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Medical Sciences

ИСКУССТВЕННЫЙ ИНТЕЛЛЕКТ В ДИАГНОСТИКЕ НЕВРОЛОГИЧЕСКИХ ЗАБОЛЕВАНИЙ

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Аннотация

В данном обзоре рассматривается применение искусственного интеллекта (ИИ) в области диагностики неврологических заболеваний. Авторы в статье, анализируют основные направления использования ИИ - анализе медицинских изображений, создании прогностических моделей и обработке больших объемов данных. Особое внимание уделяется преимуществам использования ИИ: повышению точности диагностики, экономии времени и персонализации лечения. Также обсуждаются ограничения и вызовы внедрения технологий ИИ в неврологии - дефицит данных, этические аспекты и необходимость контроля за работой алгоритмов. Будущие перспективы развития технологий ИИ в неврологии включают интеграцию с телемедициной, изучение редких заболеваний и создание интерактивных систем.

Ключевые слова: изучение нервной системы (неврология), методы диагностики (диагностика), модели прогнозирования (предиктивные модели), изображения в медицине (медицинские изображения), обширные данные (большие данные), дистанционная медицина (телемедицина), ИИ, Искусственный интеллект.

Искусственный интеллект имеет большое будущее и активно проникает в различные области медицины, включая диагностику заболеваний нервной системы. Современные алгоритмы ИИ улучшают точность диагностики, сокращают время постановки диагноза и способствуют созданию индивидуальных подходов к лечению пациентов. В сфере неврологии использование искусственного интеллекта становится все более актуальным из-за высокой сложности анализа данных в этой области. Интеграция ИИ в неврологическую практику означает значительное изменение подходов к медицинской помощи. Благодаря участию в процессе принятия клинических решений, искусственный интеллект помогает неврологам бороться с трудностями диагностики и лечения неврологических расстройств с выдающейся точностью и эффективностью. Применение современных технологий ИИ позволяет медикам постепенно улучшать традиционные методы диагностики для лучшего обнаружения состояний таких как инсульт на основе изображений. Также это позволяет различать мелкие признаки заболеваний типа отека диска зрительного нерва и диабетической ретинопатии [1].

Одновременно они могут прогнозировать результаты через анализ ЭЭГ данных общее состояние пациента. Такой объединенный подход сокращает степень диагностической неопределенности и дает возможность неврологам приспосабливать индивидуальные

методы лечения, что в итоге приводит к улучшению результатов лечения больных и повышению уровня медицинской помощи.

Кроме того, применение искусственного интеллекта в области неврологии не ограничивается простым расширением функционала; это также открывает новые перспективы для развития и инноваций в медицинской сфере. Помимо дополнения традиционных клинических методик и процедур ИИ помогает автоматизировать повседневные задачи неврологов, улучшая рабочие процессы и повышая общую эффективность врачебной практики. За счет освобождения времени и ресурсов ИИ дает медикам возможность оптимизировать приоритеты при обслуживании пациентов и способствует персонализированному подходу к лечению пациентов. По мере развития технологий искусственного интеллекта неврологи получают доступ к передовым инструментам и знаниям для успешного решения сложных клинических ситуаций. Это изменяет будущее медицинской практики и открывает новую эпоху точной диагностики и лечения в неврологии.

Большие успехи в области искусственного интеллекта приводят к изменениям в практике неврологии.

Алгоритмы искусственного интеллекта анализируют данные пациентов и изображения с очень высокой точностью. Например, при помощи компьютерной томографии инструменты на основе искусственного интеллекта показали точность до 95 % в определении геморрактических инсультов. Это способствует раннему выявлению проблемы и своевременному вмешательству для уменьшения смертности и последующей инвалидности [2].

С помощью искусственного интеллекта создаются индивидуальные планы лечения на основе анализа обширных данных. Исследования показывают, что использование стратегий лечения с применением ИИ приводит к улучшению результатов лечения у 30% пациентов за счет более точного прогнозирования реакции на различные методы лечения. Это снижает количество необходимых проб и ошибок и повышает эффективность процесса лечения.

