teacher provides help in the realization of the values, goals, and perspectives of the self-development, inspires critical attitude (self-consciousness) to the individual peculiarity and the requirements for the future profession, creates special conditions to involve a student into the process of self-development, helps to learn methods and mechanism of self-development, helps to overcome internal and external obstacles.

Psychological and pedagogical support of self-development of a student's personality during professional formation relies on the student's inner resources required to reach a goal. A teacher together with a student makes a decision about the need for self-development. A student is given an opportunity to answer such questions himself: What will happen if I reach the predefined goal? What will happen if I don't reach the predefined goal? What will not happen if I reach the predefined goal? What will not happen if I don't reach the predefined goal? A teacher helps a student to make the informed choice, to realize that the goal is real, essential and reachable.

It is important to have equitable relationship between a teacher and a student that is they have the same rights and the relationship between them is nonviolent. Such relations become a daily activity in the territory of the university, which they create and develop together for their own purposes [3].

In school practice we use psychological and pedagogical support as a universal method of the development of the equitable relationship between a teacher and a student, on which efficient and successful personal development of a student as a future professional is based. The philosophic ground of this support is the concept of a free choice as one of the main factors of the development. Development is understood as an informed choice, mastering of the professional skills, and different ways of the professional formation. Each choice provokes numerous of solutions depending on different circumstances.

Thus, psychological and pedagogical support of self-development of a student's personality encourages more effective professional growth and successful professional future.

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ПСИХОЛОГО-ПЕДАГОГИЧЕСКОЕ СОПРОВОЖДЕНИЕ САМОРАЗВИТИЯ ЛИЧНОСТИ СТУДЕНТА В ПРОЦЕССЕ ПРОФЕССИОНАЛЬНОГО СТАНОВЛЕНИЯ

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Ключевые слова и фразы: психолого-педагогическое сопровождение; саморазвитие личности студента; самостроительство; рефлексия; целеполагание; профессиональное становление.

Аннотация: В статье обосновывается необходимость психолого-педагогического сопровождения саморазвития личности студента в процессе профессионального становления на этапе обучения в вузе. Саморазвитие рассматривается как деятельность по самостроительству в соответствии с образом желаемого профессионального будущего. Саморазвитие возможно при наличии основных психических образований: рефлексии, целеполагания, планирования и предвосхищения результатов собственной деятельности. Психолого-педагогическое сопровождение этого процесса направлено на определение целей, возможностей и средств преодоления препятствий, мешающих личности студента самостоятельно достигать успеха.

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Training Sessions in Teaching Professional Lexicon to Economics Students

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Key words and phrases: method; trainings; property right; market demand; versatility; excludition; transferability; procurement; professional lexicon.

Abstract: The paper discusses the role of training sessions as interactive methods of education in teaching professional lexicon. The aims, the procedure and the results of practical application of training sessions are presented.

The development of the new conception of higher education, which is aimed at the formation of future expert's competence, dynamism, the ability to change and develop, solve new problems, is considered as one of the key aspects of scientific work in the theory and methodology of professional education. Training of highly qualificated specialists, able to compete at national, European and global labor markets requires improvement of higher education and educational process, as well as improvement of its efficiency and quality.

Studies conducted in the 80-s by the National Training Center (U.S. Maryland) showed that interactive methods dramatically increase the percentage of acquired knowledge. It is appropriate to cite a Chinese proverb: "Tell *me* and I *forget. Show me* and I remember. Involve *me* and I understand". High potential of interactive methods makes it possible to organize group discussions, to shape and develop skills in the classroom and in real life. One of the interactive teaching methods is training session. The role of training sessions in teaching professional lexicon to the students of economics is enormous. Below we present one of the training lessons.

Topic of the Lesson: Property Rights

Capitalism is based on the idea of private property – the ownership and control of individuals over the resources and products. If the property rights are clearly defined and securely protected, the system ensures the best use of resources in terms of value.

Lesson objectives

1) describe the characteristics of clearly defined property rights;

2) analyze the impact of ownership on the distribution of resources.

Materials needed: 50 small pieces of paper, 50 ten tenge coins, the roll of sticky tape (color scotch), free space.

The procedure for conducting classes

1. Explain to the students that this exercise provides another example of how property rights affect incentives (and this case is not the condition of universality, given in the "Guide to Property Rights"). Ask 9 volunteers to run a profitable operation. Volunteers need to come to the cleared space and form a circle. This circle must be at least 2 meters in diameter (if possible more). Take 50 pieces of paper and throw them on the floor inside the circle. Tell the students that they will get paid for picking up these pieces. There will be 2 periods, during which they will be able to do it. In the first period they will get 10 tenge per each collected piece of paper, while in the second period they will get 20 tenge for each piece of paper. Emphasize that during the second period they can collect only those pieces that they haven't picked up in the first period. Finally, note that each period will last only one minute, and that they have to submit the pieces of paper in the period when they were collected.

2. Ask whether all the conditions are clear, then start the first period. Although they can start

all sorts of conversations (tricks) about how to wait, soon someone will start to collect pieces as quickly as he or she can, and others immediately will join. As a result, all the pieces will be collected in the first period. Pay to every student for the number of collected pieces of paper.

3. Then with opaque sticky tape divide the floor area into 9 squares. Let each of the students occupy one square. Scatter the pieces of paper on the floor so that they fall into different squares. If some pieces fall on the dividing strip, move them to a particular square. Tell the students that they will repeat the game again and you will pay 10 tenge per each piece of paper collected during the first period, and 20 tg of each piece of paper picked up in the second period. However, at this timestudents are allowed to pick up only those pieces that are within their own square.

4. Start the first period. It is not surprising that this time not a single piece will be collected. As in the first period the pieces have not been collected, and money, respectively, has not been paid, start the second period. The pieces of paper will be slowly collected. Thank the students for their participation and tell them that the second period will to start as soon as you win the lottery. Pay everyone according to the number of pieces of paper they have collected. Thank the volunteers and ask them to return to their seats.

5. Ask a question: if the goal of the society is to get the most of its limited resources (i.e. efficiency of resource allocation), then when is it time to pick up the pieces of paper? (In the second period, as the willingness and ability to pay for them in this period is twice as much).

6. Note that this occurred during the second round of the game, but not during the first. Ask: What was the difference? (The second time property rights were defined).

7. Ask students a question: how the definition of the property rights has changed the incentives of the players? Discuss the answers. (Since in the second round the players could control the time, when they collected their pieces of paper, they benefited from the waiting time. In the first round waiting could cost them the opportunity to get anything at all.)

8. Draw the analogy between this game and the hunting for whales (the floor is “the ocean”, the pieces of paper are “the whales”, and the students are ‘the whalers”). Draw the students’ attention to the fact that no one has incentives to manage or control the stock of whales, because no one owns them and cannot control their available to others.

Thus, we can trace the connection between excessive production of whales and the lack of clear definition of property rights.

9. Ask students a question: What other resources are similar to the whales? You can help the students, suggesting the ideas about the ownership of the air in the classroom. (Possible answers might include: air, surface, water, oil, different kinds of animals: eagles, deer, coyote, duck, tuna, etc.)

10. Ask students a question: what assumptions can be made on the basis of the game about the use of these resources without any outside interference? (They can be used in excessive quantities and (or) be used too quickly in terms of allocation efficiency).

11. At the end of the session tell the students that in their expectations they assumed that their property rights will be ensured by the trainer. Thus, you can also discuss the condition of ensuring property rights.

Guidelines for property rights: the market demand curve reflects the value of the product, and the market supply curve reflects the price of this product only if we can meet all the following conditions. If these conditions are satisfied, the equilibrium quantity formed by the market is also the effective amount in terms of resource allocation. But few of the really existing in the world markets have reached 100 % compliance with these conditions. Nevertheless, the use of clearly defined property rights in the markets as the basis for making public policy decisions in resource allocation can bring us closer to the allocation efficiency than deviation from these principles.

Characteristics of well-defined property rights

Versatility. All products, services and resources are privately owned, and all the privileges and restrictions on their use of fully defined.

Exclusiveness. All benefits and costs of the ownership or the use of goods and resources belong exclusively to their owners. Their transfer to other persons can be effected only through the act of sale.

Transferability. All property rights may be transferred from one owner to another.

Procurement. All property rights are protected against unauthorized capture or control by others.

Thus, training sessions play a great role in teaching professional lexicon; it is teaching in action, which significantly improves the quality of education.

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ИСПОЛЬЗОВАНИЕ ТРЕНИНГОВ ПРИ ОБУЧЕНИИ ПРОФЕССИОНАЛЬНОЙ ЛЕКСИКЕ СТУДЕНТОВ ЭКОНОМИЧЕСКИХ СПЕЦИАЛЬНОСТЕЙ

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Ключевые слова и фразы: методика; тренинги; права собственности; рыночный спрос; универсальность; исключаемость; передаваемость; обеспечиваемость; профессиональная лексика.

Аннотация: В статье рассматривается методика проведения тренингов на занятиях при обучении профессиональной лексике студентов экономических специальностей.

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Research and Creative Technologies of Teaching Music

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Key words and phrases: research and creative technologies; creative activity; research; personality development components.

Abstract: The authors of the article present their own viewpoint on research and creative technologies in musical activity, dwell upon their distinguishing characteristics, framework including macro-technologies, meso-technologies, and micro-technologies and reveal their specific features.

Research and creative technologies of music teaching are thought to be a theoretically-based, optimally active organization of learning process combining musical and creative resources of cultural and educational environment of an educational institution and the creative potential of a student's individuality.

The essence of research and creative technologies is revealed by the analysis of methodological approaches and definitions of the notion "creative work" suggested by L.S. Vygotsky, D. Johnson, Y.A. Karpova, S.L. Rubinstein, D.V. Chernilevsky, and others; "research" suggested by N.I. Kondakov, V.V. Kraevsky, K. Marx, A.I. Rakitov, F.V. Chernilevsky, and others; "heuristics" suggested by V. I. Andreev, Y.K. Kulyutkin, D.P. Pospelov, and others.

L.S. Vygotsky looked upon creative work as a process of producing something new. "In its broad meaning creative work is any practical or theoretical activity, which ensures new results at least for the doer of the activity" [1]. At the same time, scientists believe that production of something new by the doer of the creative activity requires some particular internal work aimed at changing well-established relationships, situations, behavior and mentality stereotypes, conceptual mindset, and values as well as to be able to see the problem from different angles and viewpoints.

On the one hand, creative activity results in a new product, and on the other hand, it leads to a change in the doer of the creative activity. D.V. Chernilevsky emphasizes that "the most significant result of creative activity is not the production of original material values but stimulation of new qualities of the doer, transformation of the doer of creative activity, changes in his inner world which are bound to manifest themselves in a person's creative behavior" [2].

N.I. Kondakov [6] regards the notion "research" as a scientific study of an object in order to obtain new knowledge; an important and compulsory element of it is to determine and understand the laws of the further development of the object in question. In pedagogy, research is conceived as a process and result of scientific activity intended to acquire socially relevant knowledge of laws, structure, mechanism for teaching and education, theory and history of pedagogy, methodology of academic and educational work, its organization, principles, methods, and forms" [2].

The research process is based on a holistic unity of methodological approaches, previous experience, the use of adequate tools and methods to the object under study. According to N.M. Borytko, V.I. Zagvyazinsky, V.V. Kraevsky, A.I. Rakitov, and others, the main components of the research are goal setting, problem specification, task formulation; analysis of the available knowledge, factors, conditions, methods of problem solution; hypothesis suggestion; projection, planning, organization and conduct of an experiment; analysis and generalization of the results achieved, mathematical verification of the hypothesis on the basis of the data collected; an outline of new facts, phenomena, and conclusions.

The research deals with methods appropriate for different levels of methodological education:

7. philosophical level (methods of dialectic materialism, phenomenology, existentialism, etc.)
8. general scientific level (analysis, synthesis,

induction, deduction, analogy, axiomatization, etc.)

9. specific scientific level (methods characteristic of pedagogy and music teaching: narration, musical illustration, dialogue, heuristic methods, etc.)

10. technological level (a set of operations and procedures which allow to obtain reliable empirical data).

“Heuristics” is the science of creativity, in the narrow sense it is the science that studies the laws and methods of seeking and finding solutions to complex problems. Heuristic methods help a student to find the correct solution and reduce intellectual problems to a few options. V.I. Andreev says: “Heuristic methods are a system of heuristic rules in teaching (methods of teaching) and studying (methods of studying) designed in the view of the laws and principles of pedagogic management and self-management in order to develop students' intuitive procedures of activity in performing creative tasks” [7].

It is creativity and thinking that ensure the personal growth of the doer of the creative activity. “However, creative activity presupposes that the doer has abilities, motives, and skills which enable to find a great number of solutions to a problem under the same conditions and factors and find a consistent solution in a controversial situation” [2].

Since creative thinking manifests itself in the ability to understand and tackle research and creative tasks, it is necessary to dwell upon different aspects of a musician's mindset which can be classified according to a subject and functional characteristics.

In music practice the specifics of mindset have a unique character which is determined by the way reality is mirrored in musical images in terms of artistic generalizations closely connected with the individual's emotional state. The fundamental principle of musical mindset is thought to be intonation perception of music (essence) which helps to reveal expressive musical means, to understand the subject matter of a musical piece, the composer's or the performer’s style, the taste of the age. Thinking operations enable us to follow the logical structure of sound combinations, to compare and contrast, to identify the interrelations, and on the basis of judgments to form concepts which result in better comprehension of musical reality than that through senses (sensation, perception, and notion).

Research and creative technologies of music teaching focus on individuality of the educational process which is distinguished by humanistic values of pedagogy. The major values of music teaching are not certain musical knowledge, but individual study meaning in a student's life, not certain abilities, but individual peculiarities, independent music practice and academic life, and musical experience of an individual; not educational requirements, but musical and pedagogical support, cooperation, and civilized dialogue between a teacher and a student; not the amount of knowledge, or information obtained in musical sphere, but general musical and aesthetic development, a student's self-development and personal growth [4]. S.V. Kulnevich points out that the prevailing educational processes are shaping personal values of study and life; musical and skill-developing teaching; pedagogical support during individuality formation; a student's musical and aesthetic development.

The content of individuality-oriented music teaching should include necessary components to develop personality: personal, axiological, cognitive, creative activity ones.

The personal component is the backbone of individuality-orientated music teaching. Besides, it provides an opportunity to get to know oneself, to advance one's reflection, to acquire different methods of self-determination and self-improvement as well as self-regulation, subjective viewpoint formation.

The axiological component allows choosing a personally significant scheme of values, personal meanings in the field of music.

The cognitive component encourages obtaining scientific knowledge about man, nature, culture, art as the basis of individual musical and aesthetic development.

The creative activity component prompts the formation and development of different methods of activity and musical abilities necessary for students to realize their potential in music study.

Research and creative technologies in music teaching have their own qualitative specificity which shows a variety of well-ordered successive operations, procedures and actions aimed at acquiring new knowledge of music, creative and research skills, and forming students' personal qualities which are specified by the goals of teaching: critical thinking (an ability to evaluate a musical phenomenon from their perspective on the situation), reflexivity (an ability to consider,

analyze, study music by comparing their self with some events and realities of life), conflict searching (an ability to find out and analyze obscure causes of a musical phenomenon, discover contradictions to artistic values), self-actualization (a high level of creative potential manifestation, an intention to show and develop their personal capabilities), etc.

Based on creatively productive music and analytical tendency of music teaching, research and creatively technologies rely on cognitive, creative, organization analytical types of activity [3], which enable students to understand the world of musical art, execute creative products, find appropriate methods of grasping musical reality, elaborate their own line of music teaching. Research and creative technologies of music teaching develop musical and analytical, theory-orientated aspect of music teaching, and also ensure knowledge transfer to practice, provide musical and cultural educational environment which stimulates a musician's personality development, creative thinking formation as well as fosters will and life strategy.

When studying the framework of research and creative technologies of music teaching, we can point out three subordinate classes according to the levels of the human activity framework: macro-technologies (macro-big), meso-technologies (meso-intermediate), micro-technologies (micro-small).

Research and creative macro-technologies of music teaching deal with the teacher's and students' activity when it comes to a Master's program, specialization, course, etc. Take for instance, research and creative technologies for the courses of Arrangement, Polyphony, Musical instruments analysis, etc.

Research and creative meso-technologies are aimed at specific didactic tasks. For example, research and creative technologies in teaching a particular topic (Beethoven's Sonatas, Chaikovsky's Sixth Symphony, etc.), a class (the works of art and their role for development of the students' values), a practical class (Spontaneous selection of an accompaniment), knowledge assessment, etc.

Research and creative micro-technologies are aimed at solving problems and refer to individual and personal interaction of the subjects in teaching process. For example, research and creative technologies fostering abilities to analyze, forecast the results, set harmonious sequences, compose melodies, write annotations, analyze musical and performance practice, etc.

According to some educators (S.V. Kulnevich, V.I. Leschinsky, V.V. Serikov, and others), technology is a model of realizing a pedagogic conception. Since individuality-orientated education means supporting the development and self-development of personality, “providing the conditions for actualizing personal consciousness patterns it requires a technology focused on the individual” [4].

Abstract:

The authors of the article present their own viewpoint on research and creative technologies in musical activity, dwell upon their distinguishing characteristics, framework including macro-technologies, meso-technologies, and micro-technologies as well as reveal their specific features.

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ИССЛЕДОВАТЕЛЬСКО-ТВОРЧЕСКИЕ ТЕХНОЛОГИ ОБУЧЕНИЯ МУЗЫКЕ

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Ключевые слова и фразы: исследовательско-творческие технологии; творчество; исследование; компоненты развития личности.

Аннотация: Автор статьи предлагает свой взгляд на исследовательско-творческие технологии музыкальной деятельности, рассматривает их сущностные характеристики, структуру, состоящую из макротехнологии, мезотехнологии и микротехнологии, а также раскрывает специфические особенности.

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The Systematic Approach to Studying the Process of Continuing Music and Pedagogic Education

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Key words and phrases: system; systematic approach; system components; philosophical analysis.

Abstract: The author of the study examines some of the historical, pedagogical and philosophical aspects of the systematic approach and also provides categorical-conceptual analysis of the problem. The researcher examines some of the components of continuing music teacher education within the framework of changing approaches to teaching.

One of the features of modern pedagogy is not the study of a particular area of pedagogic practice, but its exhaustive investigation covering a wide range of effects of both internal relationships and external related systems.

An important tendency promoting the study of pedagogic phenomena appears to be its methodological framework. The ideas of the systematic approach are deployed in biology, ecology, psychology, pedagogy, cybernetics, management, sociology and are in the foreground of many areas of science, contemporary scientific research, and musical pedagogy in particular. What unites these different tendencies within the systematic approach is the core notion of "system". The polysemy and capacity of the notion which enable to combine a wide variety of activities having something in common, created prerequisites for its transformation into a philosophic category [1, p. 32].

Books on pedagogy often provide such notions as the system of educational purposes, the system of knowledge, abilities and skills, the system of educational methods, etc. Under the systematic consideration an object (a phenomenon, process, relationships) is regarded not as a number of parts but as a single entity. According to N.M. Borytko, as a component, a systematic object is included not in one system but several holistic qualitatively different systems [2, p. 43]. Investigating the pedagogic process as a system, V.A. Slastenin comes from the fact that its component composition is identical to that of the pedagogical system. He supposes that the pedagogic process as a system is a deliberately arranged interaction between a teacher and pupils using necessary means in order to solve educational tasks aimed at satisfying the society needs for the well-rounded individual and the individual's needs and interests [3, p. 14–16].

V.N. Sadovsky maintains that "the systematic approach as a special methodological conception is intended to elucidate generally scientific, interdisciplinary scientific notions, methods and ways of studying systematic objects" [4, p. 39]. In A.G. Asmolov's view, the systematic approach serves as "a link between philosophic methodology and methodology of particular sciences" [5, p. 76].

The introduction of the systematic approach stems from the necessity to synthesize knowledge in different areas of science in order to provide a cohesive portrayal of the succession process in continuing professional musical and pedagogic education.

The systematic approach was first mentioned in Austrian biologist Ludwig von Bertalanffy's works on the general systems theory in the 40s of the 20th century. He formulated the tasks of general systems theory as follows: "The subject of this theory consists in determining those principles which are relevant to the whole system ... We can focus on the principles applying to systems in general, regardless of their physical, biological, and social nature. If we set the task and define the notion system properly, we will find out that there are models, principles and laws which apply to generalized systems, regardless of their type, elements or "forces" constituting them" [7, p. 256–257].

M. Mesarovich, the author of one of the versions of the general systems theory, wrote that "the general systems theory must be general to cover all various existing specific theories. In this view it must be abstract enough so that its terms and notions could be interpreted in all more specific areas. It is clear that the more abstract a statement is, the wider range of objects it refers to, at the same time, it offers less information about the framework of a particular system. Therefore the most challenging thing about developing a general theory is a choice of the necessary level of generalization or abstraction. The notions of this system should apply to a wide range of systems, however, they should enable us to come to conclusions with enough information to understand the specific matter in question adequately" [8, p. 18].Though the general systems theory is of great philosophic significance, according to G.I. Ruzavin, it cannot substitute philosophy as a broader and more cohesive view on the world.

In view of the systematic approach it is possible to find adequate solutions to such traditional problems of science methodology as capabilities and boundaries of reductionism (data of one theory applying to another one to a certain extent), scientific ideas synthesis (unification of the main ideas, notions, conceptual system principles), confirmation and refutation of hypotheses (when confirmation of a hypothesis significantly influences other hypotheses logically related to the first one).

Differentiating the stages of philosophic outlook development, M.S. Kagan [9] points out that systematicity means completion, integrity of the parts (since the mid-19th century), and systematic approach implies revealing the integrity of an object by determining various types of relationships in it and bringing them together to form a unified theoretical picture on the basis of particular general principles of cognitive activity (since the mid-50s of the 20th century).

At the category and notion level N.V. Bordovskaya dwells upon three components as the specific characteristics of the systematic approach: system with its focus on the content and meaning aspect and anthological aspect of the systematic approach use in pedagogy; the principle of systematicity which deals with the procedural and outlook regulatory aspect of the systematic approach; system analysis which is a method of scientific research revealing instrumental and methodical aspect of the systematic approach application in science and practice.

Various system researches suggest the following characteristics of the system: integrity, structural character, interrelation with the environment, either open or closed by nature, hierarchical pattern, description versatility, the state of the system, purposefulness, self-organization, etc.

A.G. Kuznetsova [10, p. 7] points out that researchers call the events dating back to the mid-20th century a paradigm change, methodological upheaval, the advent of new scientific thinking resulted in a trend called systematic approach which generated about 50 interdisciplinary sciences and theories, unified by a broad notion "systems theory and methodology of systematic research" or "systemology".

Thus, V.N. Sadovsky refers to many elements as a system as they are related to one another and form an integrity or unity. He maintains that every object can be regarded as a system. Every system is characterized by connections and relationships between its constituents as well as its inseparable unity with the environment, which helps to reveal integrity of the system.

The major feature of the system in musical and pedagogic education is its integrity which manifests itself in the quality to unify all its constituents when their combination acquires the qualities and features different from those of separate elements. The process of developing integrity is closely connected with two contrasting phenomena which facilitate the integrity of an object: integration and differentiation. Unity and conflict of these two processes ensure formation and development of integrity.

In order to illustrate understanding and manifestation of integrity and development of a pedagogic object it is necessary to understand the educational potential of an institution in the context of opportunities for development, which is determined by the employed model of educational musical and pedagogic activity; the type of educational process management; the faculty's aspiration for self-education and professional qualification advancement. In terms of continuous music and pedagogic education, every preceding educational stage should represent and realize the potential of an educational institution which could become a basis for achieving a higher level.

Primary music education (a kindergarten, secondary school, art school etc.) lays the

foundation for professional music education (Music College, Music and Teacher Training College, etc.) which also offers an opportunity to enter a music and pedagogic institution of higher education. A properly organized hierarchical system of continuous multi-level music and pedagogic education possesses all necessary structural elements with certain qualities which are interdependent, interrelated and appear to be integrally united, and on these grounds it can be considered a cohesive inseparable system.

The interrelation of the components in the continuous music and pedagogic education system is impossible without their harmonious coexistence. N.V. Bordovskaya [6, p. 46] defines harmonization as non-contradiction, adequacy, agreement, coherence of the whole and its constituents. Laxity or destruction of relationships lead to integrity violation, and as a result, decline in continuing multi-level preparation system of the music teacher, and choir culture development as well.

State federal standard of higher professional education, specialization 050100 “Pedagogic education” includes a lot of requirements for university graduates which mainly concern general culture. It is the standard that is aimed at enhancing academic aspects of music teacher training (extending socioeconomic, natural sciences and mathematics cycles), It causes deterioration in psycho-pedagogic, performance, technological, methodical, and in particular, practical academic and pedagogic activity which can result in lack of practice-orientated pedagogic activity for a music student in a secondary school.

According to N.V. Bordovskaya, another category of the systematic approach is the principle of systematicity. First of all, it is thought to be a way to realize the systematic approach while analyzing or creating a new pedagogic object which is a system different from the total of its constituents and having a particular structure. Secondly, it is a way to interrelate participants of the pedagogic process. The content of this principle is subordination of elements relationships and the character of relationships between the system and other objects, its purposes and tasks. Consequently, the principle of systematicity, which manifests itself in dominance of integral knowledge of a pedagogic object, presupposes that all components of a particular pedagogic system are revealed and this object is studied in regard to system forming connections, hierarchical relationships and structural characteristics. In terms of music pedagogy the principle of systematicity is considered as the leading component of the music teacher training which harmoniously combines different activities (playing a musical instrument, singing, orchestra conducting, etc.) used for establishment and creative development of a choir team which is a way to apply the systematic approach as well as to promote creative collaboration in a new pedagogic object.

The third category of the systematic approach is the systematic analysis, which is sometimes used as a synonym of the systematic approach. In its narrow meaning, it is regarded as “a combination of methodological means used for preparing and justifying solution to complicated scientific and practical problems” [6, p. 52]. There are different types and levels of the analysis. It depends on the area of pedagogy in which analytical procedures take place; so the analysis can be historical and pedagogic, social and pedagogic, comparative and pedagogic, etc. In our study we use psycho-pedagogic analysis. Analyzing a pedagogical object, the researcher describes the leading music teachers' experience, conducts structural and functional, systematic and integrative analysis of professional pedagogic activity aimed at solving a number of pedagogic problems, for example, the system of student creative activity formation, system of youth patriotic education by means of musical art, etc. In terms of its cognitive attitudes, the systematic approach has much in common with the structural and functional analysis, which also focuses on studying various relationships of an object. However, the principles of the systematic approach have a more flexible and extensive content. As a general scientific area of methodology the systematic approach is not directly engaged in tackling philosophical problems, still it involves philosophical interpretation of its postulates. The history of the systematic approach formation proves that it is closely connected with the functional ideas of materialistic dialectics, i. e. it is specification of dialectic principles [6, p. 53].

Thus, the philosophical view on the systematic approach in music and pedagogic education gives an opportunity to determine its place and role in scientific cognition of the world around.

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СИСТЕМНЫЙ ПОДХОД К ИЗУЧЕНИЮ ПРОЦЕССА НЕПРЕРЫВНОГО МУЗЫКАЛЬНО-ПЕДАГОГИЧЕСКОГО ОБРАЗОВАНИЯ

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Ключевые слова и фразы: система; системный подход; компоненты системы; философский анализ.

Аннотация: Автор в исследовании рассматривает некоторые историко-педагогические и философские аспекты системного подхода, также проводит категорийно-понятийный анализ проблемы. Исследователь рассматривает некоторые компоненты системы непрерывное музыкально-педагогическое образование в рамках изменяющихся подходов к обучению.

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Psychological Aspects of Reflection Development of Primary Schoolchildren

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Key words and phrases: analysis; cooperation; generalization; reflection; self-assessment; self-knowledge.

Abstract: The paper discusses psychological aspects of the development of reflection of primary schoolchildren as well as the formation of teachers' willingness to build teaching activities, which create conditions for self-realization of pupils.