Согласно данным исследований и разработок в области медицины, применение искусственного интеллекта позволяет значительно ускорить процесс поиска новых лекарств за счет анализа больших объемов данных. Считается возможным сократить время разработки лекарств до 50% благодаря способности ИИ выявлять потенциальные цели для лечебных препаратов и предсказывать эффективность терапии, что способствует более быстрой реализации результатов исследований в клиническую практику.

Искусственный интеллект преобразует процесс обучения в медицинской сфере через использование интерактивного моделирования и виртуальной реальности. Научные исследования показывают наличие значительного улучшения - до 40% - в усвоении и закреплении навыков у интернов-медиков благодаря использованию образовательных инструментов на основе ИИ. Механизмы обратной связи в режиме реального времени от ИИ также помогают выявить недостатки в процессе обучения и способствуют постоянному самосовершенствованию.

Планирование хирургических вмешательств и реабилитация: С помощью ИИ разрабатываются планы для операций на основе данных пациентов для повышения точности процедур. Исследования показали снижение риска осложнений и уменьшение времени пребывания в больнице на 60% при использовании искусственного интеллекта в операциях. Также индивидуальные планы реабилитации на основе данных пациентов ИИ сократили время восстановления на 25% и улучшили функциональные результаты. Применение искусственного интеллекта в неврологии [3].

Одной из важнейших областей применения искусственного интеллекта в неврологии - это анализ медицинских изображений, таких как магнитно-резонансная томография (МРТ),

компьютерная томография (КТ) и электроэнцефалография (ЭЭГ). Современные алгоритмы искусственного интеллекта имеют возможность:

- Осуществлять автоматическое обнаружение патологических изменений, включая опухоли, инсульты и дегенеративные процессы.
- Определять тяжести травмы в неврологии может понадобиться при различных состояниях и заболеваниях мозга.
- Осуществлять сопоставительный анализ изображений с контрольными данными для диагностики заболеваний на ранних стадиях.

Искусственный интеллект имеет широкие прогностические возможности в медицине: он помогает создавать модели для прогнозирования развития заболеваний, таких как болезнь Альцгеймера и Паркинсона или эпилепсия. С помощью алгоритмов машинного обучения происходит анализ данных пациентов включая клинические показатели для генерации вероятностных оценок возникновения различных патологий [4].

Медицинская область неврологии требует тщательного изучения больших объемов информации: генетических данных, биомаркеров, результатов диагностических тестов и анамнеза. Применение искусственного интеллекта открывает новые возможности:

- Исследовать связь между изменениями в генетике и неврологическими заболеваниями.
- Определять оптимальные методы лечения для каждого отдельного пациента.

Преимущества использования искусственного интеллекта.

Улучшение точности диагностики: искусственный интеллект показывает высокую точность в обнаружении заболеваний на уровне или даже лучше квалификации специалистов.

Оптимизация использования времени: медицинский персонал сможет уделить больше внимания принятию медицинских решений, не тратя время на анализ данных [5].

Личный подход к лечению: при выборе методов лечения ИИ учитывает индивидуальные особенности каждого пациента.

Ограничения и трудности использования ИИ.

Недостаток информации - для эффективного обучения алгоритмов требуются обширные наборы качественных данных, доступ к которым может быть ограничен.

Вопросы этики возникают при использовании искусственного интеллекта из-за проблем с конфиденциальностью данных и ответственностью за возможные ошибки.

Необходимость контроля. Принимаемые искусственным интеллектом решения требуют обязательного подтверждения со стороны медицинских специалистов для снижения вероятности ошибок.

С развитием искусственного интеллекта ожидается его применение в различных областях диагностики и лечения заболеваний нервной системы, таких как неврологические нарушения. Некоторые перспективные направления в этой области включают следующее:

- Разработка онлайн-платформ для проведения медицинских консультаций на расстоянии.
- Исследование редких заболеваний с применением глубоких нейронных сетей.
- Разработка интерактивных систем с учетом индивидуальных особенностей каждого человека.