Studies in the cultural-historical psychology began to consider reflection as one of the most important aspects of learning activities. Thus V.V. Davydov has shown that a child, who carries out this activity, becomes the subject of changes. For the first time the subject itself acts as self-changing. Self-orientated learning activity requires reflection and evaluation of “what I was” and “what I've become”. The process of self-change is allocated to the subject as a new subject. The most important thing in learning activities is self-orientation: a person has to realize whether he is changing or not. The assessment of your own changes, reflection on yourself is your own subject of learning activities [3].

In educational process it is possible to distinguish the following kinds of reflection: 1. Reflection with respect to the feedback received from other people: in the course of teamwork we have to discuss the behavior of other participants. Those whose actions are commented on in the group can reflect on what caused such feedback, as well as complement and deepen the understanding of their own actions. 2. Reflection at the end of any group action: at the end of role-playing games or exercises, participants can analyze what happened and what became clear. Both forms of reflection give everyone the opportunity to compare their behavior and their way of thinking to the behavior and way of thinking of the others. Participants will be able to decide for themselves what can be learned from this comparison. In this case, there are always specific answers: "I am pleased with my actions ... In this area I would like to learn more ... The next time I would like to ...» 3. Reflection without assistance: it is sometimes useful for everyone to think about their learning experiences, and make conclusions without discussing anything with the others. This can happen in different ways. For example, the total silence for a few minutes provides an opportunity for a personal analysis. Another option is as follows: every participant writes down his thoughts. For a written assessment, there are also different forms, for example, entries in the diary or written summaries (what they understood and what they did not understand, what difficulties arise, what they would like to change). 4. Reflection of their own development: the participants try to match their behavior to the learning situation and their personal development. They speculate about what they thought, felt and did in certain situations, whether they stuck to the old ways or chose the new ones. Thus, you can create a “balance” of your own strengths and weaknesses, and set a new important goal for yourself [7].

G.A. Tsukerman studied the role of cooperation of younger schoolchildren with their peers in mental development. The author received experimental data proving that children involved in teamwork in a class, twice as much evaluate their abilities and knowledge, i.e. they have successfully formed a reflective action, compared with pupils involved in the traditional way of work. Experimental teaching Russian to first graders served as material for the study. The experimental and control classes were compared. In the experimental class the teacher managed the group of children working together, his main objective was to organize business communication of pupils

regarding the study material. In the control class, the children were engaged in the traditional front-end method, where the impact of the teacher was addressed individually to every child. The group-orientated method of teaching, built on cooperation removed contradictions between teamwork and a real individual orientation of traditional training [5].

If teaching is based on the principles of activity-theory of teaching, by the end of primary school learners are involved in educational activities, theoretical thinking, which, in accordance with the theory of V.V. Davydov, includes a meaningful reflection (search and examination of important bases of their actions) [3].

In the course of learning schoolchildren assess their progress, they analyze the results of their work and try to evaluate their abilities. It should be noted that they might tend to exaggerate their progress and mental abilities. R. Azimova notes that reflection is a permanent system. It defines both positive and negative sides of intentions and acts of a person. According to the author self-knowledge as the highest form of self-regulation consists motivates and encourages a person to improve, but this aspiration isn't possible without a reflective process [1].

I.I. Chesnokova focuses on the process of self-development of primary schoolchildren with respect to self-assessment factors and their influence on reglection [6].

Based on the analysis the researchers, we can conclude that if we consider the development of reflection in the primary school age, then surely, at this stage it is necessary to develop the ability of children for self-assessment. Therefore, in our study, we paid sufficient attention to the development of adequate self-assessment of younger schoolchildren.

The main task at the initial stage of development of reflection among primary schoolchildren was to develop the teachers' skills and ways of working with pupils on this issue. For this purpose, we developed a program of psychological and pedagogical support of pupils. It included classes, using the role-playing exercises, case studies and thematic assignments.

The organization of the psychological and pedagogical support of primary schoolchildren in the educational process was based on the following fundamental principles: the integration of education, humanization of education, differentiation and individualization of education, nature management congruity.

The efficiency of development of reflection of primary schoolchildren, namely, the dynamics of the process, effectiveness, etc. was influenced by a variety of psychological technologies used (role plays and exercises, discussions, brainstorming, interviews, lectures, etc.).

In our opinion, we have developed the program which is a fairly functional system; it effectively combines educational tools and activities, forms and organization of these activities, and methods of influence. It is organically connected with the processes of teaching and upbringing in schools; it reinforces the link with the processes of training and upbringing in the learning process, making the implementation of self-assessment of schoolchildren possible.

In designing and preparing an appropriate program, we recognized that the learning as the main activity has a significant influence on the development of reflection through the self-assessment of primary schoolchildren. The analysis of the literature and practical experience has shown that the most important element in this process is self-realization in the educational activity. That's why self-assessment pays a very important role.

When organizing the development of reflection it is necessary to consider that for primary schoolchildren self-assessment is not limited by the marks they receive in the lessons.

The work with primary school teachers was bases on the analytical self-discovery of pupils. The teachers learned to use new activities which encourage and motivate primary schoolchildren for self-assessment and self-realization.

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ПСИХОЛОГИЧЕСКИЕ АСПЕКТЫ РАЗВИТИЯ РЕФЛЕКСИИ У МЛАДШИХ ШКОЛЬНИКОВ

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Ключевые слова и фразы: анализ; кооперация; обобщение; рефлексия; самооценка; самопознание.

Аннотация: В статье рассматриваются психологические аспекты развития рефлексии младших школьников, способствующие аналитико-обобщающему познанию себя учащимися, открытия для себя потенциала успеха, а также формированию у учителей готовности к построению такой учительской деятельности, в которой создаются условия для самореализации учащихся.

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Personal and Professional Competence in the System of Specialists' Training

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Key words and phrases: personality of a professional; personality competences; professional competences; personality and professional competence.

Abstract: The paper reveals the essence of the notion of personal and professional competence, as well as the inherent properties in the system of specialist training.

Changes in social, cultural, economic, political and other spheres of society life activity caused a new situation at the labor market. Competitive specialists who are able to orientate themselves in the perspectives of modern society development, capable of professional self-determination, self-discipline, self-education and creation of conditions for personal individuality development are greatly demanded nowadays. In professional education aspects concerning students' personality development are becoming very important. In this connection there is a necessity of future specialists' personality and professional competence development.

To date, there is a number of studies that address the development of professional and personal qualities of specialists of different types (N.S. Bachurina, A.V. Kalmazan, N.V. Chernuchina, Z.A. Chapova, O.V. Bondarenko and others); psychological and pedagogical conditions of personality and professional competence development (N.G. Petelina, O.E.Permyakov); peculiarities of students personality competences forming (I.A. Zimnyaya, A.V. Chutorskoy, E.M. Yadchenko, N.B. Dondokova and others); content and characteristic of professional competences (I.A. Zimnyaya, V.I. Baidenko, N.V. Kozlova, O.G. Berestneva, R.Ch. Gilmeeva, V.V. Gorodetskiy, V.A. Tatarinscev and others).

However, there are not enough studies devoted to the purposeful development of personality and professional competence. Taking into consideration this fact it is reasonable to reveal the essence of this notion and to determine its main peculiarities in the system of specialists' training.

The starting basis for personality and professional competence are the ideas of *competence approach* (V.I. Baidenko, I.Y. Zimnyaya, R.P. Milrud, E.F. Zeer, A.A. Verbutskiy, A.V. Chutorskoy, T. Hoffman and others), oriented to future specialist personality as professional, their readiness for activity and development; and *personality-oriented approach* (I. Y. Zimnyaya, G.S. Suchobskaya, V.A. Belikov, V.V. Serikov, E.V. Bondarevskaya), directed at personality as the goal, main criteria of education effectiveness, transfer to subject – subject cooperative learning partnership.

Some attempts have been made to define personality and professional competences. Thus, *personality competences* are considered as:

- qualities, characterizing person's social maturity, degree of their freedom and responsibility (communicative consistency, tolerance, ability to conduct a dialogue, openness and active stand in life) [2];
- readiness to maintain mental and physical health, constant further training and as necessity of self-knowledge, self-development, self-actualization [1];
- a set of skills of perception, judgment and personality behavior, which must provide the effective personality integration in the environment and become the bases for the process of self-determination and self-realization (E.M. Yadchenko).

Professional competences are:

- methodic and psychological ability for changing the character of professional activity, readiness for work on interdisciplinary projects (skill of group work, ability for system

analyses, forecasts and making decisions, creative abilities development, ability to think unconventionally) [2];

- a set of professional knowledge, abilities and skills providing mastering of a special professional technology (V.V. Gorodetskiy);
- readiness and ability to act reasonably in accordance with the work demand, to solve problems in an organized way and to appreciate the results of own activity [1].

Professional competences can not be developed apart from personality competences as a professional is a personality who achieved a high level of qualification, changing and developing during professional activity [3]; forming of a specialist's personality and their professionalism is inner indivisible process [5]; education and acquisition of professional skills are considered to be the central stages of personality development [6].

Thus, personality and professional competence can be defined as a complex of personality features of a future specialist contributing to the effectiveness of their professional activity, personality development and professional's individuality.

From positions of a *system approach* personality and professional competence is a system consisting of two subsystems (personality competence and professional competence); it possesses the following characteristics:

- *integrity* – personality and professional competence is an integral formation reflecting personality qualities; personality competence and professional competence are functionally interconnected and can not develop independently;
- *system multiplicity* – personality and professional competence is a complex system which is a subsystem of the professional education system as its forming is realized in the process of higher education;
- *purposefulness* – the system factors of personality and professional competence development are the purposes of personality professional self-determination;
- *steadiness* – the stability of personality and professional competence development is determined by the laws of its formation and development;
- *controllability* – the degree of personality and professional competence formation as a system is defined by the regularities of reasonable and optimal self-management, sequential from personality needs of professional self-determination [7].

To sum up, in the course of specialist training personality and professional competence is characterized by the degree of students' readiness for professional activity and can be characterized by the following factors:

- it is realized in students' everyday life for problem-solving (information search in professional publications, databases, Internet, etc.) as well as for professional and learning problem-solving (abstract, reports and course papers writing; participation in professional projects by the means of a foreign language, reports preparation, etc.) which emphasizes its poly-functional character;
- it is formed focusing on students' knowledge, abilities and skills received while studying special and general scientific disciplines, it is integrative and interdisciplinary;
- it is produced, shaped and manifested in the society, i.e. it is social in its content and, but on the other hand, it describes how people interact with society and other people in the professional activities;
- is the means of students' intellectual development, their critical and abstract thinking, self-rating, self-reflection;
- it is a complex and multi-component concept, i.e. it demands special methods, ways and formed abilities and skills such as collaboration, understanding, argumentation, planning and others for its realization.

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ЛИЧНОСТНО-ПРОФЕССИОНАЛЬНАЯ КОМПЕТЕНЦИЯ В СИСТЕМЕ ПОДГОТОВКИ СПЕЦИАЛИСТОВ

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Ключевые слова и фразы: личность профессионала; личностные компетенции; профессиональные компетенции; личностно-профессиональная компетенция.

Аннотация: Статья раскрывает сущность определения личностно-профессиональной компетенции, а также присущие ей свойства в системе подготовки специалистов.

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Development of Students' English for Special Purposes Competence in Business Studies

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Key words and phrases: ESP; professional competence; communicative competence; intercultural competence.

Abstract: In the foreign language learning process the aim of the studies and the corresponding teaching-learning methods and teaching aids that have been chosen in cooperation between the students and the educator enable the students to attain the aim of the studies. The educator helps the students to improve their ESP competence, to develop a skill to use a language in different socio-cultural contexts; at the same time the educator is learning from the students acquiring knowledge in a specific professional field.

The studies in competence theory reveal several approaches to competence classifications stressing the most important competences essential both in successful professional activity and in personal life.

OECD defines three categories of competences: the ability to operate in socially heterogeneous groups, the ability to act autonomously and the ability to use tools interactively [12]. Language learning is connected with all the three categories, as learning takes place cooperating with group mates and the educator, as well as using a language interactively.

A European Reference Framework for key competences for lifelong learning stresses eight key competences: "communication in mother tongue; communication in foreign languages; mathematical competence and basic competences in science and technology; digital competence; learning-to-learn; interpersonal, intercultural and social competences and civic competence; entrepreneurship; and cultural expression" [9]. Communication in foreign languages is based on the ability to understand an idea, express and explain thoughts, feelings and facts both orally and in a written form in a versatile socio-cultural context. Communication in one's native tongue and in foreign languages influences the development of all the other competences as language influences the way we are thinking [3; 14].

Based on these competence classifications it is concluded that business specialists' professional activity competence consists of cognitive competence (theoretical and practical knowledge of the business sphere), personal competence (communication abilities and social skills) and technologically-professional competence (creative and constructive problem solving, communication skills, cooperation). *Business specialist's professional competence* is an individual combination of gained experience, attitude and abilities developed on the basis of learning which allows a specialist to think strategically, untraditionally implement knowledge, responsibly develop business and creatively work in this profession observing traditions and peculiarities of different cultures.

Communicative competence for business specialists

Several approaches to language learning have gained popularity in different historic periods. It can be explained by definite requirements of the society and tendencies in language use. Since 1970ies communicative language competence development model has been one of the most popular language learning models in the world. One of the most popular approaches of communicative competence (Canale, Swain, 1980) treats it as knowledge and skills necessary for communication. L.F. Bachman and A.S. Palmer

(1982) consider that communicative competence is connected with morphology, syntax, lexis, cohesion and organization of the text.

In this study H.G. Widdowson's definition of communicative competence is used: "communicative competence is a set of strategies or creative procedures for realizing the value of linguistic elements in contexts of use, an ability of make sense as a participant in discourse, whether spoken or written, by the skilful deployment of shared knowledge of code resources and rules of language use" [15, p. 240].

Thus *communicative competence* includes: grammatical competence (basic lexis, semantics, morphology, syntax, phonology and orthography), pragmatic competence (contextual lexis, language functionality, unity and continuity of communication), discourse competence (language exposure and the unity of text and situation), sociolinguistic competence (understanding of other cultures, register, accent, dialects and interaction skills) and strategic competence (verbal and non-verbal communication strategies and compensation strategies). During the last decade language communicative competence has included cultural knowledge and exposure [5; 7; 8].

Intercultural competence for business specialists

Nowadays communicative competence without awareness of cultural dimensions in language use is not complete. In language learning it is important to be aware of its cultural aspect, because knowledge about other cultures helps to learn a language and assess cultural values and peculiarities of the language learners' nation [1; 6].

According to M. Byram intercultural competence includes attitude, knowledge, interpretation and relating skills, discovery and interaction skills, and critical awareness of culture or political education [5].

Intercultural competence may be divided into two groups: content-competence and process-competence. Content-competence refers to "the *knowing that-aspects* of culture" (knowledge of history, language, behaviour, cultural norms, habits, customs, symbols, traditions, etc.). Process-competence refers to the dynamic character of intercultural competence and its interactional context or "the *knowing how-aspect* of intercultural competence". Process-competence consists of *intrapersonal competencies* (perspective alteration, self-reflection, role-taking, problem-solving, culture-detection and axiological distance) and *interpersonal competencies* (interpersonal sensitivity, communication competence and situational sensitivity) [11].

In this study *intercultural competence* is referred to as an ability to see and understand differences in one's own and other people's cultures and countries, accept them and accordingly react, in conversation and behaviour treating people in a way, which is not offending, scornful or insulting to the members of other cultures. At the same time it includes the knowledge of one's own nation and culture, awareness of their values, their preservation and development. Intercultural competence consists of attitude (inquisitiveness and openness, tolerance), declarative knowledge of cultural aspects (facts, concepts) and an ability to operate in different cultural contexts.

Conclusion

ESP competence consists of communicative, intercultural and professional activity competence. Each of them consists of several sub-competences that interact. *ESP competence* is an individual combination of gained experience, attitude and abilities developed on the basis of learning, which allows a specialist, observing different cultural traditions and peculiarities, to creatively implement the English language both receptively and productively in communication and professional work, responsibly develop business and offer the client a product in an understandable and acceptable way.

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РАЗВИТИЕ ЗНАНИЙ АНГЛИЙСКОГО ЯЗЫКА СТУДЕНТОВ ДЛЯ КОМПЕТЕНТНОСТИ ОСОБОГО НАЗНАЧЕНИЯ В ДЕЛОВЫХ ИССЛЕДОВАНИЯХ

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Ключевые слова и фразы: профессиональная компетентность; коммуникативная компетентность; межкультурная компетентность.

Аннотация: В процессе обучения иностранному языку необходимо применение специальных методов, которые будут способствовать сотрудничеству между студентами и педагогом, позволят студентам достигнуть цели исследований. Педагог помогает студентам улучшить их компетентность, развить навыки использования языка в различных социокультурных контекстах; и, в то же время, педагог получает от студентов знания в определенной профессиональной области.

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The Development of Student Identity under the Conditions of Inclusion and Exclusion in Education

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Key words and phrases: inclusion; exclusion; identity.

Abstract: The article is devoted to the peculiarities of professional and personal student's identity under the conditions of inclusion and exclusion in education.

In the light of ongoing and forthcoming reforms of the Russian education special attention is given to the processes of exclusion and inclusion in education, which have a significant impact on the formation of professional and personal student's identities. First and foremost, we are interested in this problem in the sphere of higher education practice. However, the socio-political situation is such that it is necessary to talk about declared inclusion and hidden exclusion, equally specific to the educational system at all levels.

On the one hand, the innovative processes in education, the development of distance and online learning, the introduction of Information and Communication Technologies (**ICT**), the transition to third generation standards, presupposing a module form of the educational process, as well as the development of the credit system, create prerequisites for the realization of individual needs and abilities of students (both for the gifted ones and for those restricted by physical, material and other factors), stimulate the personification of the courses, make possible the appearance of asynchronous and individual learning plans, i.e. allow one to realize the fundamental principles of inclusive education: accessibility for all people, adaptation to different needs of students, including learning needs, in order, evidently, to increase its efficiency and quality.

On the other hand, very often the same innovations and reforms do not contribute to empowerment of both an average person and a representative of socially vulnerable categories of population (and it is in this meaning that the term "social exclusion" was introduced into the scientific communication [1]), but create additional constraints for the realization of constitutional rights of a person to education and hamper the true identity formation at all levels. This is exemplified by the metamorphosis of Unified State Examination (**USE**) and the law approved by the State Duma in the third reading on the reform of the budget-funded institutions, including educational ones, which will divide them into fiscal, budget-funded and self-funded institutions.

In this context, exclusion in education should be viewed in terms of human deprivation, and its substantial characteristics should be determined from the standpoint of pedagogy (talent, mental retardation, orphanhood), economics (poverty), sociology (risk groups, law-breaking, ethnic differences), medicine (disabilities), etc. According to P. Townsend, individuals are relatively deprived, if they cannot secure suitable living conditions in general, or to a large extent: meals, recreation, standards and services that would allow them to play a certain role, to interact, to behave in a usual way [2]. We therefore share the point of view of V.R. Schmidt, who proposes to use the terms "inclusion and exclusion in education" [3].

Let us correlate these concepts with the problem of identity development.

One of the major factors influencing the formation and development of a person is environment. It "serves as an external factor of place in the system of social relations and determines the characteristics of personality development" [4, p. 73]. We hold the view that the educational environment is a form of social (socio-cultural) environment and as such it should meet three basic requirements: 1) to generate significant for community and individuals moral needs and

ensure their fulfillment in accordance with social and cultural norms; 2) to create conditions for personal fulfillment and secure reproduction of cultural potential [5], creating prerequisites for inclusion in education.

In this sense, educational environment is a system-forming factor influencing the formation of professional and personal student identity, since, according to V.V. Serikov, "it creates a unique field for exercising personal powers: choosing an area for self-realization, choosing partners and comparing the results of personal activities with the achievements of others" [6, p. 20].

Another inclusive aspect of the impact of educational environment, such as its humanistic, adaptive orientation, should be noted as well (P.I. Tretyakov, E.G. Martynov, N.G. Grigoryeva, I.P. Kuzmin, M.P. Gorchakova-Sibirskaya et al.). The meaning of this aspect is that the educational environment should be a morally rich environment, creating a style of thinking and behavior of the included entities, developing the intellectual and cognitive, motivational and value-oriented, and moral-practical sphere of personality. The result of this impact should be the understanding of education as a critical value, which forms the basis for establishing personal goals and strategies of lifelong learning, self-education and self-improvement.

Meanwhile, the analysis of publications on this issue shows that the modern educational system has made little progress in addressing the problem of the formation of an adaptive learning environment; rather, it creates prerequisites for exclusion. Objective socio-economic conditions have aggravated old contradictions characteristic of the educational system and created new ones (inaccessibility for low-income people to prestigious training courses, disparity between content and forms of training, lack of professional competence required for the market economy, etc.). Thus, according to N.G. Grigor'yeva, the crisis in the processes of professional identity of young people is due to the fact that «... the processes of socialization intrude brusquely into personal activity of young people and try to dictate their terms: «if you want to be materially secure in life, then you should master professions either highly paid or allowing you to get the benefits of the existing situation» [7, p. 87]. Therefore, the process of development of professional identity is on the wrong path, and a young person makes an inadequate choice. Besides, nowadays «there is a trend connected with the change of general guidelines in public and individual consciousness with respect to profession: if earlier an ideal image of a professional was associated with an image of a particular person, then now a focus is on "ideal lifestyle" [8, p. 27]. Consequently, uncertain professional values produce the shift towards the choice of a preferred lifestyle with the help of a profession, which becomes a means to achieve it. Meanwhile, V. Frankl argued that "... by realizing the meaning, a person realizes oneself", otherwise a person "apart from being unhappy, is hardly viable" [9, p. 68].

It is known that the professional and personal identification continues at all stages of professional development, but the first two are fundamentally important, in our opinion, because the conflict-free option stage and the quality of education predetermine the efficiency of future professional activity and the degree of professional satisfaction.

In the course of theoretical consideration of the problem and experimental study we have identified and implemented the following pedagogical conditions for the development of professional and personal identity of a student at a higher educational institution that are considered as characteristic features of inclusion in education: 1) stimulation of motivation for self-cognition and self-development of students and lecturers; 2) choice of an optimal style of activity and communication between a lecturer and students; 3) intensification of pedagogic and developmental functions of teaching; 4) creation of a positive micro-social environment; 5) personalization of interactions.

The implementation of the identified pedagogical conditions for the development of professional and personal identity of students in educational practice requires the setting-up of a focused preparatory work with the faculty at a higher educational institution. For this purpose, the corresponding program, which includes diagnostic, informational, consulting and training components, was developed and tested. In our opinion, the center of attention in this work with respect to inclusion-exclusion in the educational process should be on the issue of tolerance and support for cultural pluralism.

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СТАНОВЛЕНИЕ ИДЕНТИЧНОСТИ СТУДЕНТА В УСЛОВИЯХ ИНКЛЮЗИИ И ЭКСКЛЮЗИИ ОБРАЗОВАНИЯ

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Ключевые слова и фразы: инклюзия; эксклюзия; идентичность.

Аннотация: Статья посвящена особенностям становления профессиональной и личностной идентичности студентов в условиях инклюзии и эксклюзии образования.

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The Development of Person's Physical Culture in the Educational Environment of the University

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Key words and phrases: physical training culture; personality-oriented approach; integrated and differentiated approach; health protective environment; contextual training; comprehensive health evaluation.

Abstract: The article examines the problem of health protective environment and gives the description of the developed program on the development of physical training culture of a person aimed at maintenance and strengthening of health. It describes the combination of such theoretical approaches as personality-oriented, problem-solving, integrated-differentiated, etc. The article analyzes the advantages and disadvantages of this program. It offers the system of comprehensive health evaluation.

The paper is devoted to the changes dealing with globalization of education and its constant development. All these processes influence all spheres of person's activity and it is especially important to develop strategic approaches to health preserving technologies in the educational institutions. In this connection there is a need to establish a system of education aimed at sustainable human development, providing the possibility of participation of everyone in solution and prevention of social, economic and environmental problems. That is why the creation of health preserving environment in the universities and the readiness to introduce it into educational process is very urgent.

The health preserving environment is defined as a combination of social, psychological and hygienic factors as well as psychological and pedagogical conditions capable of realizing person's adaptive possibilities, preserving and strengthening students' health.

This paper examines the problem of the health preserving environment and gives the description of the developed program of the formation of person's physical training culture. The main goal of the program is to preserve health, its prophylaxis leading to improvement of students' physical training providing rational studies organization. There are six aspects of this program:

- prophylaxis and medical inspection, detection of early health deviations;
- physical education and culture; the goal of this aspect is realized by the measures leading to improvement of students physical education;
- lifestyle includes rational nourishment and improvement of students' leisure;
- complex value of the state of life which includes systematic testing at the beginning of academic year and adaptation to load;
- university facilities; this aspect is developed with the purpose to provide sport halls with necessary training equipment;
- education; the aspect includes a series of measures for improving, organizing and introducing them into educational process.

Thus, this paper describes the combination of such theoretical approaches as personality centered approach, problem approach, integrative approach, differential approach, etc. It also analyses the advantages and disadvantages of this program.

To achieve the goal of the developed person's physical training culture program the complex estimation of physical health that includes 10 health level rates was determined.

The complex evaluation of physical health helps to:

– detect weak links in an organism for purposeful influence;

– make an individual program of health-improving exercises and estimate their efficiency;

– prognosticate the risk of occurrence of hazardous to life diseases;

– define a biological age of a man.

Table 1. Health level express-evaluation

Points	(1)	(2)		(3)		(4)	(5)
				men	women		
1	more than 90	more than 140/90	less than 80/50	less than 50	less than 40	90 and less	no exercises
2	76–90	131–140/81–90	80–89/50–54	50–55	40–45	91–95/ more than 120	to 1 or less
3	68–75		90–99/50–59	56–60	46–50	96–100	
4	60–67	121–130/76–80		61–65	51–55	101–105/116–120	
5	51–59						3–4
6	50 and less	111–120/71–75	100–105/76–80	66–70	56–60	106–110	5–7
7		106–110/60–70		more than 70	more than 60		8–10
8						111–115	
9							more than 10

NOTE. **(1)** – heart rate at rest, beats per minute (**BPM**); **(2)** – blood pressure at rest, millimeter of mercury (mmHg); **(3)** – vital capacity of the lungs, ml/kg; **(4)** – statural-weight value (stature in cm minus weight in kg (for big-boned people plus 5)). This characteristic can be used instead of **(3); (5)** – previous experience of doing exercises is not less than twice a week for 20 min and more (how many years).

Table 2. Health level express-evaluation

Points	(6)		
	Running for 2 km		time of heart rate restoration
	men	women	
1	more than 12,00	more than 14,00	more than 3,00
2	11,01–12,00	13,01–14,00	
3	10,01–11,00	12,01–13,00	2,01–3,00
4	9,01–10,00	11,01–12,00	
5	8,01–9,01	10,01–11,00	1,00–2,00
6	7,30–8,00	9,30–10,00	less than 1,00
7	less than 7,30	less than 9,30	

NOTE. (6) – general endurance.

Table 3. Health level express-evaluation

Points	(7)		
	men		women
	chin-ups	press-ups (resting the feet on the floor)	sit-ups (lying with the back on the floor, with hands behind the head and fixed feet)
1	less than 2 times	less than 4 times	less than 10 times
2	2–3	4–9	10–19
3	4–6	10–19	20–29
4	7–10	20–29	30–39
5	11–14	30–39	40–49
6	15 and more	40 and more	50 and more

NOTE. (7) – power endurance

Table 4. Health level express-evaluation

Points	(8)		(9)	(10)
	men	women		
1	less than 200	less than 140	more than 5	more than 1
2	200–209	140–149	4–5	1
3	210–219	150–159	2–3	
4	220–229	160–169		
5	230–239	170–179	1	
6	240 and more	180 and more		
7			no	no

NOTE. (8) – long standing jump; (9) – number of colds and flu per a year; (10) – number of chronic diseases of viscera.

Tables 1–4 contain 10 most informative and simple characteristics for quick determination of one's health level. This level corresponds to average quantity of points: very high level – 5,0 and above; high level – 4,0–4,9; mean level – 3,9–3,9; low level – 2,0–2,9; very low level – 1,0–1,9 points. Then each characteristic is considered in more details.

Thus, the use of the complex person's physical training culture program that includes the comprehensive evaluation of physical health and is aimed at health preserving of persons in high school educational process makes it possible to form healthy life-style of a person, different social groups and the society in general.

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ФОРМИРОВАНИЕ ФИЗИЧЕСКОЙ КУЛЬТУРЫ ЛИЧНОСТИ В ОБРАЗОВАТЕЛЬНОЙ СРЕДЕ ВУЗА

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Ключевые слова и фразы: физическая культура; личностно-ориентированный подход; интегративно-дифференцированный подход; здоровьесберегающая среда; контекстное обучение; комплексная оценка здоровья.

Аннотация: В статье рассматривается проблема создания здоровьесберегающей среды и приводится описание разработанной программы становления физической культуры личности по сохранению и укреплению здоровья. Описывается сочетание таких теоретических подходов, как личностно-ориентированный, проблемный, интегративно-дифференцированный и др. анализируются преимущества и недостатки этой программы. Предлагается система комплексной оценки здоровья.

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Professional Training: the Situation of Success

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Key words and phrases: success; the situation of success; professional orientation; motivational; organizational; productive stage; self-confidence.

Abstract: The article discusses the development of professional orientation of future teachers. The roots of the problem the author sees in negative or uncertain attitude to the profession, and lack of self-confidence of future teachers. The solution to this problem the author sees in creating favorable conditions (the situation of success) in the learning process. The article presents the steps in the development of this situation.

The problem of professional orientation of future teachers is caused by the necessity to actively manage their professional development, to help them understand and acquire the system of professional values, to build confidence in themselves as teachers.

The concept of orientation is defined as dynamic tendencies (needs and motives) by A.N. Leontev, S.L. Rubinstein, the system of the dominant motives (L.I. Bozhovich), the system of relationships of personality (V.N. Myasishchev), the theory of guideline (D.N. Uznadze). The position of the individual is defined through the system of relationships (B.G. Ananiev, L.I. Bozhovich, A.N. Leontiev, S.L. Rubinstein, V.N. Myasishchev).

Pedagogically – orientated students have a positive attitude to the profession of a teacher, while subject-orientated students have rather a situational attitude; since they have negative or uncertain attitude to this profession they choose to go to teachers' training institution to accomplish their non-pedagogical goals (not orientated on the profession of the teacher; though when they graduate, under some circumstances some of them can choose a teaching career and work in educational institutions.

Professional readiness for pedagogical activity is a prerequisite of professional and personal self-realization, achievement of pedagogical skills; it plays an important role in the professional development of a future teacher. The organization of contextual training helps students to prepare for their future career and develop the major personal and professional qualities and skills.

In order to achieve this it is necessary to organize preparation of future teachers so that they can understand the importance of professional values and aspire for both intellectual and personal development.

If we turn to the etymology of the word "success" in the Russian dictionary, we can see that it has got three meanings: good luck in achieving something, social recognition and good results in work or study.

We share O.A. Yashnova's opinion and truly believe that success is a social quality. The success is achieved by a person in the process of acquisition of social experience through effort and diligence.

A.S. Belkin thinks that the situation is a combination of conditions that will ensure success, and success itself is the result of this situation. The situation of success is a purposeful, organized set of conditions enabling to achieve significant results in human activities. While going through the situation of success, a person gets a sense of importance; success leads to the fulfillment of their own competence.

It is important to bear in mind that even a single experience of success can radically change the psychological condition of a person, dramatically change the rhythm and style of his life, relationships with others. The situation of success can become a kind of "trigger mechanism" of further development.

In pedagogy there are no universal means and methods of teaching and training. This fully applies to the situation of success. It seems that quite a few times is enough for the teacher to

create conditions in which the student will experience success and satisfaction; and this will ensure a positive attitude to the profession. But this attitude to the situation of success can have the opposite effect: the constant maintenance of success can develop the situation of indifferent attitude to teaching.

Besides, constant expectation of a positive result makes a person unable to overcome difficulties, and make decisions in difficult educational and real-life situations.

The situation of success is created by the teacher in educational activity. But, like any activity, the doctrine can be presented as a fairly simple series chain:

– creating students' motivation for the activities of (emotional preparation of students to solve academic problems);

– ensuring practical activity, operations (creating conditions for a successful solution);

– comparing the results with the expectations (conscious attitude to the results of their work).

Modeling the learning situation it is necessary to remember that the solution to every learning task involves preparation, execution and assessment. Therefore, we can name several stages in the situation of success.

1. *Motivation stage*, or orientation at the alleged activity. The teacher encourages students to do their best to perform the task, to feel "the creators of the circumstances", to overcome the difficulties that can arise in the course of performance, in other words, to create the motive for success.

Forming a motive as the basis for achieving a certain atmosphere among students, the teacher can use a variety of motives: aspiration to solve interesting problems independently, an attempt to obtain leadership among fellow students, becoming the honored student, performance of the activities in terms of their benefits to other people, making new contacts in the course, etc. As a result, at the motivation stage the teacher creates certain situations in order to encourage or neutralize emotions for upcoming activities. It should be noted that the situation of success related to motivation stage, to a greater extent is determined by psychological aspects. This is its fundamental difference from the situations that arise at the following stages.

2. *Organizational stage*, or ensuring activities. The task of the teacher is to provide the learners with the task, which takes into account their individual abilities and brings enjoyment in the course of work. At this stage, the situation of success can be seen as a special case of problem-based learning as one of the means developing mental actions in the process of training. At this stage, some students tend to lose interest in their work and go through the state of conflict: on the one hand, they need to accomplish the task, and on the other they suffer from the lack of conditions for its accomplishment. Thus, at this stage the teacher has to create conditions for successful implementation of a training assignment.

3. A *productive stage*, or comparing actual and expected results. The teacher's job is to organize work in such a way as to turn the results of previous activity into emotional stimulus, conscious motive to perform the next training assignment. Students should understand and analyze the results obtained on the previous stages.

Thus, the productive stage of the teacher's activity involves evaluating and making predictions for the future. Students also adjusts their activities with the help of the teacher: their conscious attitude to the results should be a stimulus for future activity.

Productive stage, synthesizing, synthesizing the features of the first two, has psychological-pedagogical nature, since it logically follows from the results of the executive stage and serves as the basis for the formation of the motives of future activities.

The situation of success creates conditions for turning a positive attitude to the profession into active and creative one if students have a positive attitude to the activity, experience a pleasant feeling of success through overcoming of the difficulties, get satisfaction from the intellectual development while solving educational problems, raise the awareness of the insufficient level of their knowledge and skills in situations to overcome, have constant need for self-education.

Thus, the situation of success helps students to become more confident and competitive, to be able to set goals and achieve them, to seek feedback to assess the result. On the contrary, the fear of failure generates passivity, forces them to tiptoe, to react inadequately to criticism; students do not see a positive result in their activity, they either have over-rated or low self-esteem.

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СИТУАЦИЯ УСПЕХА В ПРОФЕССИОНАЛЬНОЙ ПОДГОТОВКЕ

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Ключевые слова фразы: успех; ситуация успеха; профессиональная направленность; мотивационный, организационный, результативный этап; уверенность в себе.

Аннотация: В статье рассматривается вопрос о развитии профессиональной направленности будущих педагогов. В основе данной проблемы автор видит отрицательное или неопределенное отношение к профессии, несформированность уверенности в себе как субъекте педагогической деятельности. Решение данной проблемы автор видит в создании ситуации успеха в процессе обучения. В статье представлены этапы развития ситуации успеха.

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Efficiency of Application of Platelet Concentrate in the Experimental Complex Treatment of Soft Tissue Wounds

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Key words and phrases: wounds; morphology; healing; platelet concentrate; hydro impulse sanitation.

Abstract: Morphological methods of investigation proved the effectiveness of PC in the treatment of aseptic wounds of soft tissues. The acceleration of wound defect re-epitheliazation, the earlier maturation of granulation tissue, and the horizontal arrangement of collagen fibers in the area of the scar are revealed. The analysis of structural and functional features of soft tissue in the wound area in the remote period shows the consistency of the healing wound surfaces when using the PC.

The search for effective methods of wounds complex treatment is up to date. In order to evaluate a particular method it is very important to determinate tissue's structural and functional characteristics after the wound defect restoration [1; 2].

The purpose of this study was assessment of the structural and functional efficiency of platelet concentrates as the method of regional therapy of soft tissues aseptic wounds.

The experiment was done on the 126 adult male rats. All studies were performed with strict observance of the principles set forth in the Convention for the Protection of Vertebrate Animals used for experimental and other purposes (Strasbourg, France, 1986) and in accordance with the principles of good laboratory practice of the Russian Federation (Decree of Ministry of Health of the Russian Federation No.67 of 19.06.2003).

Simulation of aseptic wounds was carried out by the following procedure. Under intraperitoneal anesthesia a standard linear cut of 1,0 × 0,5 cm was made on the front pre-shaved surface of the thigh. Animals were divided into 3 groups. In the first experimental group the aseptic wound treatment consisted of a hydro impulsive sanitation (**GIS**); in the second experimental group the treatment of wounds was carried out using platelet concentrate (**PC**). In the control group, the treatment wasn't conducted. The platelet concentrate was fabricated according to the following steps:

- collecting blood from the tail vein of rat in a sterile tube;
- centrifugation of blood at the speed of 6000 rpm;
- separation of blood into 3 fractions and clot forming.

Platelet concentration used for the treatment was at least 1 mln/mcl.

GIS was carried out with isotonic sodium chloride solution using a modified apparatus "UGOR-1m". The effectiveness of the methods of treatment was assessed by planimetric and morphological techniques. Material intake for morphological study was performed on 1, 3, 5, 7, 24 and 28 days from the start of the treatment. Histological studies were performed on paraffin sections of 6 microns thick, stained with hematoxylin-eosin and according to Van-Gieson.

Planimetric data of wound healing process were recorded from the first day of the treatment on a daily basis: the area of the wounds at different stages and the rate of the wound decrease per day were measured.

Morphological pattern of the first day in animals of all groups was characterized by filling the wound cavity with necrotic masses; within the dermis the vascular reaction is expressed by the expansion of blood vessels in the wound's wall, which corresponds to the traumatic inflammation phase [3].

Starting with a third day, morphological differences are more pronounced. In the specimens of the control group of animals the necrotic area

Table 1. Change dynamic of aseptic wounds area in animals during the analyzed time interval (mm^2)

Time after application / Animal group	Immediately after application	1st day	3rd day	5th day	7th day
Control group	49,79±1,1	36,70±1,79	15,42±1,23	8,82±1,38	3,10±0,73
experimental group I	49,85±1,15	43,14±1,33	23,43±1,26	11,61±1,0	4,05±0,65
experimental group II	49,71±1,0	30,63±2,89	13,62±1,89	4,32±0,52	1,38±0,24

was limited by the leukocyte shaft, which provided for the cleaning of the wound due to lysis of the necrotic masses by neutrophils. Isolated thin filaments appear in the wounds walls and the process of formation of granulation tissue starts. After the GIS application delimited leukocyte shaft starts forming, but the line of demarcation is indistinct. Wound cavity is filled with detritus from the structureless amorphous masses, at the bottom of the wound there are small areas of granulation tissue. When applying the PC clear leukocyte shaft remains. In the dermis we observed the active cellular proliferation in the background of marked angiogenesis.

On the fifth day in aseptic wounds of the control group of animals the histological picture is characterized by an increase in the number of granulation tissue, which is combined with high levels of angiogenesis. The edges of the wound defect converge, there is intense formation of the epidermis, but its thickness exceeds the level of the intact skin, indicating the incomplete process of stratification. When using GIS there has been incomplete wound defect re-epithelialization up to this date. On the background of the significant development of granulation tissue indicated an increased content of cell phase of inflammation. Having applied PC, neo-formation of granulation tissue and regeneration of the epithelium increased. Numerous collagen fibers have a predominantly horizontal direction, which indicates the maturity of the collagen and underlines the stimulating effect of PC on the healing process. In some preparations of the newly formed epidermis there is closed wound defect.

On the seventh day in the specimens of the control group of animals we observed almost complete filling of the wound defect by granulation tissue, but on the level of the dermis there were isolated pockets of infiltration of inflammatory cells. After the application of GIS mature granulation tissue, with a large number of fibroblasts and new growth capillaries formed. Granulation tissue was partially covered by epithelium. Morphological and functional reorganization within the wounds after the use of PC was characterized by the granulation tissue maturation and the integrity of the epidermis restoration in most preparations.

Planimetric parameters (table 1) allowed making the following conclusion: after the application of GIS the healing processes was slow in the first 3 days, but then it improved in subsequent periods, which can be attributed to the trauma of hydroimpulse flows on the wound surface in the time period being studied and its absence in a subsequent period.

The conducted morphological study of tissues in simulated wounds in the late periods (21st, 28th days) from the start of treatment showed that in all experimental groups a scar was formed, because the depth of the cut was below the papillary layer. In the preparations obtained after the application of GIS, the epidermis in the zone of the scar is characterized by atrophy, collagen fibers within the dermis are located randomly. The thickness of the epidermis over the scar after the application of the PC has no differences from the intact skin. Collagen fibers in the dermis are thinner compared with other groups. Cellular component is small and it is represented by isolated fibroblasts.

The conclusion. The comparative analysis shows the effectiveness of PC in the treatment of soft tissues aseptic wounds. This is proved by the acceleration of granulation tissue maturation, an earlier replacement of a number of inflammatory cells into cells that provide proliferation, horizontal arrangement of collagen fibers, accompanied by the cell's small components. The adequacy of this method of regional therapy indicates not only the acceleration of wound defect re-epitheliazation, but also the stratification of the epidermis, characteristic to the intact epithelium.

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ЭФФЕКТИВНОСТЬ ПРИМЕНЕНИЯ ТРОМБОЦИТАРНОГО КОНЦЕНТРАТА В КОМПЛЕКСЕ ЛЕЧЕНИЯ ЭКСПЕРИМЕНТАЛЬНЫХ РАН МЯГКИХ ТКАНЕЙ

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Ключевые слова и фразы: раны; морфология; исцеление; пластинка концентрируется; очистка импульса.

Аннотация: Морфологические методы исследования доказали эффективность концентрированной пластины (**КП**) в лечении стерильных ран мягких тканей. Приведены способы ускорения дефекта. Анализ структурных и функциональных особенностей мягкой ткани в области раны в отдаленный период показывает последовательность заживающих поверхностей раны при использовании КП.

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К ВОПРОСУ О КЛАССИФИКАЦИИ АЭРОИОНОВ

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Ключевые слова и фразы: ионизация воздуха; спектральное распределение аэроионов по электрической подвижности; классификация аэроионов.

Аннотация: Обобщены сведения о физико-химической природе аэроионов. Предложена уточненная классификация аэроионов по электрической подвижности. Отмечено, что классификацию аэроионов наиболее целесообразно проводить на основе учета характера физических взаимодействий, определяющих устойчивость того или иного вида ионов. Подчеркнута важность учета спектрального распределения аэроионов по электрической подвижности при санитарно-гигиенических оценках аэроионного состава.

В соответствии со сложившимися в литературе понятиями, под аэроионами принято понимать все заряженные частицы, взвешенные в воздушной среде. Возможность инструментального обнаружения аэроионов обусловила тот факт, что основным параметром дифференциации разных аэроионов является их электрическая подвижность. Распределение аэроионов по электрической подвижности происходит иначе, спектр аэроионов описывает электрические свойства воздушной среды и содержит информацию о наличии в нем газовых и аэрозольных примесей.

Аэроионный состав является одним из показателей качества воздушной среды. Наличие в воздухе помещений различного назначения так называемых легких аэроионов определенных концентраций позитивно сказывается на работоспособности и самочувствии человека, и напротив, повышенное содержание так называемых тяжелых аэроионов в воздухе оказывает негативное влияние на организм человека.

В России требования к аэроионному составу установлены СанПиН 2.2.4.1294-03 [1], однако в указанном документе отсутствуют какие-либо упоминания о дифференциации аэроионов на легкие и тяжелые. Между тем, физико-химическая природа и свойства легких и тяжелых аэроионов различны и следует ожидать различное их влияние на организм человека.

Отметим, что до сих пор не сформировано общее мнение по поводу количественной и качественной стороны образования и эволюции аэроионов, а также относительно классификации аэроионов.

Настоящая статья нацелена на обобщение сведений и результатов, полученных различными исследователями, относительно физической природы аэроионов и эволюции их образования, а также на установление единообразной классификации аэроионов по электрической подвижности.

В соответствии с предложениями Г. Израэля [21], длительное время считалось целесообразными разделение аэроионов на легкие аэроионы с подвижностью выше 0,1–0,5 см^2/(В·с), тяжелые аэроионы с подвижностью ниже 0,01–0,05 см^2/(В·с), между ними расположены средние промежуточные ионы. Представленные выше границы классов ионов, скорее всего, имеют гипотетически условные значения, в особенности граничные подвижности средних промежуточных аэроионов [19].

Рассмотрим современное представление о кинетике образования аэроионов. Различного рода ионизирующие излучения, взаимодействуя с молекулами воздуха, «выбивают» из них электроны, на молекуле остается положительный заряд, а электрон захватывается другой молекулой электроотрицательного газа и заряжает ее отрицательно. В первый момент после ионизации молекул в воздухе образуются *элементарные* или *молекулярные* ионы (*молионы*) [9; 10]. Подвижность молионов составляет величину более 3–5 см^2/(В·с). В нормальных условиях среднее время жизни таких аэроионов

составляет 10^{-10}–10^{-11} с и не превышает величину 10^{-6}–10^{-5} с.

Представленная схема образования молионов явилась основой ряда теорий как о позитивном воздействии аэроионов на человека [15], так и о неблагоприятных последствиях аэроионизации [17].

После образования молионов в воздухе практически одновременно происходит рекомбинация ионов, перезарядка ионов, их гидратация, приводящая к образованию гидратных ионных комплексов, а также протекают иные вторичные ион-молекулярные реакции. В кинетике формирования аэроионов значительную роль играют молекулы водяного пара, содержащиеся в обычном воздухе в большом количестве и обладающие довольно высоким дипольным моментом в поле молиона. В силу этого, молионы за время порядка ~10^{-4}–10^{-3} с присоединяют молекулы водяного пара и превращаются в гидратированные ионные комплексы или *комплексные ионы* [10] (также называемые другими исследователями кластерными ионами [13]), состоящие из заряженного ядра (молиона) и оболочки из преимущественно одного слоя, в крайнем случае – двух слоев, молекул водяного пара [8]. Подвижность комплексных аэроионов находится в пределах от 0,5 до 3–5 см^2/(В·с). Связь в комплексном ионе осуществляется, главным образом, за счет дальнодействующих зеркальных электростатических сил притяжения дипольных молекул к центральному иону.

В дальнейшем молионы и комплексные аэроионы могут сорбироваться взвешенными в воздухе аэрозольными частицами, образуя *сложные ионы* [10]. Разграничение между комплексными и сложными аэроионами приходится на граничное значение электрической подвижности 0,5 см^2/(В·с), что согласуется с материалами наблюдений [2; 6; 14]. Сложные ионы предложено [13] подразделять на конденсационные и аэрозольные.

Сложные *аэрозольные ионы* – это аэрозольные частицы с «приобретенным» зарядом, возникающие при столкновении и прилипании молионов и комплексных ионов к нейтральным частицам аэрозоля. Теория диффузионной зарядки частиц дает достаточно точную математическую модель такого механизма образования [7].

Переходным классом между комплексными аэроионами и аэрозольными ионами служит класс так называемых средних промежуточных ионов, при этом диапазоны подвижности разных классов частично перекрываются. Подвижность указанных средних промежуточных ионов находится в пределах 0,01–0,5 см^2/(В·с) [3]. Теоретически механизмы образования средних промежуточных аэроионов не могут быть объяснены только в рамках теории диффузионной зарядки первоначально нейтральных аэрозольных частиц. Для объяснения появления значительных концентраций средних промежуточных аэроионов в настоящее время выдвигаются три различные гипотезы [2]. Во-первых, предполагается [20], что происходит прилипание комплексных ионов к нейтральным частицам аэрозоля. Вторая гипотеза [9; 10; 11] дополняет первую, средние промежуточные ионы представляют собой соединения из нескольких молионов и комплексных ионов, связь в которых носит как электростатический (кулоновский), так и ковалентный характер. В качестве источника нейтральных частиц рассматривается [12] гипотетический процесс образования в результате ассоциации столкнувшихся строго определенных по химическому составу разнополярных комплексных ионов достаточно стабильных полимолекулярных нейтральных образований – *нейтральных ионных пар*. К возникшим нейтральным ионным парам в течение времени 10^3–10^4 с в результате неупругого столкновения прилипают комплексные ионы [5], образуя заряженный ассоциат (триплет) – *ионный кластер* или *кластерный ион* – диаметром 1,0–3,5 нм и электрической подвижностью 0,01–0,5 см^2/(В·с). Коагуляция дублетов и триплетов ведет к появлению мультиплетов. Приобретая заряд, такие мультиплеты за счет дипольных и квадрупольных сил могут объединяться в кластеры и далее расти за счет конденсационных процессов. Ассоциация разнополярных комплексных ионов и кластерных ионов друг с другом и с ионными парами ведет к укрупнению частиц до диаметра 5–7 нм [4]. В-третьих, предполагается [14; 18], что вышеописанные ионы возникают, согласно теории Томсона или более поздних ее модификаций, в результате ион-индуцированной нуклеации, т.е. вызванной ионизационными процессами генерации термодинамически устойчивых молекулярных комплексов, способных к

дальнейшему росту путем конденсации различных полярных молекул микропримесей воздуха вокруг заряженного центра. Исходя из этого, предлагается [13] различать *конденсационные ионы* – это заряженные аэрозольные частицы подвижностью 0,3–0,5 см^2/(В·с) с «врожденным» зарядом, возникающие в результате ион-индуцированной нуклеации на молионах и комплексных ионах.

Обобщая вышеизложенное, подведем итоги по результатам проведенного обзора относительно классификации и природы аэроионов. Отметим, однако, что указанные ниже границы классов ионов имеют условные значения.

В классе легких (*small*) аэроионов следует различать элементарные (молекулярные) ионы подвижностью более 3–5 см^2/(В·с), образованные непосредственно действием того или иного вида ионизирующих излучений и комплексные ионы. Комплексные ионы, в свою очередь, делятся на первичные комплексные ионы, образованные в результате гидратации молекулярных ионов, средней подвижностью 1–3 см^2/(В·с), и вторичные комплексные ионы, образованные в результате ион-молекулярных реакций молионов и первичных комплексных ионов, подвижностью в пределах от 0,5 до 1 см^2/(В·с).

Молионы и комплексные аэроионы могут сорбироваться взвешенными в воздухе аэрозольными частицами, образуя сложные ионы, относящиеся к классу средних промежуточных (*intermediate*) аэроионов (конденсационные аэроионы) и к классу тяжелых (*large*) аэроионов (аэрозольные ионы).

В классе средних промежуточных (*intermediate*) аэроионов следует различать сложные конденсационные ионы подвижностью 0,3–0,5 см^2/(В·с), образованные в результате ион-индуцированной нуклеации на молионах и комплексных ионах, и кластерные ионы подвижностью 0,01–0,5 см^2/(В·с), образованные в результате прилипания комплексных ионов к нейтральным ионным парам.

В классе тяжелых (*large*) аэроионов следует различать сложные аэрозольные ионы подвижностью от бесконечно малой до 0,01 см^2/(В·с), образованные при столкновении и прилипании молионов и комплексных ионов к нейтральным частицам аэрозоля.

Представленная в настоящей статье обзорная информация свидетельствует о том, что физическая природа аэроионов различных классов подвижности существенно различается. Таким образом, для достижения максимального положительного влияния на организм человека при проведении гигиенических мероприятий по нормализации аэроионного состава воздуха в помещениях следует принимать во внимание не только объемные концентрации аэроионов, но и их распределение по подвижности. Последнее требует проведения специальных исследований спектрального распределения аэроионов в зависимости от условий ионизации [16].

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To Question on Air Ion Classification

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Key words and phrases: air ionization; air ion mobility spectra; air ion classification.

Abstract: The information about air ion physicochemical nature is generalized. The more exact air ion classification according to electrical mobility is proposed. It is noticed that the most expedient way for making the air ion classification is to take into account the nature of physical interactions which define stability of different air ions. The importance of hygienic rating of air ion rate with taking into consideration air ion mobility spectra is emphasized.

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Dynamic Action on Construction Caused by Trafic

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Key words and phrases: transmission of vibration; damping; soil models.

Abstract: Transport, different machines (building and industrial equipment) are the sources of the technogenic dynamic loading on the surrounding soil and nearby building. The analysis and calculation of distribution of vibration in soil is an important and simultaneously difficult task. In this work the problem of action of vibration induced by motor vehicles on the soil and building, situated near the motor road is discussed. The results of the finite element analysis of vibration of structure and soil are presented. Finite element analysis is executed by means of Plaxis-2D program (Delft, Netherland), which enables to take into account soil - structure interaction and to use linear and non-linear soil models.

1. Introduction

The vibrations generated by passing transport, extend on a ground, involving in oscillatory process the buildings located nearby. Vibrations of building can create hindrances in work of precision devices; can be felt by people being inside and in certain cases leads even to damages of constructive elements of buildings, therefore estimation of its level and character is actual problem. The motor vehicles generate low frequency (10–20 Hz) and not intensive vibrations: level of vibration near to a highway can reach 65–70 dB only at very large transport flow (8–10 thousand of transport units at an o'clock). Amplitudes of vibration of a surface of a ground can vary from 0,05 to 0,36 mm, the soil particle vibration velocity is about 5÷70 mm/s.

Several countries have established design criteria in their building standards, giving a maximum velocity for various categories of buildings, distinguishing between newly constructed general purpose buildings, houses and masonry structures, and monuments or very sensitive buildings. Normal values for the allowable velocities are 16 mm/s, 6 mm/s, and 3 mm/s. These values are the allowable vibrations of structural elements, for the three categories of buildings. Allowable vibrations of the foundation or the soil in its immediate vicinity are usually much smaller, of the order of magnitude of 4 mm/s or 2 mm/s.

In this work the finite element analysis of vibration action on soil and structure is executed using dynamic module of Plaxis 2D v8 program, which enables to take into account soil – structure interaction, to use different models of soil. In Plaxis special boundary conditions are used in order to absorb waves, reaching the boundaries.

The paper deals with problem of calculation of the vibration of ordinary four-storied building situated in 50 m from motorway. The purpose of work is to examine the behavior of the system soil-construction under vibration and to determine the parameters of vibrations depending on soil properties. For this problem different models of soil are examined: linear-elastic body (**LE**), Mohr-Coulomb model (**MC**) and nonlinear hardening soil model (**HS**).

2. Scientific background

The basic equation for the time-dependent movement of a volume under the influence of a dynamic load is:

$$M\underline{\ddot{u}} + C\underline{\dot{u}} + K\underline{u} = F \qquad (1)$$

where: M – the mass matrix (soil, water and construction), C – the damping matrix, K – the stiffness matrix, F – the load vector, u – $\dot{u}$ – $\ddot{u}$ – displacement, velocity and acceleration vectors. Here the theory is described on the base of linear elasticity. However, all models in Plaxis can be used for dynamic analysis. The matrix C represents the material damping, which is caused by friction or by irreversible deformations (plasticity or viscosity). If elasticity is assumed, damping can still be taken into account using the matrix C.

In finite element formulations, C is often formulated as a function of mass and stiffness matrices (Rayleigh damping) as:

$$C = \alpha_R M + \beta_R \quad (2)$$

This limits the determination of damping matrix to the Rayleigh coefficient α_R and β_R. Here, when the contribution of M is dominant, more of low frequency vibrations are damped, and when the contribution of K is dominant more of high-frequency vibrations are damped. Liquefaction of soil is not considered in Plaxis Dynamics.