Использование искусственного интеллекта в медицине является значимым инструментом для улучшения диагностики и лечения неврологических заболеваний. Несмотря на определенные ограничения, потенциал ИИ в повышении эффективности медицинской помощи очевиден. Для успешной интеграции искусственного интеллекта в практику медицинских учреждений необходимо тесное сотрудничество между

разработчиками технологий, специалистами здравоохранения и контрольно-надзорными органами [6].

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MONITORING THE REASONS FOR REFUSING MEDICAL EXAMINATIONS

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In the scientific study, a comprehensive approach was applied, incorporating informational-analytical, sociological, and statistical research methods. The study set a clear objective, defined tasks, determined the object and unit of observation, selected methods for data collection, processing, and analysis, and developed a detailed research plan and program. The aim of this research was to examine the reasons for refusing routine medical examinations among the adult population of Almaty aged 18 years and older.

Research Objectives:

1. Identify the most significant factors influencing the refusal to undergo preventive medical examinations.
2. Assess public awareness and satisfaction with the quality of medical check-ups.
3. Develop practical recommendations to encourage participation in preventive medical examinations.

Research Results:

To collect data, a survey was conducted among respondents residing in Almaty. The questionnaire, developed by the authors, included questions covering socio-demographic characteristics, motives for undergoing and frequency of medical examinations, and preferred channels for obtaining information.

The database was formed in Microsoft Excel and Google Sheets, statistical data processing was carried out using the Microsoft Office application package.

The study involved people of both sexes aged 18 years and older (women – 56, 0%, men – 44,0%), no distribution by nationality was made.

Among the reasons that have the greatest impact on refusing medical examinations, 36,0% of respondents named - lack of time, 28,0% are not satisfied with queues and difficulties with making an appointment with a doctor, 18,0% are financial costs, the fear of learning an unpleasant diagnosis stops 12,0%, other reasons were indicated by 6,0% of respondents.

Regarding the frequency of medical examinations: 62,0% of respondents undergo check-ups once a year, 22,0% every 2-3 years, 12,0% less often than once every three years, and 4,0% have never undergone preventive medical examinations.

Among the factors influencing the frequency of medical examinations, 38,0% of the population noted the presence of notifications from medical institutions, 32,0% underwent examination because they understand the risk of diseases, 16,0% were attracted by programs with financial incentives and discounts on medical services, 12,0% came on the recommendation of family or friends, 2,0% named other reasons.

The most priority medical services among respondents were preventive tests 42, 0%, which indicates the importance of early diagnosis. Examinations by narrow specialists are in demand among 28,0% of respondents, blood pressure testing 24,0%, which is associated with the prevalence of cardiovascular diseases, only 4,0% of respondents chose ultrasound and X-ray diagnostics, and 2.0% listed other services.

Thus, refusal of planned medical examinations among the adult population of Almaty is associated with a combination of socio-demographic, psychological and organizational factors. Lack of time, inconvenience of registration for examination, fear of diagnosis and insufficient awareness of preventive services reduce adherence to examinations, while availability of information from doctors and family support can increase participation in such activities.

ОЦЕНКА ИНФОРМАТИВНОСТИ ФЛЮРОГРАФИИ ПРИ ДИАГНОСТИКЕ БОЛЕЗНЕЙ ОРГАНОВ ДЫХАНИЯ

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Аннотация

Флюорография остается важным инструментом раннего выявления патологий органов дыхания, включая онкологические заболевания, в условиях массовых скрининговых программ. В настоящем исследовании рассмотрены данные флюорографического обследования населения Алатауского района города Алматы, проведенного в поликлинике № 29. Особое внимание уделено выявлению опухолевых процессов и других заболеваний дыхательной системы. Результаты исследования показывают, что флюорография обладает высокой доступностью и является эффективным методом первичного скрининга, несмотря на ограниченную диагностическую точность.