3. Numerical example

In this work the plane strain analysis for calculation of vibration parameters of road, surrounding soil and nearby building is used. The motor road with width 15 m based on sand soil. The pavement of road is 10 cm asphalt on the 10cm crushed stone layer. Building is situated in the distance 50 m from the road center (fig.1). The building consists of four floors and the basemen, it is 9 m wide and 30 m length, the total height from the ground level is 12 m and the basement is 2 m deep. Material model of building is elastic, material properties of plates for walls and floors are: normal stiffness $EA=5\cdot10^6$kN/m, flexural rigidity EI = 9000 kNm^2/m, weight w = 5 kN/m/m, Poisson's ratio ν = 0, Rayleigh damping α = β = 0,01.Weight takes into account dead load and live load acting on each floor. Material model of asphalt is linear-elastic, non-porous, unit weigh γ = 25 kN/m^3, Young's modulus E_{ref} = $1\cdot10^6$ kN/m^2, Poisson's ratio ν = 0,35.

Three variants of soil model are employed for subgrade of drained sand: 1) linear-elastic (**LE**); 2) elastic-perfectly plastic Mohr-Coulomb model with cohesion c =1 kN/m^2, friction angle φ = 31º, dilatancy angle ψ = 1º (MC); 3) hardening soil model with stress dependent on soil stiffness (HS), E_{ur} = 50000 kN/m^2E_{oed}= 25000 kN/m^2, power p = 0,5. All models has identical unit weigh γ = 19 kN/m^3, Young's modulus E_{ref} = 25000 kN/m^2, Poisson's ratio ν = 0,2 and Rayleigh damping α = β = 0,001. This gives opportunity to compare the results of calculation for different type of soil behavior. There is no groundwater in this soil massive.

Control points A, B, C are located in the middle of the road on the depth 0,4; 2,0 and 5.0 m respectively, points D,E,F is located on the ground surface on the distance 10.0, 20.0 and 30.0 from the road center. Point G is located on the ground surface near the building, points H, I, J are located in the middle of the building, H – on the basement, I and J –on the slabs.

The dynamic loading is imposed on the road as harmonic periodic force with frequency 10Hz and amplitude 5 kN/m. Duration of dynamic force action is 0,5 s. System geometry with control point location is given in fig. 1. Some results of calculation of vibration parameters are presented bellow: plots of the vertical displacements of control points in fig. 2–4; displacements and velocities of control point on the building – in fig. 5–7.

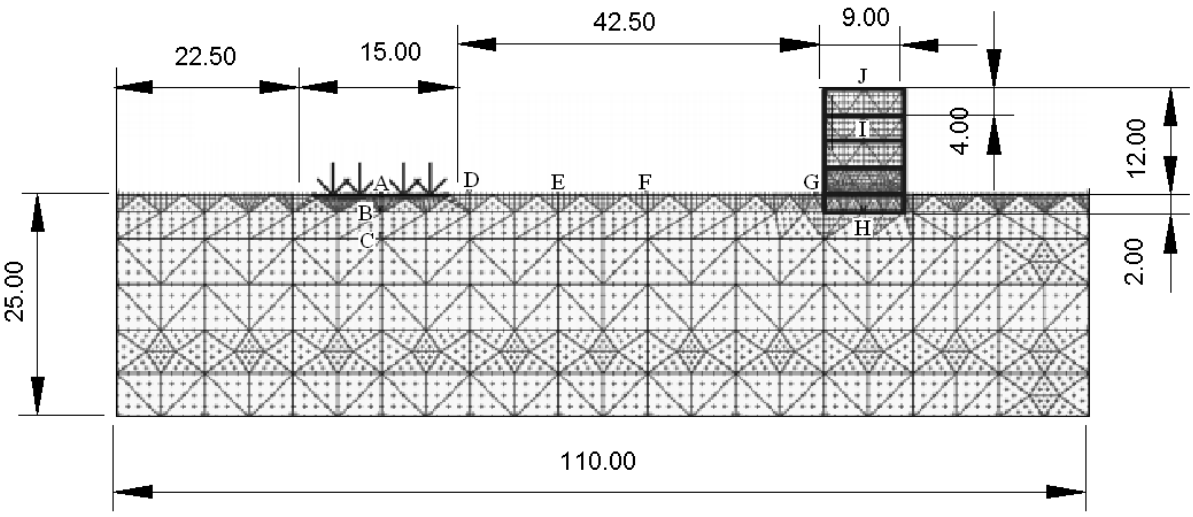

Fig. 1. System geometry with control point location and finite element mesh

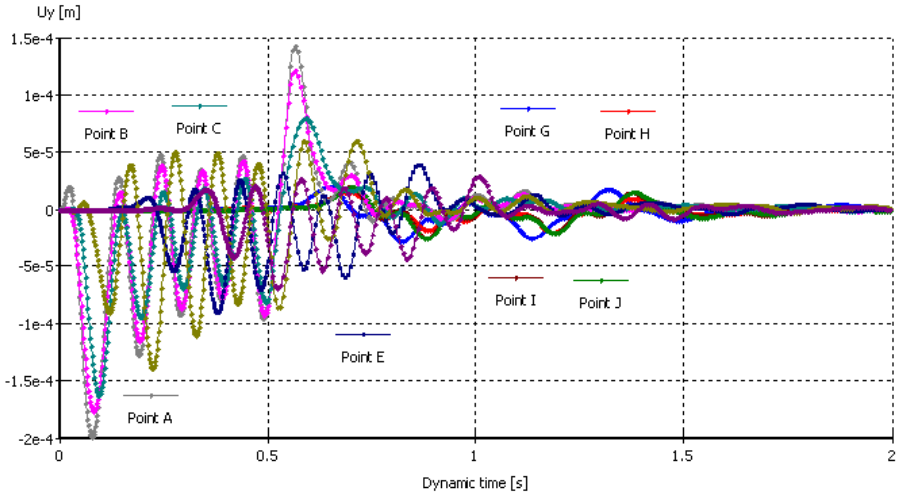

Fig. 2. Vertical displacements u_y (m) of the control points: for LE soil model depending on time

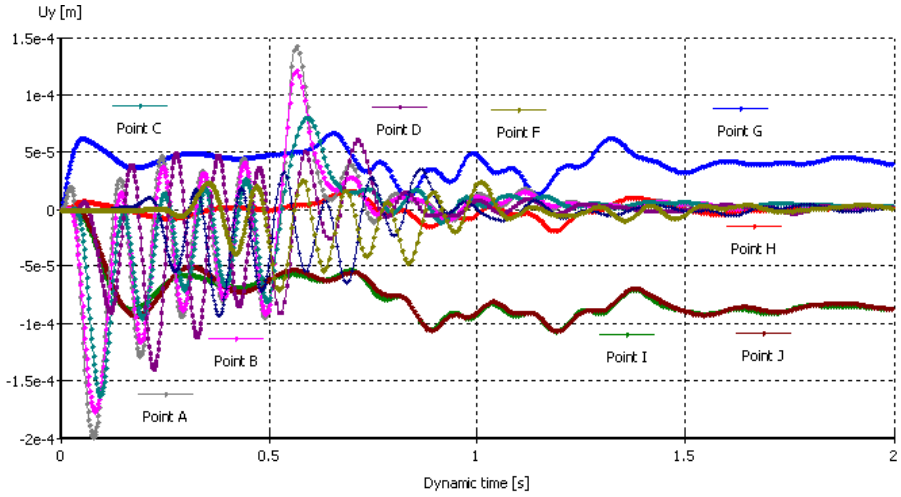

Fig. 3. Vertical displacements uy (m) of the control points for MC soil model depending on time

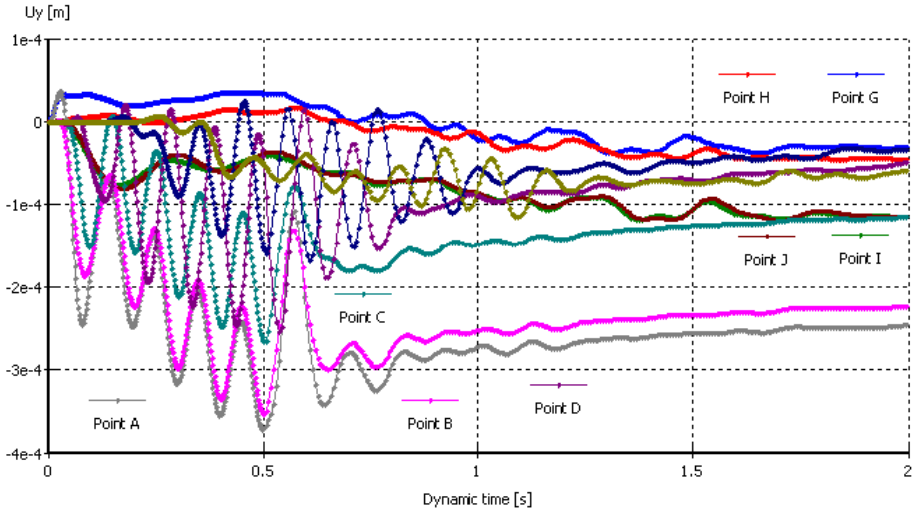

Fig. 4. Vertical displacements u_y (m) of the control points for HS soil model depending on time

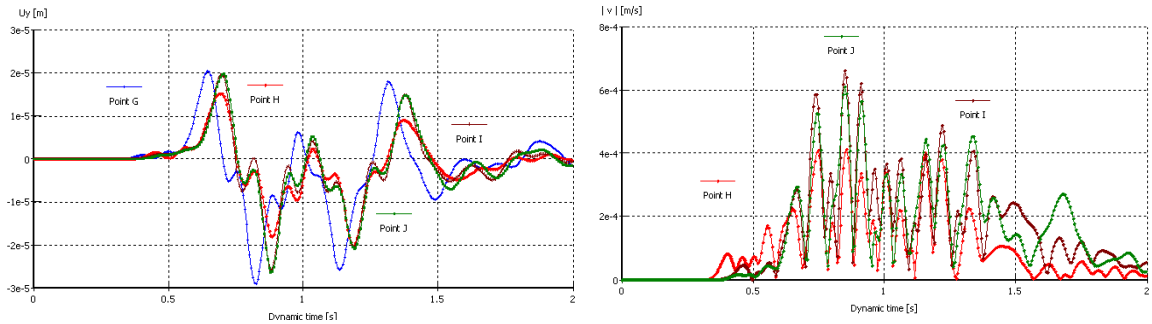

Fig. 5. Vertical displacements u_y (m) and common velocities v(m/s) of points H, I, J for LE model depending on time

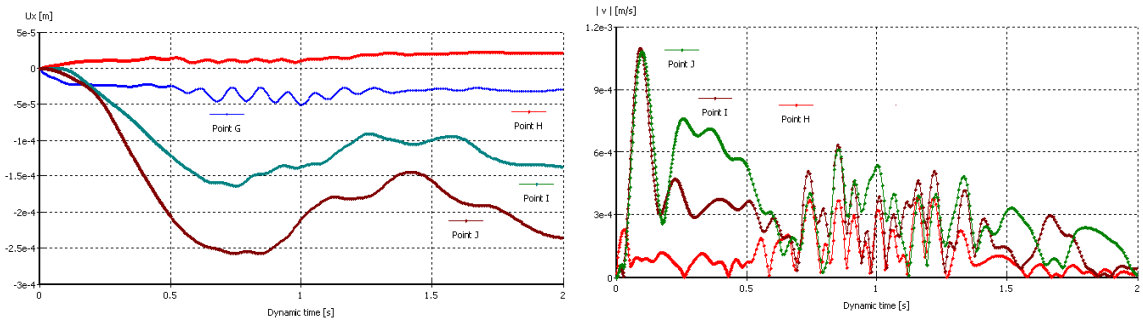

Fig. 6. Horizontal displacements and common velocities of points H, I, J for the MC soil model depending on time

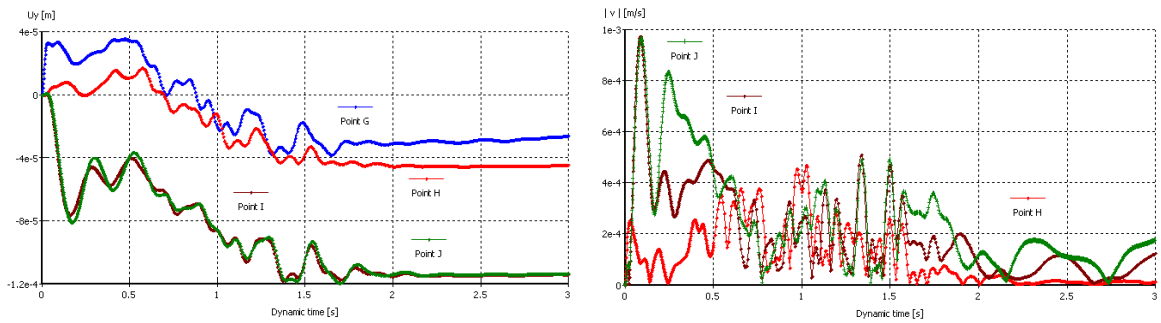

Fig. 7. Vertical displacements and common velocities of points H, I, J for HS model

4. Conclusions

The example of the finite element analysis of vibration of soil and structure due to moto-vehicles action are presented in this paper. Since natural frequency of such buildings is in the range from 1–2Hz till 8–10Hz, increasing of the load frequency not increase the parameters of vibration. Vertical displacement and velocities of the point on building differ a little for the MC and HS soil models and much smaller for LE model; horizontal displacement and velocities show the same results. Conversely, the displacements of the points on the ground surface and in the depth under road are similar for LE and MC models and higher for HS soil model. The increasing of the amplitude force increases the vibration and can cause the high velocity.

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ДИНАМИЧЕСКОЕ ВОЗДЕЙСТВИЕ ОТ ДВИЖУЩЕГОСЯ ТРАНСПОРТА НА БЛИЗЛЕЖАЩИЕ ЗДАНИЯ

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Ключевые слова и фразы: распространение вибрации; демпфирование; модели грунтов.

Аннотация: Транспорт и различные машины (строительное и промышленное оборудование) являются источниками техногенных динамических нагрузок на грунт и близлежащие здания. Анализ и расчет распространения вибрации по грунту является важной и одновременно сложной задачей. В данной работе рассматривается проблема действия вибрации, вызванной автомобильным транспортом, на грунт и здания, расположенные возле автодороги. Представлены результаты конечно-элементного анализа поведения системы конструкция-грунт, выполненного с помощью программы Plaxis-2D (Делфт, Голландия), которая дает возможность учитывать взаимодействие грунта и сооружения и применять как линейные, так и нелинейные модели грунтов.

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ХАРАКТЕРИСТИКА СТРАТЕГИЙ В СТРУКТУРЕ ЛИЧНОСТНО-ПРОФЕССИОНАЛЬНОГО САМООПРЕДЕЛЕНИЯ ПОДРОСТКА

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Ключевые слова и фразы: личностно-профессиональное самоопределение; стратегии; компоненты и показатели личностно-профессионального самоопределения.

Аннотация: В статье на основе анализа научной литературы сформулировано авторское определение феномена «личностно-профессиональное самоопределение подростка», выявлены и обоснованы его компоненты, показатели, психологические стратегии достижения и уровни проявления. Представлена подробная характеристика, конкретизированы особенности, а также дано содержательное описание характеристик психологических стратегий мотивационного, проективного, когнитивного, операционального, рефлексивного компонентов в структуре личностно-профессионального самоопределения подростка.

На основе анализа актуальной психологической, акмеологической, педагогической литературы (А.А. Деркач, А.К. Маркова, Л.М. Митина, Е.А. Климова, Н.С. Пряжников и др.) и собственного опыта работы личностно-профессиональное самоопределение подростка рассмотрено автором как сформированный ответственный и самостоятельный выбор, проявляющийся во владении им стратегиями самоопределения и обеспечивающий наиболее полное самовыражение личности подростка, в ходе которого он становится субъектом профессионального и жизненного пути.

В рамках системного подхода – это психологическое образование, состоящее из ряда компонентов, обеспечивающих целостность его рассмотрения (мотивационного, проективного, когнитивного, операционального, рефлексивного) и раскрывающих подготовленность подростка к ответственному и самостоятельному выбору профиля дальнейшего обучения. Представим структуру выделенных компонентов и стратегий личностно-профессионального самоопределения подростка.

Мотивационный компонент характеризуется знаниями, умениями успешного личностного и профессионального самоопределения. Это обеспечивает и способствует более глубокому осознанию подростком значимости данного процесса для успешности в будущей профессиональной деятельности. Мы считаем, что наиболее эффективными стратегиями выступают стратегия самомотивации и стратегия активного выбора, которые проявляются в стремлении к самовыражению, в направленности на взаимодействие с окружающими, в личностной устремленности, обеспечивающей продолжение формирования своего «я». Стратегия самомотивации характеризуется устойчивой потребностью подростка в осознанном владении планом и умениями, приемами самоубеждения, самопобуждения в направлении реализации потребностей профессионального и личностного самоопределения.

Реализация мотивационного компонента личностно-профессионального самоопределения подкрепляется владением подростком стратегией прогнозирования «потребного будущего».

Последняя является частью проективного компонента, который означает способность подростка переводить цели и содержание процесса личностно-профессионального самоопределения в конкретные задачи его каждого

этапа; отбирать виды деятельности, средства и способы, адекватные поставленным задачам. Стратегия прогнозирования и планирования «потребного будущего» отражает владение подростком планом и программой конкретных действий по постановке и достижению цели и задач личностно-профессионального самоопределения, когда он осознает свое участие и ответственность за все, что происходит с ним, и пытается активно способствовать или противодействовать внешним обстоятельствам, планировать и ставить цели профессиональной деятельности, изменять ради их достижения себя самого [1].

Саморазвивающуюся деятельность подростка можно представить как сознательный процесс самосовершенствования с целью эффективной самореализации на основе внутренне значимых устремлений и внешних влияний; целенаправленное, многоаспектное самоизменение, служащее цели максимального духовно-нравственного и деятельностно-практического самообогащения и самоосуществления [2].

Реализация проективного компонента предстает как осмысление истинных, подлинных целей своей жизни, а затем их обозначение через развитие качественных, основных начал своей личности и индивидуальности.

Реализация целеполагания и целеосуществления в рамках проективного компонента личностно-профессионального самоопределения предполагает осознание подростком сущности и особенности процесса саморазвития, разработки оптимальных планов и программ для дальнейшего личностного и профессионального самоопределения.

Когнитивный компонент обеспечивает продуктивность личностно-профессионального самоопределения подростка посредством владения им необходимым уровнем знаний, информацией о правилах поведения в тех или иных коммуникативных ситуациях, представления о сущности личностного, жизненного и профессионального самоопределения; понимание его логики и особенностей, о важности владения информацией, способностью интроспективно просматривать и отслеживать ход своей интеллектуальной деятельности, а также корректировать по мере необходимости отдельные ее стороны. Владение и реализация знаний, умений по преодолению препятствий в условиях самоопределения являются основными стратегиями в структуре когнитивного компонента.

Когнитивный компонент раскрывает необходимый уровень знаний, интегрирующих представление о сущности, содержании и особенностях познания; умений подростка владеть приемами рациональной организации и общей ориентировочной основой познавательной и созидательной деятельности в рамках осуществления профессионального выбора; позволяет определить подростку позицию по отношению к своему жизненному пути, найти смысл в нем, гармонично реализовать себя в различных сферах жизнедеятельности; обеспечивает сравнивание альтернативных позиций и субъектов саморазвития, и как следствие – стимулирование саморазвития, самоорганизации, творческого подхода к самосовершенствованию.

Операциональный компонент отражает подготовленность подростка к основным видам, средствам и способам реализации процесса личностно-профессионального самоопределения, обеспечивает успешное развитие самопроцессов. Речь идет о таких умениях подростка, как: умение использовать приемы саморазвития, самоанализа, самокритики, самопринятия, самопобуждения, самопрогнозирования; умение составлять и успешно реализовывать индивидуальную программу, алгоритм личностного развития. Основными стратегиями в структуре операционального компонента являются стратегия выявления своих способностей и возможностей и стратегия контроля и коррекции полученного опыта. Стратегия выявления своих способностей и возможностей раскрывает владение подростком способами, приемами, укрепляющими свои сильные стороны, устраняя слабые в реализации личностного и профессионального плана. Стратегия контроля и коррекции полученного опыта проявляется в способах и приемах подростка отслеживать и вносить поправки и изменения в план или программу личностного, жизненного и профессионального самоопределения.

Реализация подростком операционального компонента личностно-профессионального самоопределения невозможна без развития наблюдательности, умения слушать, умения ясно излагать свои мысли, перцептивных умений, включающих в себя планомерное и целенаправленное воздействие на свое сознание и поведение с целью формирования определенных установок, понятий, принципов, ценностных

ориентаций, обеспечивающих подростку необходимые условия взаимодействия с окружающим миром [3; 4].

Мы полагаем, что умение подростка анализировать личностные и профессиональные достижения, оценивать результат своей деятельности позволит ему более четко и планомерно выстраивать траекторию своего развития и совершенствования, учитывая ошибки и достижения предыдущего опыта.

Рефлексивный компонент способствует осмыслению и осознанию подростком собственной роли в личностно-профессиональном самоопределении, пониманию и адекватной оценке стратегий и тактик этого процесса. Этот компонент раскрывается в стратегиях: оценки собственных достижений; анализа процесса и результата личностного и профессионального выбора. Последняя стратегия проявляется в четкой последовательности действий по выделению и осмыслению элементов-условий, причин, мотивов, средств и форм сопровождения процесса личностно-профессионального самоопределения; в нахождении основных проблем и способов их оптимального решения.

Стратегия оценки собственных достижений характеризуется владением подростком способами и приемами анализа своих сильных/слабых сторон, профессионального и личностного Я-образа; способностью адекватно оценивать и соотносить собственные ресурсы с полученными результатами личностно-профессионального самоопределения.

Сформированность рефлексивного компонента личностно-профессионального самоопределения позволяет подростку глубже определить позицию по отношению к своему жизненному пути, найти смысл в нем; гармонично реализовать себя в разных сферах жизнедеятельности; понять социально-нравственные требования и нормы, предъявляемые к человеку как субъекту саморазвития; на основе усвоенных психологических знаний (способов их получения) сформировать адекватное оценочное отношение к себе и другим людям.

Мы считаем, что выделенные компоненты в структуре личностно-профессионального самоопределения подростка и стратегии его осуществления отражают его убеждения, ценности, мотивы и стимулируют личностный и профессиональный рост.

Поскольку ответственный и самостоятельный выбор предполагает активность подростка в данном процессе, то последняя явилась основанием формулирования четырех уровней личностно-профессионального самоопределения подростка (пассивный, относительно активный, достаточно активный, активный), которые отражают владение подростком стратегиями личностно-профессионального самоопределения, выбора профессионального и жизненного пути. В выделенных уровнях учитывалось, что они раскрывают различную степень полноты сформированности показателей и стратегий личностно-профессионального самоопределения подростка, а также то, что при решении данных задач любой уровень при определенных условиях и потенциале личности совершенствуется и развивается.

Разработанные характеристики компонентов, показателей, стратегий и уровней личностно-профессионального самоопределения подростка раскрывают его как системно-структурное образование, проявляющееся в степени сформированности у подростка выбора «кем быть?», «каким быть?».

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The Characteristic of Strategy in Structure of Lichnostno-Professional Self-Determination of the Teenager

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Key words and phrases: lichnostno-professional self-determination; strategy; components and indicators of lichnostno-professional self-determination.

Abstract: In article on the basis of the analysis of the scientific literature author's definition of a phenomenon “lichnostno-professional self-determination of the teenager” is formulated, its components, indicators, psychological strategy of achievement and display levels are revealed and proved. The detailed characteristic is presented, features are concretised, and also the substantial description of characteristics of psychological strategy motivational, projective, когнитивного, operational, reflective components in structure of lichnostno-professional self-determination of the teenager is given.

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An Overview of Acmeological Potential of an Individual

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Key words and phrases: acme; potential; personal and professional potential; acmeological potential of a person.

Abstract: The article is based on the analysis of the latest psychological and acmeological literature; it introduces potential, personal and professional potential acme characteristics, and reveals how timely and complicated the study of acmeological potential of a person is. The authors give general characteristics of this phenomenon, as well as define the term “acmeological potential of a person”. On the basis of already existing definitions of acme-motivation, acme-abilities and acme-levels the authors specify the characteristics of the phenomenon. The authors also underline the uniqueness of acmeological potential of a person and mention that it has neither been widely used, nor realized to the fullest yet.

In today’s world the problem of consumer attitude to everything is very urgent, there is a lack of creative people who will be able to revive and transform spiritual, scientific and cultural potential of the nation. The development of Russian society makes vital such problems as more effective usage and development of human resources, the search for new opportunities and special ways of successful self-fulfillment of every person, reaching the acme in professional and personal life. According to N.V. Kuzmina, to reach the acme means to achieve the highest possible results of your development as an individual, actor or character; to reach perfection in the chosen field [6]. If we consider any achievement as being able to reach the peak of excellence, the limit of development, then, first of all, it’s important to find out through realization of which reserves or personal abilities it can be made possible. The term “acmeological potential of a person” has been defined, first and foremost, in the context of the main acmeological categories: “acme”, “potential”, “personal and professional potential” etc. Acme is the highest point, the flourishing period of every person, the period of the highest achievements, when personal maturity shows itself in every sphere, and the maximum level of abilities’ and talents’ development is reached. It’s the result of interaction among many objective and subjective factors – the sources and the driving forces for such extraordinary personal achievements [2]. Acme, as the highest level of personal development, possesses such characteristics as progressive orientation (constructive intention), intensity of development (avalanche dynamics), its conceptual incompleteness (openness to another round of development), which all indicate the many-sidedness and the level of potential of such a person (A.A. Bodalev, A.A. Derkach).

The structure of personality potential appears as a separate system of specially organized renewable inner-resources of an individual, providing a wide range of possible vectors of development and personality transformations in the course of their lives; and which also influence the achievement of socially-acknowledged results (I.A. Bespalov). According to E.N. Bogdanova, “potential” is the total of resources and hidden abilities, which can be developed under certain conditions. As for V.N. Markov, he assumes that “potential” is a system of renewable inner-resources which show themselves through work aimed at receiving socially-significant results [5]. In this research the preference is given to V.N. Markov’s point of view, who, while regarding “potential” as a psychological phenomenon, integrally describes the phenomena of motives and abilities. Here, abilities of a person express the already-unlocked potential, while personal motivation defines further developmental perspectives of potential. On the basis of acme types (individual, personal, subjective, professional

and civil) described in the study of acmeology we can imply that there is an interaction among morphological, physiological, and psychological characteristics of a person, as well as the influence of social, cultural, and other conditions which cause and guarantee their development. The search for such characteristics and their combinations on the psychological level could be started from talents and motivation, integration of which can expose the core of an individual's potential. In other words, acmeological components of a person's potential can be found, first and foremost, in the characteristics of their talents and motives. Acmeological potential can be generally defined as a personal formation, which provides acceleration of the process of an individual's acme-oriented self-development: it consolidates new accomplishments in this process and prepares a person for further acme-oriented self-transformations. If we look at an individual from the point of view of their main substructures as "potentials" (M.S. Kagan), then we could allocate the following types of potential: gnoseological, axiological, creative, communicative and artistic ones. However, we can also speak about energy potential, as it depicts the level of a person's vigor, assertiveness, resistance to external influence, ability to defend their point of view, independence of thinking, etc. It is also worth mentioning that those who possess energy potential are people with charisma and other personal qualities which we cannot see, comprehend, compare or value, but only feel. We may say that acmeology of a person and their potential manifests itself not only through character, temper, physical abilities etc., but also through the things they know, value and create, how and who they socialize with, their needs and the ways these are satisfied, and their overall achievements. Thus, it is obvious that the presence of acmeological potential in an individual (in the forms of motivation, talents, possibilities, qualities, personal traits at the peak of their development) is an essential prerequisite for the fullest self-fulfillment of this person in their daily life.

The general idea of acmeological potential of a person has been formed by taking into the account the existing scientific points of view on acme-motivation and acme-abilities of a person (A.A. Derkach, E.V. Selezneva). Acme-motivation is the total of all types of determinations and conditions (motives, needs, interests, goals, impulses, ideals, habits, emulations etc.) which determine, activate, guide and regulate acme-oriented self-development of a person as a special spiritual inner-activity [4]. According to the scientists, the contents of acme-motivation are as follows: motivation of relative autonomy and independence of a person in the course of their individual development; motivation of achievement connected with a high willingness to risk; motivation of self-fulfillment; motivation of creativity [ib.]. Involvement of a person into acme-oriented development process suggests that this person already possesses certain acme-abilities, and will soon develop new ones, such as vitality, lability of ways to solve everyday problems and to switch, the ability to build and realize individual strategies of self-development (an acmeogram), to rely on "upward cognition" (according to L.I. Antsyferova), i.e. to complicate future goals in comparison to the present ones; being able to find a functional way out of crisis and conflict situations, when all obstructions on the way are reckoned as minor obstacles and are less important than the process of reaching the acme and awareness of the significance of the personal contribution to the social progress [3, p. 306]. It is evident that all these abilities are interdependent and influence each other, guaranteeing that a person reaches their acme. However this fact is not only interesting by itself, but also in the context of understanding the (psychological) prerequisites and the sources of these achievements. It's vital to understand how they influence the "caliber" of acme, its duration, and the ways they could be linked to different outer-influences, as well as the role of people themselves in this process. Taking into account the existing examples of pseudo-acme and antisocial acme, we think it's important to concentrate the scientific research, first of all, on the constructive personal resources, realization of which will allow us to contribute to the real values of life and culture. One of the most intriguing are the characteristics of "the model of an outstanding personality" described by E.B. Starovoytenko. The main potentials of such individuals according to the author are problem thinking, creativity (which provide us with ideas for the future), reflection (which creates an independent "I" and brings your inner-world in accordance with social and transcendental perspectives) and dialogism of mental life [7, p. 136].

In acmeology the term "personal and professional potential" is widely used, and according to A.A. Derkach and E.V. Selezneva it defines personal and performance professionalism,

professional integrity, and progressive personal development on the whole. We believe that this term can be specified by a number of acmeological characteristics, e.g. by introducing ideas of individual prerequisites for successful performance, by presenting the highest possible characteristics of acmeology, by specifying the characteristics which are vital for reaching the true acme, by showing acme-abilities which every person should develop in the first place, by motivating the optimal choice among the immeasurable opportunities for self-development etc; in other words, the characteristics which directly address the acmeological vector of personal potential. The core characteristics of the acmeological potential of a person, as well as personal and professional ones, can be as follows: direction, range, intensity, mobility etc. However, if the semantics of personal and professional potential allow the characteristics of ambivalence of its demonstration (constructive vs. destructive), then the acmeological potential of a person, as we suggest, has to clearly contain a constructive trend of talents and abilities, which together with acme-motivation enable self-realization in the socially significant achievements in culture, art, literature, science, technology and education.

The term “acmeological potential” is new in the sphere in comparison to the initial term “potential”. Hence it is extremely problematic to study the acmeological potential of a person and to evaluate their development, because we cannot operate the quantitative data of this phenomenon. We think that in this case we can speak about the general, special and individual components of the structure and content of the explored phenomenon; to distinguish not only its invariant but also variative components.

On the basis of our analysis of up-to-date scientific literature, empirical studies and professional experience, we consider “acmeological potential” in general to be a system of inner personal resources, which integrate their motivation, abilities, individual psychological traits, which guarantee optimization of a person’s daily life. Acmeological potential of a person as a systematic formation can be characterized not only by multidimensionality, determination, and dynamics but can also be evaluated through certain level characteristics. We took into consideration the term “acmeological level” formed in acmeology, which can be defined as characteristics of achievement of the high level of mental and functional professionalism by the subject. It possesses the following characteristics: the presence of systematic qualities in the actor, social responsibility, citizenship, high personal and professional standards, individual resourcefulness (inner-potential), dynamics and determination to self-development [1]. Giving definitions to the levels of acmeological potential of a person could let us reflect the uniqueness of organization of acmeological potential, introduce mechanisms and possibilities of jumping of the elements from one level to another (their evolution).

The acmeological practice proves the effectiveness of acmeographic descriptions (expert opinion polls and evaluations, professional graphic descriptions, psychological testing, analysis of dynamic changes in personal and professional development), which let us on both general and individual levels introduce the organization and the content of a person’s highest achievement (personal or professional). The understanding of “an individual” here can be directly represented in an acmeogram of the specialist. Here among the most important are the ideas that your potential is unrealized, clear and unattainable. People in the modern world don’t use their resources to the fullest; instead they aim at solving easy standard tasks. Obviously, by acting this way they lock themselves out from the ways and motivation which would otherwise help them reach complete self-fulfillment. The idea of acmeological potential will help us understand all possible characteristics (spiritual, intellectual, motivational, energetic, communicative, creative etc) that one has to possess in order to reach their optimum in everyday activities. It is evident that the presence of acmeological potential in a person and their being able to master it will contribute to their personal success, self-fulfillment and reaching their acmeological goals. The analysis of modern literature on the topic has shown that acmeological potential of an individual has not yet grasped the interest of modern scientists, but it possesses a significant academic and research potential for solving important social, cultural and other problems guaranteeing social progress. The problems of research and development of the acmeological potential of a person are extremely relevant and promising for scientific research and they undoubtedly require more careful consideration.

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ОБЩЕЕ ПРЕДСТАВЛЕНИЕ ОБ АКМЕОЛОГИЧЕСКОМ ПОТЕНЦИАЛЕ ЛИЧНОСТИ

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Ключевые слова и фразы: акме; потенциал; личностно-профессиональный потенциал; акмеологический потенциал личности.

Аннотация: В статье на основе анализа актуальной психологической, акмеологической литературы, представления характеристик акме, потенциала, личностно-профессионального потенциала раскрывается актуальность и показывается сложность изучения акмеологического потенциала личности; дается его общая характеристика и формулируется авторское определение акмеологического потенциала личности, уточняются его характеристик за счет имеющихся в акмеологии трактовок акме-мотивации, акме-способностей, акмеологического уровня. Подчеркивается уникальность акмеологического потенциала личности и затрагиваются вопросы его неиспользованности, нереализованности.

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Novel "Zvoneća Svojni" by Franjo Matetić as a Reflection on the Continuity of Life

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Key words and phrases: Zvoneća; Chacavian-Ekavian dialect; Kinkela; historical novel; Croatian identity; Kvarner.

Abstract: The paper presents the research results from the area of village Zvoneća, situated northwest from Rijeka in the republic of Croatia. This area has been inhibited by the Slavs-Croats since the sixth century AD. The population has preserved its authentic Chakavian-Ekavian dialect, architecture, culture and way of living, authentic grapevine sort, authentic carnival group of bell ringers. In 1999 Franjo Matetić (born 1921), mason and Zvoneća's resident, issues his novel under the title "Zvoneća svojni" (Zvoneća-once upon a time) in which he describes life in Zvoneća from 1850 to 1970, telling his story of a typical Zvoneća's family Kinkela. Based on this first novel, written completely in Chacavian dialect, the author of this essay has investigated ground historical data about Zvoneća, historical, onomastics and literal sources pointing at the long continuity of life in creating modern cultural identity of the part of Europe.

Zvoneća svojni is the first novel by Franjo Matetić, the oldest resident of Zvoneće (born in 1921.) who, as a spoke person of history and customs form his home area, has published this work in his seventy-nine year of life[9]. The novel is a chronicle in which focus is a history of fictional family Kinkela from the middle of the 19th century to the middle of the 20th century. By artistic imagination and by integration of memories, Matetić presents memories, meaning, a picture of life and history of his own home town, which has suffered radical modifications after the Second World War[10]. Zvoneća is today a placed in municipality Matulji, precisely in Primorsko-goranska county[11]. But also, in his vitality, Matetić in the novel as well as real life, testifies to language treasure of his place and is in both cases a relevant teller of onomastic thesaurus from Zvoneća. It is a fact according to philological analysis of idiom, onomastic analysis, analysis of architectural heritage, as well as other researches, that we are talking about very old area, in which surroundings are places that were inhabited by human beings[12], as it is proven by the remains of Illyrian (Iapodic) culture[13], Roman roads and

[9] In translation: Zvoneća once upon a time, Adamić, Rijeka and Matulji municipality, editor Franjo Butorac

[10] To compare: "In a very short period of three decades, inhabitants who were tightly connected and dependable of agriculture and humble cattle breeding as poor farmers – agriculturalists, they stopped being that. Agriculture as a main occupation of majority until 1948, today is only minor and additional work" (Juračić, 1983, p. 111–112).

[11] Place is situated in The Republic of Croatia, in hinterland of Kvarner's bay, geographical position: 45.24N, 14.17E.

[12] It were noted by sounding the remains of fireplaces and remains of thrown stone and bone artefacts that belong to the culture of late Paleolithic or Epigravettien in the cave on Gradina near Veli Laz, cave in Šternica near Permani and in cave in Šaftica near Zlauki (Starac, 1996, p. 7; Malez, 1974, p. 27–34).

[13] In the area of the city Kastav was a construction place-fortress of Iapodes (Mandić, 1978, p. 25). East of Raša were mixed Iapodes with Celts and had inhabited slopes of Krš and Kapela, and southeast Liburnians, in maritime littoral from Raša to Zrmanja. The Romans had in 129 BC conquered Iapodes, and 50 BC Liburnians (Gruber, 1924, p. 3). The Celts have inhabited this space from the 5th century, and it is not clear how much had they repressed the Liburnians from eastern parts of Istria, neither did Romans at all have any great success in romanisation of todays Kastav's area (Dorčić, Tomašić, 1931, p. 41). During the 10th century BC the process of shaping inner cohesion and ethno-cultural physiognomy of the three groups, nation of Histris, Iapodes and Liburnians, had been concluded. Their borders of mutual contact are present even on Matulji's area. So there are on the area of Gradina, around ancestral centre in Kastav: Gradišće, Upper Rukavac, two hill-forts at Veli Brgud, hill-forts Stanić at Mučići, Gradinovo at Zvoneće – that belong since 4th ct. BC to Iapodes' ethnic element. Because of of repressing Iapodes

borders. It is the area in which is being recorded very early arrival of Croats, who inhabited Liburnian area in seventh and eighth century, and it will remain part of Croatian state until the middle of twelfth century [20, p. 63]. In that period had come to gradual merging of the Croats and their co-life with indigenous peoples. The territory of Kastav's municipality in developed Middle Ages had enclosed Zvoneća, and the oldest written document we find in ***Documment of dividing between Kastav and Gotnik*** from 1543 when people from Kastav had risen questions about boundary lines in the area Zvoneća (Suonecziza) – Brgudac (Bergudaszt) – woods /Kastav's/ (Silluam in monte)[14]. Although from Treaty of Rapallo in 1922 [15] Zvoneća became part of the Kingdom of Italy and were for many years broken all connections with Kastav, nowadays are being confirmed cultural, linguistic and customs relation of Kastav and Zvoneća. We are, in fact, talking about a place of a hamlet type [7, p. 112, 117, 132] which constituent part also make hamlets Gašpari, Kriva, Perka, Škrapna, Sušnji, Zdemer and central village Zvoneća. This toponym is a noun made from present participle (of the verb ring), that developed form the Nominative singular feminine gender of active present participle, and that was in earliest (Proto-Slavic and old Croatian) language formed out of present base by special word formation morphemes. Grammatical morphemes that directed to noun categories of gender, number and case were added on that type of base[16]. Although the development of the language has repealed participles as morphological category of hybrid structure between verbs and nouns, a significant number of adjectives in modern language still keep origin from once changeable active present participle[17]. Therefore already the name of the place emits linguistic antiquity and probably represents shorten form of the syntagm: *zvoneća vas*, meaning place, village that rings. In the context of folk etymology, the name of the place is connected to shepherds' work, especially with sheep, i.e. moving of sheep flocks ("zvone ća"[18]). Local speech, meaning idiom of Zvoneća, belongs to Ekavian – Chacavian subsystem, therefore being part of northeast Istria speeches of Croatian language, and in which appears the least number of lexical Ikavian words. This speech is known to be the one that most congruously keeps the oldest language characteristics [27, p. 325, 326; 28, p. 262]. Using that idiom, Matetić had also written this novel about the destiny of the Kinkelas [9, p. 2010]. That surname is typical for Zvoneća's area [2, p. 348–361; 5, p. 2010]. It has also been appearing in registry books already from 1700[19]. The Kinkelas are Croats and are present in seven Croatians counties, eighteen municipalities and thirty-four places [8, p. 504]). Chaplain's office of Zvoneća documents **(Exhibit, Status animarum, St. Antun's church in Zvoneća record from 1881)** and registry books **(Liber I baptizatorum in ecclesia**, a list of registry books from State archives in Rijeka, HRDARi-1271) prove frequency of this surname. Its origin is not completely clear. Petar Skok (1972) mentions possible connection with the word ***kimak,*** genitive kimka, pl. kimci, that means: 1. *Bug (cimex lectuariis);* 2. *coriandrum sativum*. In congruency with not only derivational aloglotic suffix (of

from Liburnians in the latest centuries of the old ages, hill-forts on the north of Matulji's municipality have characteristics of the fortresses of Kras, therefore representing marginal habitat of the Iapodes. The Romans have had several bloody wars wit the Iapodes, and in the area of todays Ilirska Bistrica was one of the Ipodes' centre of resistance (Starac 1996:9–13). In the littoral fortresses has over the oldest Iapodes layer been placed thin Liburnian layer, especially after the wars of the Romans with Teuta in the 2nd ct. BC. Therefore here was formed hybrid culture, a specific version of the Liburnian C and D culture. However, in Kras the inhabitants are Iapodic, and accepted social relations and strong traditionalism keep the culture clear and in which were in 4th ct BC incorporated Celtic influences (Matejčić, 1983:50; Valušek, 1983:55).

[14]Documents of dissolution from 1543; HDA VO-4, ISR, volume LXIII (XXXIV) (1) number of act 33. (Munić, 1988:49, 219; Alberi, 1997:303; Matijašić, 2005:919).

[15]"The act of demarcation in the area of Liburnia was one of the hardest hits on territorial compactness of once Middle-aged Liburnian commune, and by the end of the last 19th century on great Kastav municipality in which area of 37.152 half an acres and 1516 fathoms in 2676 houses had lived in total 15.995 souls" (Munić 1997:12).

[16]This participle had in the source language morphological and functional status of adjective, then definite and indefinite form and therefore it had double declension.

[17]These are adjectives with bases endning on consonant /ć/: gorući oganj, iz gorućega ognja, gorućim ognjem spaljeno; noseća žena, nosećoj ženi, vruća voda, vruću vodu (Lukežić, 1996: 146, 147). Comparison: in Matetić's novel: goruću sveću (76,77), s kipućon vodun (106).

[18]Translation: "*ring away".*

[19]In the Kastav's registry book is found: 1.IV.1700: *Anna filia legitima Joannis Kinchela* te za 16. V. 1700.: *Joannes filius legitimus Joannis Kinkella Gaspari et uxor Lucia*. (HRDARi-275, 195, Kastav 1700–1728. Baptizati, coppulati et martiri, according to genealogist dr. Mariji Puharić Harašlić).

roman format) but also with versions of lexical morpheme, Kinkela reflects diminutive ***cimicella** (little bug). Within this is shown the way of keeping old (Roman) pronunciation even in the north of Croatian Littoral area, not only in the surroundings of Dubrovnik and Montenegro. This word could be understood as a received word under the influence of adstratum. Ethnologists have determined this area as a walking culture that is rich with paths and ways with small radius of moving of old people, with the man as a walker in the centre. Especially important are land (grunat), big flock feeding areas and hay fields, drystone fences[20] for flock resting in open areas. Therefore, famous Zvoneća's fields take special place in the structure of the novel, because they are existential shape of life in old Zvoneća[21]. This especially relates to authentic type of grape vine – **jarbola**. [23, p. 100]. The name itself points to great antiquity, based on Latin **ărbor**, ŏris, f. [initially arbos], a tree. In the history of Croatian novel [19, p. 411], Matetić's novel can be positioned in the period between 1991 and 2000. To this self-taught writer[22], that finds his exemplar in the work of F.M. Dostoevski, post-modern prose techniques of transcendental self-confident narrator are unknown. But this concise literal work, based around memories revived from unlimited reserves of memories, confirms relevant scientific facts. It significantly relates to general emersion in Mediterranean, according to which cultures intertwine, and many elements are overtaken and adopted. The best examples for that are Greco-Roman cultural symbiosis in the Old age and Slavic (Croatian)-Roman in the Adriatic area in New ages. But this work is a certification that a condition of survival of Croatian stratum in Adriatic sea was creating strong background in every littoral towns and islands, and as well symbiosis of traditional agriculture with Mediterranean (grape vine) and maritime [21, p. 35]. Herein Croatian identity is in the area of Liburnia, meaning Kastav's area, confirmed in significantly long continuity. Therefore, *Zvoneća svojni* is viewed as a huge semantic potential, inexhaustible treasure of meanings, offering us possibility that after discovering it s world, we achieve new insights for our world today.

[20] Drystone construction is an example of palae-omediterranean cultural layer, present in rural areas of (once to be) Opatija municipally. It is about ethnographic phenomena in which had anonymous or known creator, as people representative, repeated by himself creating act in later centuries (Gothardi Pavlovsky, 1974:149, 150).

[21] Mathematical account shows that one man should spend 1358.47 years of work to make this fields (njivi) able to function in the terrain that exists today. With the average working period of thirty to forty years, an individual would need 38 human lives for that work, i.e. around 54 human generation would spend their work on Zvoneća's fields. (Sušanj, 1996: 139-147).

[22] The appearance of Matetić's first novel was happening far from Croatian literal centre, and the work was printed in Rijeka's editorial company, that was oriented towards wide range of themes, and lectoring and correction is signed by the author's son Milovan Matetić.

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РОМАН «СКАЗАНИЕ О ЗВОНЕКЕ» ФРАНЬЕ МАТЕТИКА КАК РАЗМЫШЛЕНИЕ О НЕПРЕРЫВНОСТИ ЖИЗНИ

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Ключевые слова и фразы: Звонека; диалект чакавскрое наречие; исторический роман; хорватская идентичность.

Аннотация: В работе представлены результаты исследования населенного пункта Звонека, расположенного на северо-западе Республики Хорватии. Эта территория была заселена славянскими хорватами с шестого столетия нашей эры. Население сохранило свой подлинный диалект (Chakavian-Ekavian), архитектуру, культуру, образ жизни и традиции. В 1999 г. Франье Матетик (родившийся в 1921 г.), каменщик и житель Звонеки выпускает свой роман под заголовком «Zvoneća svojni», в котором он описывает свою жизнь в Звонеке с 1850 по 1970 гг., рассказывая историю типичной семьи. Автор статьи исследовал историю Звонеки, указывающую на специфику культурных традиций данной части Европы.

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ОБРАЗ ВРАГА РОДИНЫ КАК АТРИБУТ МАНИПУЛЯЦИИ ОБЩЕСТВЕННЫМ СОЗНАНИЕМ

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Ключевые слова и фразы: враг Родины; идеологическое и информационное воздействие; манипуляция; образ врага.

Аннотация: Статья посвящена манипуляции общественным сознанием путем формирования образа врага. Автор анализирует популярность такого образа, определяя его как важнейшую часть идеологического воздействия, включая возможность использования Интернет-пространства с этой целью.

Чтобы правильно понять два неодинаковых типа противоречий – противоречия между нами и нашими врагами и противоречия внутри народа, – необходимо прежде всего разобраться в том, что такое «народ» и что такое «враги».
Мао Цзэ-дун

Нет ничего более удобного для консолидации любого типа социальной общности, чем апелляция к ее уникальности и безопасности. В этой связи образ врага был и остается универсальным средством всех эпох и типов властвования для реализации необходимых элите целей и программ, а потому является неизменным атрибутом практически всякой политической идеологии.

Не вызывает сомнения, что во времена военных столкновений, эпидемий, террористических актов враг существует реально и видимо, поскольку без каких-либо интерпретаций здесь имеет место факт гибели человеческой жизни, разрушения, горя и необходимость борьбы с последствиями природных катаклизмов, стихийных бедствий, людской жестокости очевидна. Гораздо более значимым представляется искусственное формирование образа врага, когда его присутствие оказывается желательным по тем или иным причинам.

Словарь Даля толкует понятие «враг» в первом значении как «неприятель, противник», таким образом, враг есть нечто противоборствующее сложившемуся порядку вещей, мыслей, ценностей, иначе говоря – посягающее на сами основы привычного бытия. Собственно, мысль о столкновении бинарных оппозиций лежит в основе многих философских построений об устройстве мира: в философии Гераклита, учении Конфуция о существовании двух начал – «инь» и «ян», в диалектическом положении Гегеля о единстве и борьбе противоположностей – то есть, полярная модель вполне объясняет постоянное и даже обязательное наличие некоего «врага». Сложность, однако, состоит в том, что патриархальная система дуалистических мифов почти всех народов создала мощную традицию агрессии и вражды. Образ врага испокон веков сопровождает противостояние человеческих сообществ, когда о чем бы ни шла речь – она всегда понимается сквозь призму такого образа в терминах «мы – они», «свои – чужие», при этом мера взаимной агрессии прямо пропорциональная степени взаимных притязаний. Апелляция к образу врага показала свою эффективность и стала излюбленным рычагом власти: нужный «враг» (или, как вариант – его незримый образ) быстро находится и в небольшом рабочем коллективе, и в солидной организации, и в государстве. Интерес представляет даже не столько механизм формирования образа врага, сколько реакция на его появление и количество искренних сторонников по борьбе за его уничтожение. Потребность в ненависти и агрессивных действиях, как утверждает З. Фрейд, заложена в человеческой психике от природы, и она неизменно проявляет себя в войнах, конкуренции, расовых и иных социальных конфликтах.

Начиная с первых массовых истреблений язычниками христиан, инакодумающие прочно вошли в список потенциальных «врагов» любого государства и народа. Первые в истории законы о «врагах народа» появились в период в период Французской революции конца XVIII в., а сам термин вошел в политический лексикон [1].

В советской России довольно прочно закрепился ярлык «враг Родины», объединяя в себе образ внутреннего и внешнего врага. Он нес на себе тяжелую идеологическую нагрузку, учитывая серьезное патриотическое воспитание тех лет и революционный опыт многих соотечественников. Публичные отчеты и обращения к советскому народу демонстрируют примеры открытой агрессии и нескрываемой готовности объединиться в ненависти и акте возмездия: «Великим гневом и священной ненавистью охвачены … все многомиллионные трудящиеся массы советского народа. Мощная волна всенародного презрения и глубочайшего негодования несется из края в край нашей великой социалистической родины. Весь народ проникнут твердой и непоколебимой решимостью поголовно уничтожить, полностью истребить злодейских врагов нашей родины»[23]. При этом политические интриги и сведение личных счетов между политиками оправдываются *гуманизмом (!)*, то есть происходит абсолютное оборачивание понятий «добро-зло»[24], при этом людей призывают верить как в то, что врагов действительно много, так и в то, что составление доносов – есть долг каждого честного гражданина, любящего свою Родину: «Изменники, шпионы, мерзавцы, гамарники, тухачевские, якиры и прочая фашистская падаль актерски маскировались. Славные органы Наркомвнудела их разоблачили. Бдительность советских людей, революционная зоркость кадров Красной Армии, во много раз возросшая после пленума ЦК ВКП(б), в результате выполнения указаний, данных товарищем Сталиным на этом пленуме, помогла сорвать маски со шпионов и изменников»[25].

В XX веке образ врага (расового или классового) становится важнейшей системообразующей частью идеологии и масштабных пропагандистских кампаний, служит обоснованием репрессий против различных социальных, этнических, религиозных групп и любого инакомыслия. И в этом качестве он становится одной из главных составляющих в деятельности революционных партий, а затем в государственной политике многих тоталитарных режимов [1].

Устав ЮНЕСКО содержит положение о том, что войны начинаются в умах людей и, в этом смысле, вероятно наиболее удобным современным плацдармом для манипуляций массовым сознанием становится Интернет-пространство. Внедрение в общественное сознание образа врага всегда соответствует психологической установке обязательного наличия виновников тяжелого положения, бедствий страны, падения нравственности. Кроме того, такой образ отвечает на традиционный и вечный вопрос: «кто виноват?».

Сегодня в социальных сетях зачастую можно встретить обращения экстремистского толка, которые прямо указывают на существование явных врагов какой бы то ни было родины – Чечни, Украины, Турции, США, Грузии, Израиля, России, Японии ... Самая серьезная опасность подобных Интернет-посланий состоит в открытом призыве к уничтожению врага: «… выходит так, что сейчас каждый из нас стоит перед выбором – ложь или правда, Родина или смерть … если готов по-настоящему признать, что один мертвый враг вполне достаточная цена за твою жизнь – возьми да обозначь свою позицию прямо здесь и сейчас»[26]. Далее читателям даются подробные инструкции о пути спасения русского народа от врагов.

По мысли автора, массовая компьютеризация, с усердием подхваченная в России, хотя и предоставляет колоссальные возможности, имеет, однако, и множество теневых сторон (уже сейчас обозначилась проблема Интернет-зависимых подростков и детей; переход от

[23] «Партийное строительство», журнал ЦК ВКП(6), № 12 от 15 июня 1937 г.// Шпионам и изменникам Родины нет и не будет пощады : сборник статей. – М., 1937.

[24] «Приговор суда – акт гуманности, защищающий нашу родину и передовое человечество от кровавых извергов из буржуазной разведки. Страна, единодушно требовавшая стереть с лица земли восьмерку шпионов, с удовлетворением встретит сегодня постановление суда. Расстрелять! Таков приговор суда. Расстрелять! Такова воля народа». «Известия» от 12 июня 1937 г. // Шпионам и изменникам Родины нет и не будет пощады : сборник статей. – М., 1937.

[25] «Красная звезда» от 18 июня 1937 г. // Шпионам и изменникам Родины нет и не будет пощады: Сборник статей. – М, 1937.

[26] [Электронный ресурс]. – Режим доступа : http://www.individualizmu.net.

«живого» межличностного общения, товарищества и дружбы к обмену «мессиджами» в социальных сетях; растет отчуждение между людьми – так называемое «одиночество в сети» и пр.). Очевидна и уже проявляет себя опасность ситуации, когда на фоне отсутствия какой-либо цензуры и правовой защиты от информации, размещаемой в Интернет-пространстве, вседозволенность и неконтролируемая пропаганда оформляется уже не в виртуальной, а в реальной социальной практике в массовые протесты, акции гражданского неповиновения, этнические, религиозные, расовые и политические конфликты. Манипуляция общественным сознанием в сети Интернет означает, что образ врага, ярко и красочно оформленный при помощи новейших Интернет-технологий, шагнул практически в каждый дом, где стоит компьютер. Социологу, к сожалению, предстоит лишь прогнозировать возможные варианты развития событий, поскольку информационная революция практически сводит к нулю способность человека к рефлексии, а любое идеологическое воздействие ставит на поток.

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Image of the Enemy of the Native Land as Attribute of Manipulation With Public Consciousness

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Key words and phrases: image of the enemy; manipulation; enemy of the homeland; the ideological and informational impact.

Abstract: The article is devoted to manipulating public opinion by creating an enemy image. The author analyzes the popularity of such an image, defining it as an important ideological influence, including the possibility of using the Internet space for this purpose.

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Systemic Nature of the Development of Intergroup Conflict Relations

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Key words and phrases: interpersonal relations in a group; conflict situations; conflict relations.

Abstract: The article examines the content of social-dynamic approach to the study of intergroup conflict relations and reveals the phenomenological and process analysis of conflict situations.

The present stage of Russian state development is characterized by universal extensive activation of public processes, accompanied by transformation of social values, aggravation of competition between various social groups in a predisposition to strengthen their influence in the society, activation of cultural self-determination in subcultural communities, actualization of both intergroup and intragroup collisions, emerging of new social communities in the society, and transformation of hierarchical links in the society as a social-dynamic phenomenon.

Social-dynamic development of intragroup relations as a primary display of interpersonal interaction is of interest. It is within the group are generated such forms of social dynamics that enable a deeper understanding of the psychological essence of relationships in a different measurement scale, right up to the macro-and mega-scale. For this reason the development of intragroup relations as a psychological phenomenon represents the key to understanding of social-dynamic processes in the society.

Intragroup interpersonal relations are based on subjective-objective contradictions, if they are non-existent the social dynamics of relationships disappears and interaction between the subjects of group activities becomes meaningless. Besides contradictions in the system of intragroup relations generate interpersonal conflicts, the conflict itself is characterized by inconsistency of its relations.