Ключевые слова: флюорография, скрининг, органы дыхания, рак легкого, массовые исследования, диагностика.

Введение

Заболевания органов дыхания, включая онкологические патологии, занимают лидирующие позиции в структуре заболеваемости и смертности населения. Ранняя диагностика, позволяющая своевременно начать лечение, имеет решающее значение для снижения этих показателей.

Флюорография на протяжении десятилетий остается основным методом массового обследования, направленного на выявление заболеваний легких. Ее применение особенно важно в странах со средним уровнем дохода, где ограничены ресурсы для более дорогостоящих диагностических процедур, таких как компьютерная томография (КТ).

Тем не менее, точность флюорографии в выявлении различных патологий ограничена, что требует проведения дальнейших исследований по ее эффективности и интеграции в комплексные программы диагностики.

Цель исследования

Целью данного исследования является оценка диагностической ценности флюорографии при выявлении заболеваний органов дыхания, включая опухолевые процессы, среди населения Алатауского района города Алматы.

Методы исследования

Исследование проводилось с использованием ретроспективного анализа данных флюорографических обследований, выполненных в городской поликлинике № 29 города Алматы за 2-е полугодие 2023 года.

Выборка

Общая численность населения, подлежащего скринингу, составила 24 914 человек, из которых обследование прошли 11 325 человек (57%). Основной причиной невысокого охвата стала низкая осведомленность населения о значимости профилактических мероприятий.

Процедура

Флюорографические снимки с выявленными округлыми образованиями (0,33% от обследованных) подвергались дальнейшему анализу с использованием компьютерной томографии (КТ). Были изучены демографические характеристики пациентов, выявленных с патологическими изменениями.

Критерии включения:

- Возраст пациентов: от 18 до 75 лет.
- Наличие округлых теней на флюорографических снимках.
- Согласие пациента на дообследование.

Анализ данных

Для обработки полученных данных использовались методы описательной статистики. Результаты КТ служили эталоном для подтверждения диагнозов, установленных на основании флюорографии.

Результаты исследования

Из 11 325 человек, прошедших скрининговое обследование, у 37 (0,33%) были выявлены округлые тени на флюорографических снимках. После проведения КТ диагнозы распределились следующим образом:

- **Хронический бронхит** – 40,5%.
- **Рак легкого** – 18,92% (7 случаев, 0,06% от общего числа обследованных).
- **Пневмония** – 13,51%.
- **Хроническая обструктивная болезнь легких (ХОБЛ)** – 10,81%.
- **Гамартома** – 2,7%.
- **Фиброма** – 2,7%.
- **Гидроторакс** – 2,7%.
- **Здоровые пациенты** – 8,11%.

Наиболее значимым результатом стало подтверждение 7 случаев рака легкого, что подтверждает необходимость использования флюорографии как инструмента ранней диагностики.

Преимущества флюорографии

Флюорография является одним из наиболее доступных методов диагностики, что делает её незаменимой в условиях массового скрининга. Она позволяет выявлять не только онкологические патологии, но и широкий спектр других заболеваний органов дыхания.

Ограничения метода

Основным недостатком флюорографии является низкая чувствительность в выявлении небольших или сложно локализуемых опухолей. При выявлении патологических изменений требуется дальнейшее дообследование с использованием КТ, что повышает общие затраты на диагностику.

Рекомендации

Для повышения информативности флюорографических обследований необходимо:

- Проводить регулярное обучение врачей-рентгенологов.
- Интегрировать флюорографию в более широкие программы скрининга с последующим дообследованием пациентов.
- Увеличить осведомленность населения о необходимости профилактических обследований.

Заключение

Флюорография остается экономически эффективным методом массового скрининга заболеваний органов дыхания. Ее использование позволяет выявлять значительное число патологий, включая рак легкого, на ранних стадиях. Однако для повышения точности диагностики в сложных случаях требуется использование более современных методов, таких как КТ.