An intragroup conflict as a social-dynamic phenomenon is characterized by a number of properties which reveal its inconsistent essence, without them a conflict loses its creative nature (G.S. Mikhailov).

The social-dynamic properties of a conflict which reveal its inconsistent essence, are latency and evidence, totality and localness, staging and integrity, antagonism and interaction, compulsion and compromise, submission and dictatorship, escalation and slackening, defeat and victory, completeness and initiation.

The system approach to research of social dynamics of intragroup conflict relations (A.Y. Antsupov) means, that the analysis of a developing conflict situation can be *phenomenological* and *procedural.*

Phenomenological analysis of a conflict situation as a social-dynamic phenomenon includes:

- allocation of time borders of a conflict situation development as a single whole;
- definition of spatial borders of a conflict situation development as a single whole;
- identification of substructures of a conflict situation as a social-dynamic phenomenon;
- specification of interstructural links of a conflict situation as a social-dynamic phenomenon;
- hierarchal representation of substructures of a conflict situation as a social-dynamic phenomenon;
- study of backbone determinism of a conflict situation as a social-dynamic phenomenon;
- study of intersystem links of a conflict situation as a social-dynamic phenomenon.

System researches of social dynamics of intragroup conflict relations assume a procedural analysis of a conflict as a social-dynamic phenomenon, including functional, genetic, information, situational, structural aspects. Thus, conflict relations are considered not as a temporary phenomenon in intragroup relations, but as a

Table 1. Interrelation of the phenomenological and procedural analysis of an intragroup conflict

	Functional	Genetic	Informational	Situational	Structural
Time borders	Functions	Causes	Types	Circumstances	Episodes
Spatial borders	Groups	Participants	Poles	Roles	Links
Substructures of a conflict	Senses	Consequences	Problems	Factors	Liders
Interstructural links	Relations	Transformations	Orientations	Personalities	Influences
Hierarchy of substructures	Goals	Needs	Values	Senses	Motives
System determinism	Relations	Prospects	Forces	Accidents	Alliances
Intersystem links	Context	Activity	Position	Precedents	Results

constant property of social dynamics in group existence of its members.

The functional analysis of a conflict reveals its role in social-dynamic development of a group. A conflict as a procedural condition of intragroup relations can perform the following functions: separate a group into contradictory poles, unite allies by a single idea and common values, explicate intragroup problems, reveal the character of external influence on intragroup relations, and find ways to solve intragroup problems.

The genetic analysis of a conflict presupposes restriction of time borders of its developments, reveal of the cause of a conflict situation occurrence, research of “catalysts” and “inhibitors” of strained intragroup relations, study of the psychological anamnesis of a group before the conflict. A conflict is considered as a source of the subsequent social-dynamic events in a group.

The information analysis of a conflict is necessary to reveal its substantial-thematic essence, i.e. to understand the point of a dispute. In the informational aspect a conflict can be analyzed from the point of view of “collision of values”, “crossing of interests”, “rivalries in leadership”, “competition of influence” and “cognitive discord”.

The situational aspect of conflict analysis involves identifying in the conflict continuum such intervals which can be defined as situational episodes during transformation of the circumstances related to the conflict. Conflict situations are subdivided into the following types: “unfriendly behavior”, “call to the opponent”, “provoking action”, “reaction to provocation”, “open collision”, “social separation”, “crisis event”.

Structural analysis of intragroup conflict is necessary for the alignment of its socio-dynamic logic from start to finish. The analysis reveals the cause of a conflict, its basic stages, episodes of aggravation and slackening, change in the membership and alignment of forces, intragroup transformations, victory and loss of the parties as a result of conflict relations development in an investigated fragment of social-dynamic process.

The phenomenological and procedural analyses of an intragroup conflict as a social-dynamic phenomenon are interrelated. This interrelation is presented below.

The table shows that the system analysis of an intragroup conflict as a social-dynamic phenomenon allows presenting comprehensively this dynamic phenomenon as a phenomenological-procedural construct.

The phenomenological analysis of a conflict includes allocation of time borders of a conflict situation development, definition of its spatial borders, reveal of social-dynamic substructures, specification of inter-structural links, hierarchal representation of substructures, study of a conflict situation backbone determinism, reveal of intersystem links in developing conflict circumstances.

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СИСТЕМНЫЙ ХАРАКТЕР РАЗВИТИЯ ВНУТРИГРУППОВЫХ КОНФЛИКТНЫХ ОТНОШЕНИЙ

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Ключевые слова и фразы: межличностное отношение в группе; конфликтные ситуации; конфликтные отношения.

Аннотация: Представлено содержание социально-динамического подхода к изучению внутригрупповых конфликтных отношений. Раскрываются феноменологический и процессуальный анализ конфликтной ситуации.

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Dialogue as the Basis of Cross-cultural Communication in Negotiations

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Key words and phrases: dialogue; cross-cultural communication; negotiation process.

Abstract: The article describes the main features of dialogue in cross-cultural communication. The main approaches to the analysis of cross-cultural communication are highlighted. Specific manifestations of cross-cultural communication in the negotiations are presented.

Dialogue is the natural environment of personal development, one of the fundamental forms of human individuality. Consequently, dialogue as a form of communication can be not only the means of achievement of a particular goal, and problem solving, but an independent value of human life. The absence or deficiency of dialogic communication leads to various distortions in personality development, the growth of problems at the intra-and interpersonal level, the growth of non-adaptive behavior in society.

The well-known psychologist in the area of contact interaction, L.B. Filonov sees dialogue as a form of mutual complimentary communication. In his view, dialogue helps to eliminate barriers, neutralize situations that create asynchronism in their actions; it generates the need for negotiations to reach agreement, mutual goals, problem solving.

As we can see, dialogue is a necessary condition for successful cross-cultural communication.

Communication in this case acts as the way of organizing the direct and feedback links between local subsystems of culture (subcultures within a single culture), individuals within a particular culture or at the level of cross-cultural communication, as well as between foreign cultures and even between different-time cultures. Therefore, the reality of cross-cultural communication is presented in the form of interaction between:

a) cultures, transmitting the originality of socio-historical
conditions and the specificity of cultural life;

b) language that reflects the culture of the people and is a form of cultural behavior;

c) individual as the carrier of culture.

On this basis, intercultural communication can be divided into constituent elements:

– *communicative* – component of cross-cultural communication aimed at the implementation of the rules of communication through signs, symbols and cultural traditions, specific to a particular socio-cultural community, to achieve mutual understanding;

– *interactive* – focused on interpersonal communication between carriers of different cultures. Such interaction is based on the personal characteristics of communicators. The consequence of this process is the relationship;

– *perceptual* – the component allows you to identify the mechanism of mutual understanding and convergence of various socio-cultural commonalities, mutual learning.

Thus, orientation process of cross-cultural communication is related to the achievement of mutual understanding, establishing relationships, mutual learning and convergence of different cultural communities.

In a broad sense communication can be understood as socializing; it is always realized as dialogue between cultures and individuals, acting as its carriers. An individual as a social being, entering into communication with other cultures, always “maintains dialogue” on behalf of their cultural identity, the so-called social we.

The main characteristics in this case are: equality of essential items of the participants of communication (subject-subject relations), mutual openness of both parties, the lack of assessment, “measuring” relationship of any sides of the

identity, the mutual acceptance of each other as unique and valuable individuals.

M.M. Bakhtin explains the special attitude to the dialogue partner as the state of "out of findability", as the dominant on the interlocutor, and in the humanist tradition – as the ability to decenter. The essence of this attitude is that the interlocutor doesn't make any attempts to attribute traits, motives or intentions to the communication partner which he doesn't actually possess (which is typical of stereotypical perception of another person leading to attribution.

Language is a structural unit, serving the area of social communication (Yu.M. Lotman). As a means of communication language is a symbolic form of culture and explains the symbolic nature of culture and communication, respectively. This means that any object becomes a cultural object only when it acquires a particular importance, depending on its inclusion in the appropriate system of cultural relations. This integration is carried out through communication.

Thus, cross-cultural communication fixates cultural and social significance of information as the system of symbols, characters and linguistic expressions; it creates a special semiotic space, which is the most important condition for conscious social activities of people and their interactions. Universal values and principles are stored and passed on; they become the necessary condition for the people's purposeful activities both in theory and practice.

Communication involves not only values, but also any symbolic system into the cultural relations. For example, family life, daily routine are no less important for understanding the culture than the "elite" samples fixed in art. Yu.M. Lotman noted that "the eternity is influenced by the time" and culture is manifested at all levels of life.

That is why we can understand another culture only if we penetrate in all its levels, we need to get accustomed to it rather than observe its cultural phenomena. For example, you will never understand the culture of the past unless you "try on" (at least mentally) its clothing, manners, communication style, fashion, superstitions and rituals that were inherent in the person of that culture.

There are two approaches to cross-cultural communication in scientific analysis.

The first focuses on a holistic approach to culture as a unity of specific versions and layers. On the one hand, culture is seen as a phenomenon of the world, and on the other it is a phenomenon, existence, development and individual uniqueness of a particular nation; it is caused by socio-cultural and cultural-historical circumstances and realities of the historical existence of the nation.

The second approach is based on a differentiated approach to interpreting the socio-cultural and cultural-historical information, which is manifested mainly in the language and cultural items (artifacts).

This approach allows theoretically "capture" the phenomenon of cross-cultural communication, and regard it as quite specific social phenomenon – both theoretically and practically. Assuming that the main purpose of communication is to adapt to other people and interact with them, we can conclude that cross-cultural communication brings the possibility of understanding the human being as the carrier of culture.

Cross-cultural communication is the cognitive-communicative environment. It explicates, along with the communicative function of the culture its cultural and axiological pragmatic function and opens the possibility of separating social and cultural space as general and national-specific ones, draws the picture of the world and an individual belonging to a particular cultural community.

Cross-cultural communication has a significant impact on the negotiations. National identity has always reflected the most common features of the negotiation. Today national cultures mutually penetrate in the negotiation process, in other words dialogue as a form of cross-cultural communication stands to reason. It displays the involvement of the negotiators in communication with another culture. As a result, the dialogue is not only a form of tolerance, but also a form of "culture clash"; it is a real meeting of two or more cultural traditions that outline the limits of their identity in the real interaction (I.V. Namestnikova, 2003). We can assume that in the negotiation process we learn to understand "a foreign" culture through "our own culture" and vice versa by the interpretation and adaptation of these cultures to each other. Cultures get mutually enriched and communication is a means of intercultural communication. In other words, the cross-correlation always takes place between the negotiating parties; it expresses the relationship between subject-object and subject-subject relations of human life. Therefore, cross-cultural

communication develops and operates as an integrated system, where each element is closely related to another.

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ДИАЛОГИЧЕСКИЕ ОТНОШЕНИЯ КАК ОСНОВА МЕЖКУЛЬТУРНОЙ КОММУНИКАЦИИ В ПЕРЕГОВОРАХ

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Ключевые слова и фразы: диалог; межкультурная коммуникация; переговорный процесс.

Аннотация: В статье раскрываются основные характеристики диалога в межкультурной коммуникации. Выделяются основные подходы к анализу межкультурной коммуникации. Приводится специфика проявления межкультурной коммуникации в переговорах.

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The Structure of Leader's Managerial Competence as a Psychological Problem

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Key words and phrases: competence; managerial competence; psychological structure of managerial competence.

Abstract: The paper presents the author's definition of managerial competence. The structural components and their psychological characteristics are revealed.

In today's psychological science competence is given the status of professionally important characteristics of practically all types of productive activities. At the level of the global community competence as the subject of life is declared as one of the most important characteristics of human of the XXI century.

It should be noted that the term "competence" in most cases is used intuitively to express sufficient level of skill and professionalism of a specialist.

Managerial competence has become of interest due to the development of management science.

The attempts to define this concept scientifically have been made in the 70–80-ies of XX century in Russia. Many papers at this time were devoted to the research and development of the concept of competence in the sociology of management (A.G. Nikiforov, 1973; Yu.F. Maisuradze, 1976; M. Kyaerst, 1980, etc.). At that time the most widely used the definition of managerial competence was "thorough knowledge" and understanding of the essence of the work, complex relationships, processes and phenomena, the possible ways and means to achieve goals.

Based on the analysis of scientific literature the term "managerial competence" can be defined as *a set of competencies generated for monitoring of the business situation to maintain stability of official relations, transform the circumstances in an innovative direction and ensure staff development.*

Management activity is manifested in the complex management systems in the process of interactions in the system "individual-to-individual", "individual-to-team", "individual-to-big social group". In this way, managerial competence is an integrative quality and includes the following special types of competence: the economic, regulatory – legal, professional (corresponding to the specifics of the control system) and related psychological, acmeological, conflictological, communicative competence and others.

The analysis of scientific literature and the results of our empirical study allowed allocating the structure of managerial competence. It can include the following components:

1) knowledge-based;
2) action-based;
3) data-based;
4) communicative;
5) organizational;
6) educational;
7) innovative;
8) leadership-based;
9) forecast-based;
10) mediatory;
11) project-based.

Every component is organically interconnected with others, and it has its own place in the overall structure. The implementation of these components into specific managerial situation provides a high level of the development of the core and special competencies. Until recently, the range of managerial skills was much narrower, as the authority and ability of most managers were strictly regulated and restricted by job descriptions. Present-day socio-cultural situation, market relations, the possibility of interaction with foreign companies, etc. require

from the leaders broad-mindedness, sufficiently large range of knowledge and skills, to manage the department, ensuring the competitiveness of the entire organization.

Thus, *the knowledge-based component* of managerial competence implies a high level of knowledge of laws and principles of management in general, the ability to comprehend, analyze and evaluate situations in management.

The action-based component of managerial competence involves knowledge of the decision-making process and the ability to make decisions. According to some researchers, competence in decision-making is the feature which distinguishes the professional manager.

The information-based component of managerial competence is manifested in the ability to navigate the information environment, choose the information needed for decision making, ability to think critically, possess a variety of ways to interpret and evaluate informational messages, the ability to highlight the contradictions in the information and the types of structures, reasoning skills, effective use of a variety of resources.

The communicative component of managerial competence is associated with the skills to manage a successful business communication, and includes a combination of knowledge and skills necessary for effective communication and stabilization of the business relationship, for adequate and sufficient solution of communication problems. Communicative competence is usually considered as the ability to establish and maintain necessary contacts with other people.

The organizational component enables to represent the full picture of the whole organization, the role and place of its units in the organizational hierarchy.

The educational component is associated with self-development and motivating others. Self-development involves the development orientation, the desire for self-learning and self-education, guidance for obtaining and using new knowledge and skills. Ensuring the development of others involves an accurate assessment of potential employees, knowledge of their strengths and weaknesses. The actions of the leader are directed at the development and improvement of the capacity of each employee, creating a reserve of talent in the division, encouraging employees to be proactive and to create conditions for the development of their professional and career development.

The innovative component is connected with some “breakthrough” and the skills introduction of innovations, transformation and reorganization of space in the direction of optimization and constructability. The leader can be easily adapted to changing circumstances, promptly switched to a new activity, respond flexibly to changing situations and act accordingly. He generates ideas for optimizing workflow and use of new opportunities, initiates the discussion of his proposals with colleagues, promotes and implements initiatives. He uses positive innovative experience, exploring new approaches to work. Innovative component includes non-standard of competence and flexibility of thinking as the ability to abandon traditional ways of solving problems, offer unexpected ideas, readiness for change, cultivating innovation (the ability to develop or support the introduction of new improved methods, algorithms or technologies).

The leadership-based component of managerial competence implies the ability to set independent, ambitious, challenging goals and objectives, the ability not to be satisfied with what has already been achieved , the ability to set ambitious plans for the entire organization and determine the place and role of each employee to meet those challenges.

The vision-based component of managerial competence leaders includes the ability to organize activities that are necessary for the implementation of foresight: the establishment of causal relationships, the transformation of representations in accordance with the set goal, extension and analysis of hypotheses, planning.

The mediatory component of managerial competence is associated with the ability of the manager to anticipate conflict situations and the behavior of opponents, the ability to influence in conditions of conflict and its resolution, to find constructive ways out of the acute situation, the ability to work in a team, to prevent conflicts.

The project-based component of managerial competence involves designing of professional activities and application of knowledge, skills, methods, tools and techniques in carrying out activities to achieve management objectives. Project component enables managers to project their professional development through the expansion of the subjective space of professional activity and further development of competency

modeling. It helps to build individual concepts of management, strategy career trajectory of an individual's professional and personal development. Thus, the psychological essence of the problem suggests that managerial competence is a holistic structurally organized psychological phenomenon that allows assessing the effectiveness of middle managers of the bank.

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СТРУКТУРА УПРАВЛЕНЧЕСКОЙ КОМПЕТЕНТНОСТИ РУКОВОДИТЕЛЯ КАК ПСИХОЛОГИЧЕСКАЯ ПРОБЛЕМА

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Ключевые слова и фразы: компетентность; управленческая компетентность; психологическая структура управленческой компетентности.

Аннотация: Дается авторское определение управленческой компетентности. Раскрываются ее структурные компоненты и их психологическая характеристика.

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Social-Dynamical Foundations of Interrelations between a Leader and a Group

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Key words and phrases: leader; intra-group relations; situation within a group.

Abstract: The article reveals the interrelations between a leader and a group from the point of view of social-dynamical theory. The authors characterize psychological types of interrelations of a leader and a group.

The problem of leadership prevails in foreign and domestic social psychology. The representatives of modern theories (humanistic theories, cognitive theories, theories of “exchange”, “transactional analysis”, transformational leadership, etc.) have come to an agreement that an efficient leader must develop the relations in such a way as to secure an individual personal freedom for realization of his own goals and needs which would not violate group goals but, on the contrary, would be supporting for group activity.

The basis of a leadership is a process of interpersonal interaction developing between a leader and group members. The leader is inevitably social; he is always represented as an element of a group structure, that’s why the efficiency of leadership is considered to be an ability to influence the group positively in solving a common task. An individual’s ability to center on himself the whole system of group interrelations is immediately related to his social and psychological status, his authority and his possibilities to manage the group. A leader is always considered to be a communicative center attracting the other members, consolidating them.

Some researchers believe that a leader is made not by personal qualities or their unique combination, but rather by a structure of interrelations within a special group. This system of interrelations is formed and established by the goals and values of a group. A leader grows on the basis of these goals and values. Therefore, a leader is a personification and bearer of a system of established goals and values.

Leadership in intra-group relations is a social-dynamical phenomenon, because it represents such indications of social dynamism as initiative and resistance, intention and suppression, appreciation of a situation and opposite viewpoint, self-assertion and strategies deterrent to it, increasing self-appraisal and manipulations to decrease it.

Leadership as a social-dynamical phenomenon is colored with an aspiration of a leader to prove his competence and suppressive actions of unwilling opposition. This confrontation of leader and opposition, in spite of attempts of social suppression, is a background for initial formation and development of leadership tendencies within a group which can become a key factor for development of a group as a social organism.

Formation of a leader in a group is a process at the very origin of leadership tendencies when the initiative, self-affirmation, search for allies, growth of popularity, disclosing the opposition originate as “sprouts” of developing intra-group relations centered on a new leader. The most typical social-dynamical feature of a forming leadership considered to be the resistance to the attempts to suppress the initiative of an appearing leader.

In contrast to initial stage, development of leadership within a group in social-dynamical aspect presupposes the expansion of leadership functions and influence, solution of a large scope of tasks facing the leader. At this stage forms the team of a leader, establish themselves some useful strategies, grows the authority and influence of a leader. The most typical social-dynamical feature of a forming leadership at the stage is a resistance to the attempts to reduce the influence of a leader

and his team and retain the authority within a group.

The stage of developing a leadership as a social-dynamical phenomenon is characterized by complication of tasks and goals, adoption of leading ideas in a group as a consistent social organism, qualitative growth of intra-group relations. The tendencies for group autonomy become to prevail. At the stage of developing a leadership the most typical social-dynamical feature of this phenomenon tends to be the growth of potentials for inter-group confrontation. Under successful solution of confrontational relations, the influence of leading tendencies can spread beyond the bounds of an initial group to the other social institutions.

The leader always represents a certain ideology, therefore the social dynamism of interrelations of a leader and a group is conditioned by an interaction of two types of ideological foundations – those impose by the leader and those already established within a group. Ideological foundations of a group may be characterized in reference to its maturity, and on this background the typology of relations of a leader and a group can be developed. The conducted researches resulted in distinguishing the following types of relations of a leader and a group as a manifestation of social dynamism: “furious attacking” the leader in a group with unstable and competing ideological positions; appeal to the leader to be in line with traditional ideological conception of a group; “silent observation” of the majority on the confrontation of innovative and traditional ideas competing the leadership; “unanimous approval” of the initiatives of a leader by the majority of the group on the basis of developing congruence; “ambivalent” attitude of group members to a leader conditioned by interaction of opposing judgments; “violent rejection” of new ideas by the majority of the group for the purpose to protect group traditions; “formal conformism” in relation to a new leader with a latent opposition to innovative ideas.

The developed typology of social-dynamical tendencies in the development of relations between a leader and a group testifies that its interaction is influenced by an ideological situation in a group as a social integrity. The existence of varied and contradictive ideas among the group members determines the “furious attacking” of the leader, because the contradiction between the viewpoint of a leader and varied viewpoints of group members has a plural nature.

The unanimity of group members in manifesting the dominating ideas functions as a deterrent the leader should keep in mind in the process of implementation of his own innovative ideas, which can contradict the traditional practice of the majority. Ideological renewal of a group in such cases inevitably undergoes a stage of “appealing to be in line” with group traditions. Thus appears a necessity to overcome the resistance of a conservative group to new ideas of a leader.

The resistance to a new leader may proceed not from a group, but from a traditional group leader and his limited followers. If the majority of a group is doubtful, they often choose a wait-and-see approach, securing a traditional leader an opportunity to stand for his viewpoint with the support of his closest social surroundings.

In some cases congruence appears spontaneously and quickly manifests itself in the relations of a leader and a group. It is the reason for unanimous approval of a new leader by the majority of a group. Social dynamism of this phenomenon is obviously manifested at the stage of acquiring congruence. Demonstrated unanimity does not mean putting an end to a confrontation between a leader and a group which tends to be delayed and can revive if the suggested ideas evoke disappointment within a community.

The attitude of a group to a new leader can be contradictive and involve contradictive tendencies in accordance with “two- in-one” principle. It is possible if the actions of a leader evoke ambiguous attitude and pole of judgments fluctuates between “for” and “against”. In this case the social dynamism of the attitude of a group to a leader is complicated both with the multiple character of relationship “group – leader” and multipolar group opinion.

Position of a new leader may evoke determined resistance of group members but such situation does not necessarily mean a crushing defeat of innovative ideas. On the contrary, the essence of social dynamism in such a situation accentuates the active involvement of group members at the process of developing an opinion about a new leader. General inspiration and vigorous discussion are favorable conditions for identifying contradictions in group opinion, struggling of viewpoints and transforming the situation for benefit of innovative ideas.

From the point of view of social dynamism the position of formal approval of a leader by the majority of group members is the most difficult. The essence of this situation is that the indifference of group members is a favorable environment for infusion of alternative ideas and development of explicit confrontation between the formally approved leader and his opponent. The following struggle of ideas can prove the vitality of suggested innovations and rejection of traditional practice which was not subjected to criticism before.

So, the social dynamism of interrelations of a leader and a group takes various forms depending on the situation developed within a group and on individual's experience of leadership.

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СОЦИАЛЬНО-ДИНАМИЧЕСКИЕ ОСНОВЫ ОТНОШЕНИЙ ЛИДЕРА И ГРУППЫ

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Ключевые слова и фразы: лидер; внутригрупповые отношения; ситуация в группе.

Аннотация: Раскрываются отношения лидера и группы с позиции социально-динамической теории. Охарактеризованы психологические типы отношений лидера и группы.

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Essence, Content and Structure of Acmeologic Personality Development in Early Adolescence (15–20 years old)

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Key words and phrases: acmeologic personality development; the essence; the content and the structure of acmeologic development; criteria and indicators of acmeologic development; early adolescence.

Abstract: This paper discusses the nature, the content and the structure of acmeologic personality development in early adolescence (15–20 years). We propose the system of criteria of acmeologic personality development in adolescence (15–20 years): internal (subjective) and external (objective) integrated, individual external (value-motivational, cognitive, and prognostic), process (acme-stimulating, organizational-environmental), performance (reflective, social-active). For each criterion we have developed the system of indicators, which enable to evaluate the level of development of the characteristics with respect to all the elements of the process of acmeologic personality development in early adolescence (15–20 years old).

Under acmeological personality development in early adolescence (15–20 years), we understand the special independent process of ontogenesis, multi-stage self-realization of personality in professional training, a self-developing activity, simultaneously enhancing the development of new, a new level (changing in the structure, the content, the degree of expression and implementation). The essence of such personality development in early adolescence is the realization of the acquired human potential as a result of mental personality development in active creative work, resulted in its integrated form – self-actualization. In this sense, self-actualization essentially determines the characteristics of personality in early adolescence, as self development is not limited and has a certain integrity, where the pole of self-development (the level, degree, etc.) is constantly "counterbalanced" with the pole of the self-actualization on varying degrees, including its highest level – the acme of this age period. At the same time self-actualization involves self development of all the processes of personality; self-actualization is central in acmeologic development.

Essential characteristics of acmeologic personality development in early adolescence (15–20 years) are as follows:

- a particular role of self-actualization, self-realization, self-fulfillment, which are central for personality development in early adolescence (15–20 years old) and acquire a special meaning, especially in the context of acme as the ultimate measure of the personality for a particular age period ;
- the importance of educational and professional, activities as the bases for acmeologic personality development in early adolescence;
- the need for self-actualization as an ultimate objective of acmeologic personality development for this age stage expressed at different levels of ontogenesis, in different forms and correlations with the ability, need for its implementation by an individual in early adolescence;
- in early adolescence the phenomena of self-actualization, self-realization, self-fulfillment are interconnected by the principles of causality, relevance, functionality; they also precede the forms and levels of manifestation of "self" such as assertiveness, self-expression, self- knowledge , self-determination and self-identity, self-esteem, self-image, self-attitude, self-representation, self-expression, self-presentation, self-approval, etc., forming a link between accumulated potential of "self" and the purpose of its implementation;

- there is a close link between the ability to self-actualization and the level and the structure of socialization, individualization and identification in early adolescence (15–20 years);
- the level of manifestation of needs and abilities of self-actualization and self-realization is associated with age-related disabilities in the period of early adolescence;
- subjectivity is the foundation and the condition of self-actualization in the process of acmeologic personality development in early adolescence (15–20 years);
- self-actualization in its implementation at the stage of early adolescence is characterized by the typical representation of the development of "self" components, i.e., including the maturity of human abilities at different stages;
- acmeologic personality development in early adolescence (15–20 years old) often takes place in the course of professional training and self-developing activities, which contribute to the development of subjective position of an individual;
- the need and ability to raise self-realization of personality in early adolescence (15–20 years) are possible at the level of ability of self-realization in creative work, developing spiritual needs and abilities in socially and personally meaningful activities at the acme of this age stage;
- one of the most important manifestations of acmeologic personality development in early adolescence (15–20 years old) is willingness to self-revelation of personality (self-knowledge, self-definition, self-esteem, self-image, self-attitude), self-presentation, self-expression).

The structure of acmeologic personality development in early adolescence (15–20 years old) consists of two components. The first component of acmeologic personality development in early adolescence (15–20 years old) is willingness to self-revelation of personality (self-knowledge, self-determination, self-esteem, self-image, self-attitude, self-expression, self-presentation, self-actualization, self-realization, self-realization), which is in the center of personality development in early adolescence (15–20 years old) and acquires a special meaning, especially in the context of acme as the ultimate measure of the personality in this age period. The second component of acmeologic personality development in early adolescence (15–20 years old) is the need for self-actualization, which is expressed at different levels at this stage of ontogensis in different forms and correlates with the ability, the need for its implementation by personality in early adolescence, the level of which is associated with age features of development in early adolescence. In this case, subjectivity serves as the basis and condition of existence of self-actualization in the process of acmeologic personality development in early adolescence (15–20 years old). The need and the ability to increase self-actualization in early adolescence (15–20 years) are possible at the level of ability of self-realization in creative work, developing spiritual needs and abilities in socially and personally meaningful activities at the acme of this age stage.

For a more detailed description of psycho-acmeologic concept of personality development during adolescence (15–20 years old) it is important to identify the criteria, indicators and the levels of acmeologic personality development during adolescence (15–20 years old). We can propose the following set of criteria for measuring the effectiveness of acmeologic personality development during the adolescence (15–20 years old). Firstly, we identified two integrated criteria of acmeologic personality development during adolescence (15–20 years old): internal and external. The internal integrated criterion of acmeologic personality development during adolescence (15–20 years old) is characterized by the formation of the following components of acmeological development: the willingness for self-revelation of personality and the need for self-realization, which is manifested at different levels at this stage of ontogenesis in different forms and correlation with the ability, the opportunity and the need for its implementation in early adolescence, the level of which is related to the age-development in early adolescence. In this case, subjectivity is the foundation and prerequisite for self-actualization in the process of acmeologic personality development in early adolescence (15–20 years old). This criterion is subjective as it representats the personality characteristics and the degree of acmeologic development; it enables to work out the structure and content of "self-standing" to the conditions of life and society.

The indicators of subjective criterion are: the presence or absence of readiness for self-revelation, the need for self-actualization that is manifested in the type of relationship of pride and duty, the analysis of activity types, such as the ratio between the problems of self-regulation,

regulation of individual life and regulation of an individual by the society, the way of life organization and regulation of time, the type of impact of critical contradictions. The internal integrated criterion is shown through the external criteria. The external integrated criterion of acmeologic personality development in early adolescence (15–20 years old) includes the efficiency of adolescents' individuality development manifested in the forms and methods of "self-standing" to the conditions of life and society. This criterion is objective, since it includes the characteristics of a person as a subject and the achievement of one's personality, behavior and activities. External integrated criterion can be represented as a system of special external criteria to measure the level of acmeologic personality development in early adolescence (15–20 years old) indirectly, through meaningful and dynamic performance of the movement towards individuality.

The theoretical analysis has allowed us to distinguish the system of individual external criteria and indicators of acmeological personality development in the period adolescence (15–20 years old):

- *value-motivational criterion* is revealed through the following indicators: a hierarchy of motives and values, the level of motivation (learning and professional motivation and the motivation for self-development), the presence or absence of motivation for self-discovery and self-realization;
- *cognitive criterion* can be expressed by: differentiation and self-evaluation of their personal potential, conscious analysis of the levels of self-understanding and self-awareness, satisfaction with the achieved level of self-realization, a high level of knowledge about the professional activity, its standards, requirements, general attitude to work, a high degree of enthusiasm, high intellectual activity and cognitive activity, ability to analyze their experience, high degree of personal autonomy, externality-internality (50 % to 50 %), locus of control, accurate and conscious identification of the causes of failures in the implementation of acmeologic personality development and the success of activities;
- *prognostic criterion* has the following indicators: clear understanding of the possible ways and the results of the implementation of acmeologic personality development in adolescence (15–20 years old), conscious design of acmeologic personality development during adolescence (15–20 years old), the development of appropriate techniques and methods of self-development, self-improvement, self-realization and self-actualization.

Secondly, the process criteria of acmeologic personality development during adolescence (15–20 years) include:

– *acme-stimulating criterion*, which can be identified both in the educational process and in other situations (educational, socializing with peers and others), positive assessment of personality during adolescence and the results of adolescents' acquisition of psychological norms and ways of regulating the activity throughout acmeologic personality development during adolescence (15–20 years old). This criterion indicates that acmeological personality development can possibly be stimulated through studying, training, socializing with peers, etc.;

– *organizational-environmental criterion*, which is revealed as: the nedd for acmeologically developed personalities with the ability to self-development, motivation for acmeologic personality development during adolescence (15–20 years old), creation of acme-developing environment in the educational establishments (school-college-university) as the basis for optimization of acmeological personality development during adolescence (15–20 years old), the development and implementation in educational practices didactic basics of acme-oriented development in the training of adolescents. This criterion makes it possible to assess the environment in which a person communicates, studies and develops during adolescence (15–20 years) from a position of creating the conditions for the process of acmeologic personality development in the period of adolescence (15–20 years old).

Performance criteria are:

Reflective criterion is revealed through personality traits in the period of early adolescence, which are manifested through the development of reflective skills, such as self-evaluation, self-understanding, independence, initiative, personal attitude to other people, labor, the principle of subordination, the motives encouraging self-knowledge and self-development, personal sense of professional training and self-development of personality during adolescence, the model of self-improvement.

Social-active criterion is revealed through the personality traits during early adolescence, which correlate with the system of personal and professionally important qualities as a future professional. This criterion allows capturing the dynamics of the formation and development of personal and professionally important qualities throughout the early adolescence.

For each of these criteria, we have developed the indicators to evaluate the level of the relevant characteristics development with regard to all the elements of the process of acmeologic personality development during adolescence (15–20 years old).

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СУЩНОСТЬ, СОДЕРЖАНИЕ И СТРУКТУРА АКМЕОЛОГИЧЕСКОГО РАЗВИТИЯ ЛИЧНОСТИ В ПЕРИОД ЮНОСТИ (15–20 ЛЕТ)

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Ключевые слова и фразы: акмеологическое развитие личности; сущность; содержание и структура акмеологического развития; критерии и показатели акмеологического развития; ранняя юность.

Аннотация: В статье рассматриваются сущность, содержание и структура акмеологического развития личности в период ранней юности (15–20 лет). Разработана система критериев акмеологического развития личности в период юности (15–20 лет); внутренний (субъективный) и внешний (объективный) интегральные, частные внешние (ценностно-мотивационный, когнитивный, прогностический), процессуальные (акме-стимулирующий, организационно-средовой), результативные (рефлексивный, социально-деятельностный). Для каждого критерия разработана система показателей, которая позволяет оценить уровень развития соответствующей характеристики по отношению ко всем элементам процесса акмеологического развития личности в период юности (15–20 лет).

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Demonstrative-Protesting Subject Type of Compelled Contact

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Key words and phrases: compelled contact; subject type of compelled contact; modifying activity; psychological characteristics of the types.

Abstract: This article represents an empiric research specifying the demonstrative-protesting subject type of compelled contact. It was found that its psychological characteristics are correlated to intensity, quality, and attitude of modifying activity as well as to emotional-volitional, communicative, intellectual and creative features. Particularly, this type is distinguished by such traits of character as dominance, suspiciousness, conservatism, self-sufficiency, etc.

The notion of the “subject of compelled contact” as well as its structural and conceptual model were under analysis in the previous scientific papers of the author [2; 3]. This article presents the results of empiric research of the subject types of compelled contact; it reveals the psychological specifics of the demonstrative-protesting subject type of compelled contact.

Respondents of the research were volunteers chosen according to the results of pilot research of the problem of compelled contacts: the military, business executives, school teachers, district doctors, etc. In total 100 people, including 47 men and 53 women of various age groups and labor experience took part in the study.

Under test were respondents constantly involved in situations of compelled contact: the proportion of such situations in the whole range of their communicative situations accounted for no less than 25 %; these people generally believe that situations of compelled contact are increasing in number.

In order to conduct empiric research we developed a special questionnaire consisting of 17 open and closed questions of various types. The questions were meant to acquire the following information: the intensity of modifying activity, adaptability, deadaption to such a situation, attitudes of modifying activity, inclination to outward resistance in the situation of compelled contact, inclination to make others interact if it is necessary. The following methods were also used: multiple-factor personal questionnaire by R. Cattle 16 RF – 105 questions (version C); diagnostics of personal creativity (E.E. Tunik).

The acquired data were processed by the computer programme SPSS 15. Cluster analysis identified the various types of subjects of compelled contact, each of them possessing their own distinctive features concerning intensity, quality and attitudes of modifying activity in the situation of compelled contact.

The term “intensity of modifying activity” of the subject of compelled contact implies the degree of intensity of the subject’s energetic status: from low to very high, his readiness to react with a certain degree of intensity.

The term “quality of modifying activity” of the subject of compelled contact implies its essential specifics, distinctive features allowing the identification of the types of the subjects.

The term “attitudes of the subject of compelled contact” implies his attitudes towards himself, towards the other person, against himself, against the other person [1]. “Attitude towards oneself” implies his attempts to normalize his negative psychic condition without any assistance, to acquire knowledge and skills. “Attitude towards the other person” implies the intention of the subject of compelled contact to investigate on his opponent, its tendency to understand his addressee. “Attitude against oneself” implies the subject’s charging himself for the initiation of the situation of compelled contact. “Attitude against the other person” is the imaginary rejection of unfavorable person, offending him or discarding him.

One of the types identified by empiric research was called “demonstrative-protesting”. It is characterized by the following psychological traits (fig. 1–2).

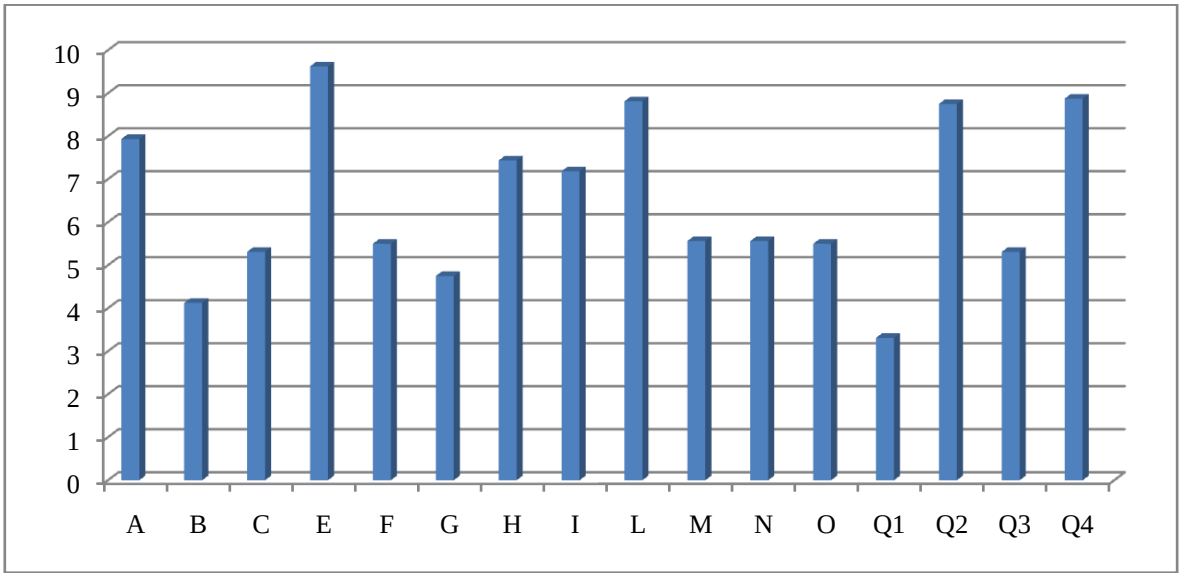

Fig. 1. Demonstrative-protesting type of subject of compelled contact (results of diagnostics by 16 PF of R. Cattle)

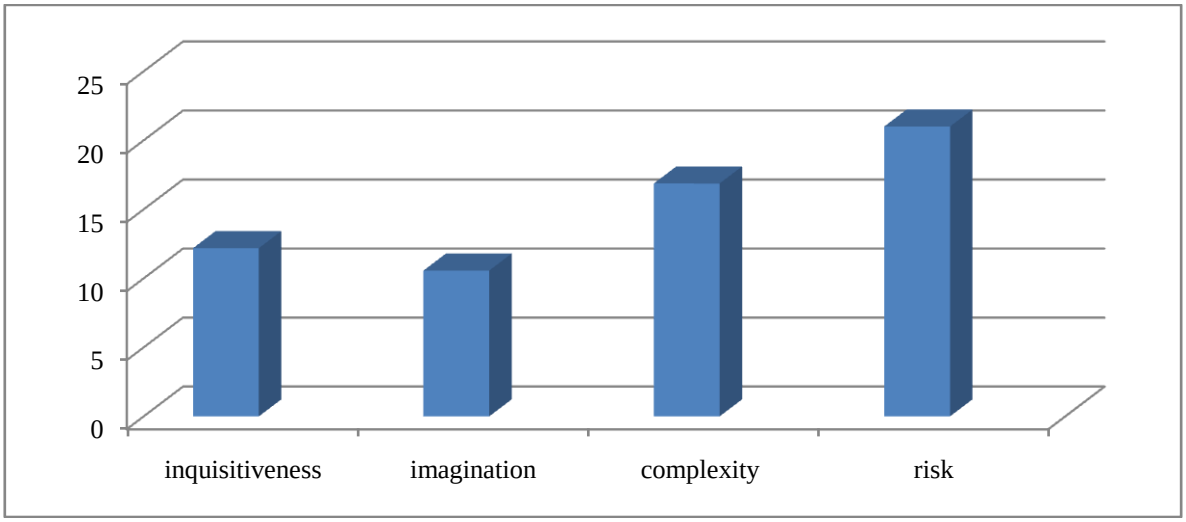

Fig. 2. Demonstrative-protesting type of subject of compelled contact (results of diagnostics by E.E. Tunik)

Intensity of modifying activity. Very high; gets exalted in the situation of compelled contact and tends to react violently, very actively. Ready to exhibit an outward resistance under compelled contact and inclined to make others to interact if it comes to be compelled.

Quality of modifying activity. Tends to revolt openly against the unfavourable person with whom he had to communicate; believes that the situation of compelled contact should be taken to with the following principles: “You're not conning me”, “Not on your Nelly”, “My patience is at an end”.

Attitude of modifying activity. Concentrated not upon oneself, not upon the other person, not against oneself. Leveled against the other person.

Emotional- volitional characteristics. 1) Low level of emotional stability (according to C factor). It is peculiar to persons who cannot control their emotions and impulses. It should be noticed that the demonstrative-protesting subject type of compelled contact is distinguished by the following distinctive features: many neurotic symptoms; hypochondriac; changeable; fluctuating; backs out of responsibility; not capable to bring his work to a close; lacks self-control; anxious.

2) High level of dishonesty (according to G factor). Persons with such indexes are inclined to be fluctuating; they abandon their work easily, tend to be lazy, dishonest, egoistic, their emotions are very poorly controlled. They despise moral values and are capable of deception and fraud. To conclude, this type can be characterized in the following way: fluctuating, light-minded, indulging his caprices, immoral, irresponsible, loose and careless in his everyday life. 3) High level of frustration (according to Q 4 factor). It presupposes uneasiness, anxiety and dissatisfaction. Persons with such indexes are worried, excited and restless. Being tired and exhausted, they can't give up their business even if the settings are comfortable for rest. This mental state is characterized by emotional instability, low spirits, irritation and intolerance. In group activity such person ignores such values as solidarity, order, leadership.

Communicative characteristics. 1) High level of dominance (according to E factor). It signifies authority, independence, disregarding of social conventions and statements. Such people act fearlessly and decisively, trying to secure their independence and waiting for similar independence from the others. They recognize no authority over themselves and in case of disagreement blame their opponents. To conclude, this type of subject of compelled contact is characterized by the following distinctive features: persistence, energy, independence, self-assurance, boastfulness, rough manners, impudence, competitiveness, decision and self-will. 2) High level of self-sufficiency and, accordingly, low level of sociability (according to Q2 factor). Persons with high indexes on this factor are very independent and prefer to do everything on their own. They decide and achieve, bear responsibility and ready to sacrifice to keep independent. In general, they ignore public opinion. It is not for dislike to other people, they simply don't need their approval and assistance. 3) High level of suspiciousness and, accordingly, low level of confidence (according to L factor). This subject type of compelled contact confronts other people with doubt and suspicion, tends to be watchful and alert, trusts nobody, considers his friends to be dishonest and pays no confidence to them. In a team he is on his own, envies his mates, considers himself to be underestimated. In his social relations he is persistent, but irritable, intolerant to any kind of competition. His self-appraisal is overestimated, he tends to be suspicious, cautious, alert, does not care for other people. To conclude, the following traits of character are peculiar for this type: suspicious, jealous, envious, concentrated on failures, irritable, oppressive, inclined to competition, arrogant.

Intellectual characteristics. Low flexibility and, accordingly, high level of conservatism (according to Q1 factor) which is peculiar for conservative, rigid people rejecting changes. These people of well-established opinions and regulations tend to resist violently against everything that seems to be unfamiliar and alien. They are inclined to exaggeration, moralizing and lecturing. It's almost impossible to make them to change their views.

Creative characteristics. 1) High level of adventurism. The demonstrative-protesting subject type of compelled contact will stand up for his ideas neglecting the reaction of others. He sets up elevated goals before himself and tries to achieve them; he is tolerant to his own mistakes and failures, likes to investigate new things or ideas but is not influenced by opinion of the others; he is not at all troubled with disapproval of the public. 2) Low level of cognitive interest. Such persons don't like to inquire, to investigate about new things and ideas, to look for different options, to study books, games, maps, pictures, etc. 3) Imagination and complexity are developed about the average.

To sum it up, identified during the empiric demonstrative-protesting subject type of compelled contact is characterized by distinguished psychological peculiarities concerning the intensity, quality, attitude of modifying activity, emotional-volitional, communicative, intellectual and creative features.

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ДЕМОНСТРАТИВНО-ПРОТЕСТУЮЩИЙ ТИП СУБЪЕКТА ВЫНУЖДЕННОГО КОНТАКТА

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Ключевые слова и фразы: вынужденный контакт; подчиненный тип вынужденного контакта; изменение деятельности; психологические особенности типов.

Аннотация: Эта статья представляет эмпирическое исследование, определяющее демонстративно выступающий подчиненный тип вынужденного контакта. Было найдено, что его психологические особенности коррелированы к интенсивности, качеству и отношению изменения деятельности так же, как к эмоционально-волевым, коммуникативным, интеллектуальным и творческим особенностям. Особенно этот тип отличают такие черты характера, как господство, подозрительность, консерватизм, самостоятельность, и т.д.

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Levels and Strata of Acmeologic Personality Development in Early Adolescence (15–20 years old)

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Key words and phrases: acmeological personality development; the levels and strata of acmeologic development; early adolescence.

Abstract: The paper considers the following levels and strata of acmeologic development of personality in early adolescence (15–20 years): high, medium and low levels of each of the stratum – testing, stable and final. We present the experimental evidence of the hypotheses put forward by the authors.

We studied the criteria of acmeologic personality development in early adolescence (15–20 years old) and found that it is possible to identify not only the levels of personality development, but also age-related features within each level. We call them the sublevels of the age strata and identified them as:

- testing stratum – the initial stratum of acmeologic personality development in early adolescence (15–20 years old) – it's a person of 15–16 years old with incomplete secondary education, interested in education, entertainment, socializing with peers and older boys and girls, a chaotic search of the opposite sex; fuzzy goals and perceptions of professional career and others;
- stable stratum – the consolidating stratum of acmeologic personality development in early adolescence (15–20 years old) – this is a person of 17–18 years old with incomplete or complete secondary education, interested in education, oriented at the future profession in lesser extent, entertainment, socializing with peers and older boys and girls is professionally-oriented, the first attempts to conscious choice of a partner of the opposite sex; clear goals and ideas about professional future, etc.;
- final stratum – the final stratum of acmeologic personality development in early adolescence (15–20 years old) – this is a person of 19–20 years old with complete secondary education, who tends to receive secondary or higher professional education, interested in the choice of profession, education is aimed at future career, entertainment is limited and more different in nature, socializing with peers and older boys and girls is concentrated on studying and professional activities, with clear goals and ideas about future professional, conscious choice of a partner of the opposite sex, etc.

In each stratum there are three levels of acmeologic personality development in early adolescence (15–20 years old): high, medium and low.

Indicators of all criteria correlate with the indicators of perceptive, mnemonic, cognitive and creative activities of adolescent boys and girls. Boys and girls with the medium level of acmeologic personality development in early adolescence (15–20 years old) demonstrate reduced average score for the performance of tasks in general compared with the norm. The differences between groups correspond to the level of significance $P < 0{,}01$ (according to Student's criterion). Boys and girls with the high level of acmeologic personality development in early adolescence (15–20 years old), have reported the maximum score, while girls and boys with the low level of acmeologic development of personality in early adolescence (15–20 years old) show the minimal score.

Boys and girls with medium level of acmeologic personality development in early adolescence (15–20 years old) have a reduced average score for the performance of tasks in general in comparison with the high level, as well

as significantly smaller number of executed assignments.

Acmeologic high level of personality development in early adolescence (15–20 years old) seems to be the most productive level of acmeologic personality development in every stratum, it is characterized by the formation of the following components of acmeologic development: the willingness for self-revelation of personality and the need for self-realization, which is manifested in the ratio of pride and duty, the analysis of activity types, such as the ratio between the problems of self-regulation, regulation of individual life and regulation of an individual by the society, the way of life organization and regulation of time, the type of impact of critical contradictions (subjective criterion), a high degree of individuality development of adolescents, manifested in the forms and methods of "self-standing" to the conditions of life and society, it is revealed in value-motivational criterion (high level of training and professional motivation and the motivation to self-development, sufficient motivation for self-revelation and self-actualization); cognitive criterion (clear differentiation and self-evaluation of their personal potential, conscious analysis of the levels of self-understanding and self-awareness, satisfaction with the achieved level of self-realization, a high level of knowledge about the professional activity, its standards, requirements, general attitude to work, a high degree of enthusiasm, high intellectual activity and cognitive activity, ability to analyze their experience, high degree of personal autonomy, externality-internality (50 % to 50 %), locus of control, accurate and conscious identification of the causes of failures in the implementation of acmeologic personality development and the success of activities); prognostic criterion (clear understanding of the possible ways and the results of the implementation of acmeologic personality development in adolescence (15–20 years old), conscious design of acmeologic personality development during adolescence (15–20 years old), the development of appropriate techniques and methods of self-development, self-improvement, self-realization and self) (objective criterion).

Adolescents with high level of acmeologic personality development are active in the educational process, and in other situations (educational, socializing with peers, etc.); positive assessment of personality during adolescence and the results of adolescents' acquisition of psychological norms and ways of regulating the activity throughout acmeologic personality development during adolescence (15–20 years old) can possible stimulate acmeologic personality development through studying, training, socializing with peers and others; they have developed the ability to self-development, they can create the environment for acmeologic development in educational institutions (school, college, university) as a basis for optimizing acmeologic personality development in adolescence (15–20 years old), they are able to develop and implement the didactic bases of acme-oriented development (process criteria).

These adolescents with high level of acmeologic development actively use reflective skills; self-evaluation, self-understanding, independence, initiative, personal attitude to other people, labor, the principle of subordination, the motives encouraging self-knowledge and self-development, personal sense of professional training and self-development of personality during adolescence, the model of self-improvement; they are able to optimally capture the dynamics of the formation and development of personal and professionally important qualities throughout the period of early adolescence; they can effectively identify the regulation of relations and conflict-free existence of the collective in educational and professional environment; integrity, influence and strengthening of authority, trust, adherence to norms and traditions of the group (efficiency criterion).

The medium level of acmeologic personality development in early adolescence (15–20 years old) is the average level of representation of criteria and indicators, typical for high level of acmeologic personality development in early adolescence (15–20 years old); they demonstrate either quite good results, or medium and even low.

They are not always interested in acmeologic personality development in early adolescence (15–20 years old): they do not fully understand the essence of this process, they have situational interest to professional training; they demonstrate average intellectual and cognitive activity; there are difficulties in understanding of their experience; they have average degree of autonomy; they have difficulty in identifying the causes of

failures in the implementation of acmeologic personality development during early adolescence as well as possible ways and the results of the implementation of acmeologic personality development; they inadequately design acmeologic personality development during early adolescence (15–20 years old).

Low level of acmeologic personality development during early adolescence (15–20 years) is the unproductive level of acmeologic personality development of all strata, suggesting a low level of all criteria and indicators. Moreover, these adolescents have low level of education and professional motivation, motivation to self-development, involving willingness to fail and low levels of skills and abilities for any kind of activity. They have high level of dissatisfaction of acmeologic personality development during early adolescence, low level of knowledge about professional activity, its rules, requirements, have a negative attitude to their future professional activity, situational interest to professional activity, low intellectual and cognitive activity; they are not able to analyze their experience, they have high degree of dependence, can not determine the causes of failures as well as possible ways and the results of acmeologic personality development during early adolescence, they suffer from design replenishment of acmeologic personality development in early adolescence. They are not able to work out the way of acmeologic personality development in early adolescence, and as a result, their professional activities are ineffective and they suffer from the absence of personal and professional development (regressive tendencies in the development of adolescents), i.e .the lack and unwillingness for acmeologic personality development in general.

Our study was organized with 15–20 year-old adolescents, so we have previously identified the strata of early adolescence. In determining the strata of acmeologic personality development during early adolescence (15–20 years old), we proceed from the position of A. Bodaleva, who believes that it is important to consider small acme at each age stage of the growing and developing personality. Modern acmeology together with pedagogy try to find out “what features should micro acme have at each phase of development in order to achieve the big acme. Small acmes are prerequisite of macroacme. Another problem of acmeology and pedagogy is: what circumstances at each age level are necessary and sufficient for the development of a child, an adolescent, what features are typical for each age” [1, p. 101].

The result of our study was that all levels of acmeologic personality development in early adolescence (15–20 years old) are similar, indicating the statistical fidelity of the experiment. Also, we have not established gender differences within each level – the percentage of boys and girls in each level is approximately equal.

In the experiment, we confirmed our hypothesis of the difference between levels of acmeologic personality development during early adolescence (15–20 years old) in each stratum of early adolescence. High, medium and low levels of the initial strata differ significantly from the levels of all other strata of early adolescence. Negative correlation and the absence of any regularity between high, medium, low levels of all strata of acmeologic personality development in early adolescence (15–20 years old) proves it. However, we noticed some trends. Firstly, the strong correlation connection with a high probability of connection (0,95 %) indicates in general that the high level of all strata of acmeologic personality development in the period of early adolescence (15–20 years old) is associated with the average level (respectively, 0,435 and –0,698) and the average level is connected with the low level (0,342). This proves the fact that identified levels of acmeologic personality development during early adolescence (15–20 years old) are sufficiently objective. Secondly, when analyzing the results you will notice that there are weak correlation links, which are stronger among high levels of stratum than, for example, between a high level of one stratum and a low or medium levels of the other stratum. Thirdly, the weak correlations between the levels of adjacent strata are more powerful and sharper than between stages, spaced far apart. This fact suggests that acmeologic personality development in the periods of early adolescence (15–20 years old) may not correspond to the performance characteristic of the stratum in terms of overvalued and undervalued characteristics. In other words, in each stratum, we can observe the levels of acmeologic personality development in early adolescence (15–20 years old) of the previous and next stratum of acmeologic personality development.

We have obtained data that demonstrate the dynamics of the levels of acmeologic personality

development in early adolescence. The stable stratum is supposed to stimulate high and medium levels of acmeologic personality development in early adolescence; however we can observe the drop in these levels. This can be explained by the fact that at the age of 17–18 years old they are "rushing" in search of themselves, their profession, friends, etc. Therefore here we observe the rise of low level of acmeologic personality development during early adolescence (15–20 years old). As soon as this phase of development is over adolescents move on to a new phase which involves personality growth, conscious planning of their future professional career and as a result increase in high and medium levels in the third stratum.

Thus, we can conclude that each stratum includes several levels of acmeologic personality development during early adolescence (15–20 years), with age-appropriate features.

One of the results of our study the following trend: adolescents with high levels of acmeologic personality development in early adolescence (15–20 years old), is mainly characterized by low levels of anxiety and compensation; they are more confident and optimistic. The picture changes in groups of medium and low levels of acmeologic personality development in early adolescence (15–20 years old). The percentage of medium and high levels of anxiety and compensation has increased in all groups. From interviews with school psychologists and teachers, we have received information that many adolescents who have low levels of acmeologic personality development during early adolescence (15–20 years old) are under stress and emotionally depressed. According to the test results they are experiencing permanent stress, caused by family issues (divorce of parents, incomplete family, conflict with parents, etc.). Adolescents suffer from stress and depression because of a disfunctional family situation and it affects indirectly acmeologic personality development in early adolescence (15–20 years old).