Регулярное проведение профилактических флюорографий и повышение охвата скрининговыми программами способствуют улучшению общей эпидемиологической ситуации и раннему началу лечения пациентов.

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Роль метаболических и поведенческих факторов риска у молодых людей с гипертонической болезнью

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АННОТАЦИЯ

Актуальные исследования демонстрируют, что метаболический синдром имеет ключевое значение в формировании артериальной гипертензии. Развитие кардиометаболических нарушений связано с взаимным воздействием поведенческих и метаболических факторов. Эти нарушения оказывают значительное влияние на качество жизни, увеличивая вероятность сердечно-сосудистых осложнений, инвалидности и преждевременной смертности у молодых пациентов. Метаболический синдром отрицательно сказывается на состоянии сердечно-сосудистой системы у лиц с артериальной гипертензией в раннем возрасте, что может привести к тяжелым последствиям. В связи с этим выявление метаболического синдрома требует дополнительных диагностических мероприятий для оценки риска сердечно-сосудистых заболеваний, включая субклинические поражения органов-мишеней, а также назначения адекватной терапии для управления всеми компонентами риска.

Ключевые слова: гипертоническая болезнь, метаболический синдром, поведенческие факторы, абдоминальное ожирение, популяция, молодое поколение.

THE ROLE OF FACTORS OF METABOLIC AND BEHAVIORAL RISKS IN REPRESENTATIVES OF YOUNG AGE WITH HYPERTENSION

ABSTRACT

Modern research shows that the metabolic syndrome plays a major role in the development of arterial hypertension. The mechanism of occurrence of cardiometabolic disorders is the result of the interaction of behavioral and metabolic factors. These disorders significantly reduce the quality of life of patients, as well as increase the risk of cardiovascular complications, disability and death in young people. Metabolic syndrome has a negative impact on the functioning of the cardiovascular system in patients with arterial hypertension at a young age, which can lead to the development of serious complications. Therefore, when the metabolic syndrome is identified in patient, additional studies should be performed on other risk factors for cardiovascular disease, including subclinical target organ damage, and appropriate therapy should be prescribed for each of these components.

Keywords: arterial hypertension, metabolic syndrome, behavioral factors, abdominal obesity, population, young population.

Актуальность. Одной из глобальных проблем современного здравоохранения остается метаболический синдром, который провоцирует значительные социальные и экономические издержки, включая утрату трудоспособности среди молодых людей с сопутствующей гипертонией. На сегодняшний день гипертоническая болезнь все чаще рассматривается как компонент метаболического синдрома. Данное состояние является комплексным нарушением, объединяющим атеросклеротические процессы с генетической

и приобретенной природой, сопровождаемыми структурными и метаболическими изменениями. Среди основных факторов риска выделяются гипертония, дислипидемия и диабет.

Цель исследования. Определить значение метаболических факторов риска у молодых пациентов с гипертонией на фоне абдоминального ожирения и табакокурения.

Материалы и методы. В исследование были включены 54 пациента в возрасте 18-35 лет, наблюдающиеся в Городской поликлинике № 29, с установленным диагнозом гипертонии I-III степени. Пациенты дали согласие на участие в исследовании, а также обработку персональных данных. Участники были распределены на три группы:

1. Нормальная масса тела (ИМТ 18.5–24.9) – 17 человек.
2. Избыточная масса тела (ИМТ ≥ 25 кг/м²) – 18 человек.
3. Ожирение (ИМТ ≥ 30 кг/м²) – 19 человек.

Исследование включало анкетирование по шкале The Finnish Diabetes Risk Score, расчет индекса курьльщика, а также анализ крови для оценки липидного и диабетического профилей.

Результаты. У пациентов с избыточной массой тела (группа 2) и ожирением (группа 3) чаще диагностировалась гипертония (55,5% и 68,4% соответственно против 35,3% в группе 1). Уровень риска диабета 2 типа по шкале The Finnish Diabetes Risk Score был наиболее высоким в группе с ожирением (25,7%), в то время как у пациентов с избыточной массой тела он составил 15,8%, а у пациентов с нормальным весом – всего 2,1%.