Any level of acmeologic personality development in early adolescence (15–20 years) under certain conditions can serve as a basis for subsequent levels; it is not rejected but it is included in the further process, improves and develops.

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УРОВНИ И СТРАТЫ АКМЕОЛОГИЧЕСКОГО РАЗВИТИЯ ЛИЧНОСТИ В ПЕРИОД РАННЕЙ ЮНОСТИ (15–20 ЛЕТ)

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Ключевые слова и фразы: акмеологическое развитие личности; уровни и страты акмеологического развития; ранняя юность.

Аннотация: В статье рассматривается следующие уровни и страты акмеологического развития личности в период ранней юности (15–20 лет): высокий, средний и низкий уровни каждой из страт: испытательной, стабильной, заключительной. Приводится экспериментальное подтверждение выдвинутых авторами гипотез.

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Category "Attitide" as the Basis for Studying the Subjective Position of Personality

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Key words and phrases: a subjective position of the student; attitude.

Abstract: In the article the subjective position of the future specialist's personality is presented as a complete steady system of views and attitudes of a person to him/herself, to other people, to professional work and to the world as a whole, which is manifested in the conscious-selective attitude to surroundings and interaction with the reality. Considering the category of "relationship" as the basis for the study of personality subjective position, taking into account that throughout their life people are involved in the system of social relationships, our study confirms that the "relationship" is the driving force of personality development, shaping its subjective attitude towards oneself and to the world.

With an increasingly growing interest of scientists in the issue of professionalism, the problem of subjective attitude is not studied enough in modern scientific works. Referring to the phenomenon of "professionalism", we mean only the qualitative characteristics of professionally-related parameters of personality and activities of future specialists, reflecting their optimal performance. However, the experts who are guided by values of humanism, tolerance, competence, creativeness, self-improvement, transcendence, and self-realization, and have a steady system of views and attitudes can be of great help to a modern society. The development of a subjective position of the future specialists is the basic requirement of students, focused on their professional and personal growth and achievements.

In our scientific work the methodological directions for the study of subjective position of a future specialist were discovered in systemic personal, subjective, activity-oriented, humanistic and acmeologic approaches, but we have taken the category of "relationship" as the basis for the study of personality's subjective position and based our study on V.N. Myasishchev's concept of relationship. Within the limits of the concept of "relatioship" according to V.N. Myasishchev, the subjective position of the personality is revealed as the completely formed attitude to outside world and to the person him/herself. The core of personality is the individually integrated system of subjective assessment, the consciously selective attitude to reality; interiorized experience of relationships with other people in a social environment [1].

According to V.N. Myasishchev, every person is integrated into the system of public relations since he/she was born and till his/her death so that the system forms subjective attitude of an individual to all aspects of the reality. The system of human relations with the outside world and him/herself is the most specific characteristic of a person; it is more specific, than some of his/her other components, such as character, disposition, abilities. The psychological sense of the relationship consists in its personal reflection of the outside world, which constantly changes so that the role and position of the person in this world also inevitably and constantly changes.

"The world picture" and personal attitude to the different aspects of this world are reconstructed according to these changes.

Modern society needs specialists capable of realizing their full potential in professional activities and life in general, capable of operating in subjectively meaningful situations. Based on the concept of relationships by V.N. Myasishchev, presenting psychological relationship of a person as a holistic system of individual conscious connection of personality with different aspects of reality, in our study subjective position is

represented a stable system of views and attitudes of personality to oneself, to the people, to the profession and to the world as a whole, which manifests itself in a consciously selective interaction with the surrounding reality, provides the most complete personal fulfillment, satisfaction and success in professional life.

Structural components of a subjective position of a student are cognitive, reasonably-valuable and regulative ones; the perfect system of relationships between them promotes readiness of the student to actualization of personal professional potential and to self-realization in the ability to live. Psychological and acmeologic factors of the development of a subjective position of the student's activity are: self-trust, purposefulness, self-efficiency, requirement for the self-development. All these factors are the driving force for the development of steady system of relationships with people, attitude to professional work and to the outside world.

The presence of subjective position of the student as appropriate, harmonious relationships and connections with themselves, other people, professional activities and the world as a whole allows a young man to satisfy the need of age in the realization of self-processes, and to formulate principles of life, to build a harmonious system of views and attitudes to the world and define its place in this world, to form a mental attitude to adulthood, to develop an active inner life position in the process of self development, self-education, and achieve the fullest self-realization in life.

Russian psychologists pay attention to the fact that students' age is the age of the first attempts of self-determination in personal, professional and life aspects. L.I. Bozhovich says that youth is the age of changes in the relation to the future including making plans for the future, self-designing, formulating life plans and prospects [2]. If self-determination is considered to be a basic new feature appearing during this period of human life (L.I. Bozhovich, Klimov, Priazhnicov), its efficiency can be provided by completing its subjective position which represents a steady system of the student's attitude to him/herself, to the other people, to professional work and to the outside world.

According to I.V. Dubrovina, the ability for personal self-determination in life is typical of this age; the primary goals of self-development are understanding of oneself, the social roles and outlook of the existence and independent determination of professional and life goals and future career choices, development of value concepts. V.A. Petrovsky says that the person should become "the source of him/herself". Young men should be responsible for making their decisions and to be able to regulate their actions, according to conditions and aims. They should be able to project, plan, organize and realize their own life plans: personal, professional, cultural, social [3]. It will be possible, if the future specialists acquire the steady system of views and attitudes to other people, to professional work and to the outside world during their professional-focused training.

According to S.L. Rubinstein "… a person becomes a person only in the mutual relationships with the other person: the person is people in their mutual relations to each other. A person as the absolute, as "a transcendental object", as something isolated and closed in oneself is not a person, it is not a human being and, moreover, it is something nonexistent, or ... nothing" [4].

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«КАТЕГОРИЯ «ОТНОШЕНИЕ» КАК ОСНОВА ИЗУЧЕНИЯ СУБЪЕКТНОЙ ПОЗИЦИИ ЛИЧНОСТИ»

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Ключевые слова и фразы: субъектная позиция личности студента; отношение.

Аннотация: В нашем исследовании, рассматривая субъектную позицию как целостную устойчивую систему взглядов и отношений личности к себе, к людям, к профессиональной деятельности и к окружающему миру в целом, проявляющуюся в сознательно-избирательном отношении и взаимодействии с действительностью, мы опирались на концепцию отношений В.Н. Мясищева. Рассматривая категорию «отношение» как основу изучения субъектной позиции личности, учитывая, что на протяжении всей жизни человек включен в систему общественных отношений, проведенное нами исследование подтверждает, что «отношение» – это движущая сила развития личности, формирующая ее субъективные отношения к самому себе и к окружающему миру.

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The idea of Freedom in Russian Mentality (in the Context of Synergetic Paradigm)

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Key words and phrases: idea of freedom; contradictions; new type of personality; barrier; mentality; development.

Abstract: The basis of this paper is the idea of synthesis of N. Berdyaev's philosophical ideas in the contradictory mentality of Russia and the role of social conflicts in the formation of a new type of Russian society with the psychological barrier concept as a universal category of value-motivation structures of individuals and society as a whole.

Today, in modern Russia, the future hangs in the balance. All cultural and philosophical debates are closely interwoven with the current political, social and economic life of Russia. In these difficult days no Russian politician will be popular among the people without taking part in the verbal-struggle, without writing down a prescription for the sorrows of Russian life. All of them are creating their own models of the development of the so-called "Great Russia". But, what does it mean in fact? How does one define this greatness?

All these questions are connected with some other cardinal questions. E.g.: How can one define a type of a modern Russian person? What are the sources of his spirituality? What can be said about a new reality in Russia? We now understand that it's impossible to create a new type of personality, a new type of citizen without a deep study of the cultural heritage of the past, without understanding the meaning of the sharp social shock after the October Revolution in 1917, without honest conclusions concerning the past historical events. All this can contribute to the understanding and appreciation of the present.

Undoubtedly there have been no countries in the world with a history that is complicated, attractive and ugly at the same time. "The history of Russia is a history of endless sufferings: struggle against the Tatars, the totalitarian regime of Moscow reign, forceful reforms of Peter the Great, serfdom, the anti-intelligentsia policy of Czar's Government and the execution of Decemberists ..." [1]. The history of Russia was the history of overcoming of different crises, which were produced by different barriers. The overcoming of barrier with the help of the crisis is the contents of the development end the decline at the same time [2]. In this way we can mention the ideas of R. Shakurov, Doctor of Psychology, that barriers have stabilizing, corrective, mobilizing and developing role [3].

There can be no doubt, the culture of the Russian nobility was a culture of narrow caste, and it was not democratic and didn't express the mentality of common Russians. Intelligentsia in Russia was never appreciated as the "Flesh and Blood" of Russia. Russian nobility spoke foreign languages perfectly well and studied Russian as a foreign language. The failure of so-called "Narodism" is a good example of the break between intelligentsia and common people.

The desire of Russian nobility to understand Russian common people, to get closer to those who plough the land was considered in Russia as a sort of heroic deed, as an act of self-sacrifice. The great Russian writer Leo Tolstoy was one of the proponents of this trend, but even the majority of his own peasants thought him to be a dreamer.

The culture of Russian nobility at that time was a sort of culture of colonialists and very often meant nothing for the immeasurable Russian Czarist Empire. And "the holly" desire of well-educated noble people to create a common cultural background in Russia was doomed to failure. The intellectual centre of the Russian Empire at that time, St. Petersburg was a kind of anomaly for the majority of common Russians. The best representatives of the Russian noble class

understood their fragility. Alexander Pushkin wrote: “Oh, God, save us from the Russian rebel: cruel and senseless”.

We ought to understand that only present time is really actual and valuable for a human being. The past is not actual any longer, while the future is a mirage, appearing from time to time in our inflamed mind. All of us, living today in Russia, have inherited the spiritual and material experience of the Revolution independently of our assessment of its merits or lacks.

How often, especially today we feel shameful of our own fate, proclaiming that we were deprived of our material and spiritual values in the revolutionary years. But, in fact we discredit ourselves and the entire world at the same time. It seems to be true that the Revolution in Russia was inevitable. The revolution in Russia was approved by L. Tolstoy and F. Dostoevsky, V. Solovyov and N. Berdyaev. N. Berdyaev himself declared the Revolution to be the fate of Russia and revealed the invisible features and roots of the self-destruction of Russian intelligentsia.

In fact, the October Revolution was the beginning of a new history. It is the history of a New Man – a Man with a great desire to live, which was unusual previously. It is possible to say that it was one of the principal achievements of the 1917 Revolution. A child, torn away from his parents and national roots and brought into the orphanage, solved himself the so called problem of “Fathers and Children” rather quickly and without torments. His first words were “Renounce Old World's Authority!” And now, whether we want it or not, we must understand that it was the beginning of an absolutely new human being, another new Adam of another new world.

“... It is a new, militarized young man. In opposite to the Old Russian intelligent he is well-shaved, looks smart, he walks with a swift, rapid gait. He looks like a conqueror, he is not ashamed of his means and all the time he is ready for violence, he is led by the desire for power, he wants to be in the front lines of life, he wants not only to destroy but to plan and create a new world. And it is possible for such a man only, a man from peasantry, working class and half-intelligentsia to organize a Communist Revolution. But it was impossible to do so with the previous type of intelligent dreamer, always ready to suffer ...” [1]. It may be true, that only this new-born man can discipline Russia. And this task was beyond the previous Russian intelligentsia’s possibilities. Every young man linked with the process of revolutionary changes in Russia felt himself as the creator of a New World at that time. Every young man felt himself a participant in the New World's foundation. “... The World was joined out and it was possible to recreate it in the way you prefer ...” [1].

Thanks to the Revolution we can speak about the process of re-education of Russian national features. The development of this process helps us to adopt “... some Western virtues ...” [1], makes us start creating our own way of life and be strong in this creation, forces us to struggle against the traditional Russian power of the bureaucracy, makes us think about the question of national self-respect, makes us fight against our national laziness and desire to ask other people to solve our own problems. Today we must understand that our salvation is in overcoming the servility in our national consciousness, in understanding the idea that it is abnormal to ask everybody “to help us for the Sake of Goodness”.

The process of “techno lifestyle”, which started after the Russian Revolution, constructs a new type of man. And more over, that process of “techno lifestyle” is a world-wide process, not only a typical Russian event. Maybe, it is the first example in the Russian national history going along with the European history. The history manifests itself how to become a part of international civilization. Today it is unnecessary to discuss our belonging to the West or the East. It is absolutely true that society, developing on the basis of modern technology is not national anymore but international.

From the historical point of view, people in Russia experienced both anarchy and totalitarism. But they have never been happy in their history. Now we can search for a new type of society, which was called by Nicolay Berdyaev “Personalistic Socialism”.

“... Every human being will be appreciated as an absolute value, having immortal Soul in this society. This type of society will be a guarantee of the absolute completeness of individual human life ...” [1].

Nicolay Berdyaev saw the peak of an individual perfection in the so called “Spiritual aristocratism”. Once we understand the meaning of these words we will find the answers to these questions: Who are we? Where do we come from? Where are we going now?

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ИДЕЯ СВОБОДЫ В МЕНТАЛЬНОСТИ РОССИЙСКОГО НАРОДА (В КОНТЕКСТЕ СИНЕРГЕТИЧЕСКОЙ ПАРАДИГМЫ)

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Ключевые слова и фразы: идея свободы; противоречия; новый тип личности; барьер; ментальность; развитие.

Аннотация: В основе данной статьи заложена идея синтеза философских идей Н. Бердяева о противоречивости менталитета России и роли социальных потрясений в становлении нового типа российского общества с психологической концепцией барьера как универсальной категории развития ценностно-мотивационных структур личности и общества в целом.

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Teacher's Subjectivity in Professional College as the Problem of Psychological and Ackmeological Science

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Key words and phrases: subjectivity; professional education; professional college teacher.

Abstract: The paper considers the research aspects of the phenomenon of subjectivity in different branches of humanities. The essential characteristics of the concept "subjectivity" are revealed. The questions of the condition of the modern system of professional education and the urgency of the problem of the development of subjectivity of professional college teacher are discussed; the ways of their solution are proposed.

The problem of human subjectivity is a subject of philosophical, psychological, pedagogical and ackmeological researches.

All domestic scientists admit active, integrative origin of a person, the ability to understand consciously existence as the main characteristics of subjectivity. Subjectivity arises on a certain level of development of a person and represents its new quality system which defines specificity of vital activity of the person. The major characteristic of subjectivity is its activity, infinity and openness and it underlines its dynamism. A subject position is considered as a complex characteristic of psychological aspects of activity of a person, on the one hand, according to its abilities, conditions, attitude to problems, on the other hand, to its strategy and tactics and to its objective dynamics of activity – on the third hand. Subjectivity as the highest level of development of a person promotes realization of natural state of the human potential – realizability [1].

The idea of human subjectivity is presented in works of K.A. Abulhanova, L.I. Antsyferova, V.V. Belous, A.V. Brushlinsky, L.M. Vekker, L.I. Vorobeva, B.A. Vyatkin, L.J. Dorfman, A.L. Zhuravleva, V.V. Znakov, K.V. Karpinsky, O.A. Konopkin, D.A. Leontev, A.K. Osnitsky, V.A. Petrovsky, V.V. Selivanov, V.I. Slobodchikov, A.S. Tchernyshev, V.D. Shadrikov, etc.

In pedagogy the considerable attention is given to finding means and methods of subjectivity formation (G.I. Aksyonova, V.V. Gorshkova, M.G. Yermolaev, N.K. Sergeev, etc.).

The mechanisms and laws of development of the person as a subject of activity, knowledge, communication, interrelations and correlation of personal and subject characteristics are investigated (K.A. Abulhanova-Slavskaja, V.M. Djachkov, D.I. Feldshtejn, etc.). Subjectivity is considered as personal mental quality, the basis of which is made by the attitude of a person to himself as a creator, a source of productive activity, understanding his own ability to make significant transformations in the world, other people and himself (E.N. Volkova, V.N. Mjasischev, etc.); as the highest form of regulation of behavior, active display of the active attitude and active abilities of the person to the surrounding reality that acts as an object of his converting aspirations (A.K. Abulhanova-Slavskaja, A.K. Osnitsky, V.A. Petrovsky, etc.) ; as addition to the process of knowledge and subjective, reflection of partiality and specific features of the person in resolution of problems in designing, construction and activity in realization of reality, and also in interpretations of the results of this activity (V.I. Ginetsinsky, V.I.Slobodchikov, etc.); as the way and the important precondition of personal professional development, the high level of which is combined with positive"I-concept" of the person, professional maturity, responsible attitude to the activity and its results, activity in self-realization in profession (A.A. Derkach, V.G. Zazykin, A.K. Markova, etc.).

In ackmeology the problem of the subject and subjectivity is studied in connection with the

problems of personal professional potential development, professional consciousness and professional competence, self-determination and self-realization of a person in profession, personal and professional development (A.A. Derkach, I.N. Drozdov, A.V. Zharinov, V.G. Zazykin, N.A. Koval, A.A. Kozlova, R.N. Kosov, N.V. Kuzmin, D.M. Loguntsova, V.N. Markin, V.N. Markov, O.V. Moskalenko, A.R. Nikiforov, A.S. Ognev, N.I. Ptuha, E.V. Selezneva, L.A. Stepnova, etc.).

Despite the contribution and importance of all of the available studies the questions of mastering by the teacher strategies and ways of personal professional development are not sufficiently examined. It specifies the need for all-round analysis of the phenomenon of the teacher's subjectivity in professional college objectively.

The special importance in the development of teacher's subjectivity is given to the processes of a teacher's self-development connected with the involvement of the teacher in understanding the transformations that occur at the initial stage of self-realization in profession; his experiences, sensations, thoughts.

Recently professional education has been in constant search and introduction of pedagogical innovations: transition to the personality-centered education, introduction and implementation of the system of continuous professional education, introduction of the state educational standards of secondary professional education, working out of federal state educational standards. Such situation demands first of all comprehension of the active role of the teacher in the use of the teaching materials assumed by standards, and various forms, methods and the tutorials developed and generalized by modern pedagogical science.

Socioeconomic changes, occurring in our country also actualize the significance of recognition of the priority of active, independent and responsible actions of the experts characterized by the subject relation to the profession, work, own personal professional development (to A.A. Bodalev, A.A. Derkach, E.N. Volkova, A.V. Zeer, N.A. Koval, E. U. Korzhov, V.A. Sonin, E.E. Symanjuk, etc.).

It is necessary for modern teacher to possess not only the developed adaptable abilities, but also abilities to change, to reconstruct his life conditions, to manage his life, to build own professional work, changing and being improved intrapersonal. Owing to it before the system of the professional education there is a problem of the maximum disclosure and development of active-converting, subject potential of every teacher [2].

In the subject aspect of professional formation there is self-determination and self-realization of the teacher; imprinting professionally significant ways and standards of professional activity, construction on its basis of own system of actions, the development of personal criteria and norms of professional work; elimination of the limits of the standard activity, the ability of the teacher to design personal meaningful ways of realization of professional activity. Only in this case individuality, uniqueness of the teacher as a subject of pedagogical process is provided [3] (L.N. Kulikova).

Available achievements in the field of psychology, professional pedagogy and ackmeology use the existing system of additional professional education not to the full which still remains attached to traditional forms, methods and instructional content of mature teachers (L.V.Abdalina, E.F. Zeer, V.V. Kuznetsov, I.P. Kuzmin, L.V. Mozgarev, T.N. Prokhorov, etc.).

The analysis of the problems of secondary professional pedagogical education allows emphasizing a number of contradictions. On the one hand, the majority of modern researchers of the process of the teacher's personality development (I.A. Zimnaja, N.E. Mazhar, A.K. Markova, L.M. Mitina, V.A. Slastenin, E.N. Shijanov, etc.) raise the question of necessity of the development of his subjective position. Thus in today's system of secondary professional education the subjective essence of the teacher is not presented; participants of educational process are aloof from each other. The use of innovative educational technologies more often is limited to non-integrated characteristics of teachers, rather than their individual properties. Hence, the problem of teacher subjectivity is a significant and actual problem of pedagogical science and modern professional education.

The solution to the given problem consists in revealing the features of personal professional development of professional college teacher. It is important to develop substantial and process aspects of consecutive formation of a subjective position of a future teacher. Besides it is necessary to reveal the specificity of the given process in the conditions of innovative activity of professional establishment.

As a result it is necessary to find psycho-ackmeological ways of optimization of the given process in conditions of further training of the professional college teacher, generating situations of productive self-realization of all subjects of educational process (E.N. Volkova, B.S. Gershunsky, E.F. Zeer, N.V. Kuzmin, etc.).

Similar researches will also bring certain benefits to psycho-ackmeological sciences and practice.

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СУБЪЕКТНОСТЬ ПЕДАГОГА ПРОФЕССИОНАЛЬНОГО КОЛЛЕДЖА КАК ПРОБЛЕМА ПСИХОЛОГИЧЕСКАЯ И АКМЕОЛОГИЧЕСКОЙ НАУКИ

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Ключевые слова и фразы: субъектность; профессиональное образование; преподаватель профессионального колледжа.

Аннотация: В статье, на основе анализа научной литературы, рассмотрены аспекты изучения феномена субъектности разными отраслями гуманитарных наук. Раскрываются смыслообразующие характеристики понятия «субъектность». Поднимаются вопросы состояния современной системы профессионального образования и актуальность проблемы развития субъектности преподавателя профессионального колледжа, предлагаются пути их решения на следующих этапах исследования.

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Principles of Studying Acmeologic Resources of Youth's Psychological Health

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Key words and phrases: psychological health; acmeologic resources; principles of studying acmeologic resources.

Abstract: The paper discusses the problem of acmeologic resources of psychological health of young people. The author highlights the principles of studying of acmeologic resources of an individual's psychological health. These principles include: modeling, alternative, subjectivity, psycho sociality, existentiality, synergy, potentiality. These principles can reveal the inherent properties of psychologically healthy individuals in difficult life situations.

The problem of psychological health of young people is one of the most complicated and urgent [2; 5]. Currently, the health policy is global. The world community has put forward an idea and a strategy to achieve in the XXI century "Health for Everyone". Psychological health of young people is a socio-psychological and socio-economic problem, the condition of social stability.

The problem of psychological health of individuals was investigated by A.A. Derkach's scientific school in acmeologil aspect; this personality phenomenon was studied in the context of the general theory of personality development, its relationship and interaction with society, preservation of personal identity and the productivity of activity [1; 3; 4].

Today challenges facing youth involve thinking and acting in conditions of high dynamics, uncertainty and risk, making independent decisions with no ready-made solutions. In such circumstances, it is possible to carry out effectively professional activities and social role only if the person has reached the highest level in his development [1]. In this regard, the search for acmeologic resources of psychological health of young people is an important issue.

In our opinion, acmeologic resources of psychological health represent potential reserves of personality, which exist implicitly as additional sources of successful interaction with the environment; they are updated as spare funds to "evoked" life circumstances, to ensure the homeostasis of psychological health as a consistent, stable and predictable behavior, despite the transformation of life circumstances up to the critical level. Reserve character of acmeologic resource is especially important in situations implying changeable degrees of risk, the crisis of change, the likelihood of stress and trial. In this regard, it is important to consider the principles of studying acmeological resources of psychological health of an individual. These principles include: *modeling, alternative, subjectivity, psycho sociality, existentiality, synergy, potentiality.*

Let's consider the core content of the identified principles.

The principle of modeling of acmeologic resources of psychological health of an individual involves abstract mapping of this personal phenomenon in all the complexity of its structure and internal organization of the system. The complexity of implementing this principle comes from the fact that the object of modeling is not psychological health itself, but its acmeologic resource, ensuring the development of the phenomenon. The simulated components of acmeologic resource include moral properties and spiritually humanistic orientation, values and attitudes, intrapersonal and interpersonal competence of an individual. Modeling of acmeologic resource of psychological health of an individual requires the flexibility of this psychological phenomenon, which corresponds to its alternative.

The principle of alternative to acmeologic resource is implemented in the fact that reserves of

an individual are characterized by their individuality, non-specific manifestation in each individual case and non-absolute fixity in the structure of personal potential. Thus, reserves of an individual can vary from moral-volitional sphere to stress resistance. Provisions of a personality can be detected as the ability to a certain kind of activity in one case, and as the accumulated life experience – in another. The alternative of acmeologic resources of psychological health means that they are interchangeable, complimentary and variable depending on the individual and personal characteristics, situational circumstances and social environment. Individuality, originality and spontaneity of acmeologic resources imply that subjectivity as a functional personal property has a great importance in this process.

Subjectivity can be regarded as the principle of studying acmeologic resources of psychological health of an individual, since it has an active activity-related nature, involves the variability of behavior, the autonomy of existence and is characterized by the unpredictability of decisions. A psychologically healthy person is always the subject of existence, combining the dependence and independence, reproduction and creativity, consumption and creation. Psychological health of an individual is tested in contact with the real life and this manifests psycho-social nature of personality development.

Psycho sociality as the principle of studying acmeologic resources of psychological health of an individual can be considered as the socio-psychological phenomenon. Psychological health of an individual is a function of both individual and social prerequisites, in interaction of which a person acquires the necessary degree of stability, integrity and consistency in resolving conflicts, overcoming obstacles and testing his “strength” in difficult circumstances. “*Psycho sociality*” affects the development of psychological health of an individual, makes reference to personal reserves and serves as a natural environment of its manifestation; thereby psycho sociality of mental health reveals its existent nature.

Existentiality as the principle of studying of acmeologic resources of psychological health of an individual can be considered in the context of the complexity of being with its reciprocating development and conflict and struggle of contradictions, both natural and artificial obstacles, real and imaginary conflicts that exist in an indissoluble unity. Existential nature of the research of acmeological resources of psychological health of an individual brings us closer to understanding the entire complexity of human being, which is a combination of significant risks, threats to the well-being and dangerous life prospects when the imaginary value is “ignorance” of the future, but a way of self-preservation is considered a “momentary existence” and avoidance of unpleasant thoughts. In such circumstances, a person needs a synergistic combination of available resources for survival, continuation, self-preservation, self-assertion and complete self-realization as psychologically healthy personality.

Synergism implies “unpredictable branching” at the bifurcation point, that is, the moment of growth can be observed in different terms of the resource of psychological health, depending on an individual, circumstances and peculiarities of life challenge. For example, a bifurcation point in the growth of acmeologic resource of psychological health of an individual can become personal values, moral ideals, motives and senses, abilities and will, social relations and ways of emotional self-regulation. Depending on the point of bifurcation, acmeologic resources of psychological health of an individual are transformed and developed in a particular direction, providing a “healthy” functioning of an individual in a social environment. This makes acmeologic reserves of psychological health of an individual a potential phenomenon, rather than a given one.

Potentiality can be included in the principles of studying acmeologic resources of psychological health of an individual, since these resources are newly created in the "evoked" life circumstances and fundamentally cannot be reproduced on the previously tested template. Rather, acmeologic resources of psychological health of an individual are not ready-made; they are possible, probable, and unpredictable in difficult circumstances of an individual’s life.

Thus, the principles of studying acmeologic resources of psychological health of an individual include the following: *modeling, alternative, subjectivity, psycho sociality, existentiality, synergy, potentiality.* These principles can reveal the inherent properties of psychologically healthy personality in difficult life situations.

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ПРИНЦИПЫ ИЗУЧЕНИЯ АКМЕОЛОГИЧЕСКИХ РЕСУРСОВ ПСИХОЛОГИЧЕСКОГО ЗДОРОВЬЯ МОЛОДЕЖИ

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Ключевые слова и фразы: психологическое здоровье; акмеологические ресурсы; принципы изучения акмеологических ресурсов.

Аннотация: В статье рассматривается проблема поиска акмеологических ресурсов психологического здоровья молодежи. Автором выделены принципы изучения акмеологического ресурса психологического здоровья личности. К таким принципам относятся: моделирование, альтернатива, субъектность, психосоциальность, экзистенциональность, синергизм, потенциальность. Данные принципы позволяют раскрыть имманентные свойства психологически здоровой личности в осложненных ситуациях ее бытия.

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