Группы с избыточной массой тела и ожирением также демонстрировали повышенные показатели глюкозы крови, инсулина, триглицеридов и ЛПНП, а также снижение уровня ЛПВП. Наиболее выраженные отклонения были зафиксированы у пациентов с ожирением, где уровень глюкозы крови увеличивался на 17,1%, а концентрация инсулина – почти в 1,5 раза ($p > 0,005$).

Выводы. У молодых пациентов с ожирением и избыточной массой тела выявлены наиболее выраженные кардиометаболические изменения, включая нарушения липидного и углеводного обмена. Указанные метаболические и поведенческие факторы существенно усиливают риск прогрессирования гипертонической болезни. Особое значение имеет риск развития диабета 2 типа, что подчеркивает важность комплексного подхода к диагностике и лечению.

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КОММУНИКАТИВНЫЕ НАВЫКИ СРЕДНЕГО МЕДИЦИНСКОГО ПЕРСОНАЛА: ОБЗОР ЛИТЕРАТУРЫ

ИМАНБЕКОВА ГҮЛЖАН АЛТЫНБЕКҚЫЗЫ

Заведующий отделения профилактики и социально-психологической помощи, КГП ПХВ «Городская поликлиника № 29», Город Алматы, Казахстан

Аннотация. Основной целью исследования было теоретическое рассмотрение коммуникативных умений, необходимых для работы среднего медицинского персонала. Для поиска литературы использовались электронные научные библиотеки World Scientific, e-library, Scopus, Киберленинка.ру. Эксперты соглашаются с тем, что коммуникативные умения являются критически важным элементом успеха для среднего медицинского персонала, поскольку они обеспечивают эффективное и качественное взаимодействие в рамках модели "медсестра-пациент". В медицинской сфере существует детально изложенная модель коммуникации, которая называется "Калгари-Кембриджская модель". Однако в Республике Казахстан отсутствуют эмпирические исследования, подтверждающие эффективность данной модели.

Введение: как средний медицинский персонал взаимодействует с больными и их родственниками включает в себя множество межличностных контактов, поэтому коммуникативная компетентность играет важную роль в этой профессии. [1]. Такой специалист как В.Б. Молотов-Лучанский [3], коммуникативная компетентность означает способность человека устанавливать и поддерживать необходимые контакты с другими людьми. Люди, обладающие хорошо развитой коммуникативной компетентностью, могут стать более успешными и востребованными в социальном взаимодействии и в своей профессии. Коммуникативная компетентность среднего медицинского работника является интегральной характеристикой его личности. Она включает в себя целостную совокупность знаний, умений и личностных качеств, которые позволяют ему осуществлять общение, достигать взаимопонимания и решать задачи общения эффективно. Таким образом, цель данной работы заключается в теоретическом изучении коммуникативных навыков среднего медицинского персонала.

Материалы и методы. Для поиска литературы использовались электронные научные библиотеки World Scientific, e-library, Scopus, Киберленинка.ру. В результате, по ключевым словам, было отобрано 18 статей, однако соответствовали тематике – 10. Результат исследования. Анализ научных источников позволил выделить специфические коммуникативные навыки, необходимые для профессиональной деятельности среднего медицинского персонала [2, 6, 7, 8]: коммуникативные навыки, необходимые для успешной профессиональной деятельности среднего медицинского персонала, включают: уверенность в коммуникации; ответственность за свои слова; умение решать конфликтные ситуации; способность мотивировать коллег; уважительное отношение к коллегам; создание положительного впечатления о своем профессионализме у пациентов; умение установить доверительные отношения и эффективно сотрудничать с пациентами; контроль эмоциональных реакций в различных ситуациях; эмпатия; легкость установления контакта; умение слушать и донести информацию до пациента [1,4]. Калгари-Кембриджская модель

общения в медицинской среде является одной из самых распространенных и эффективных моделей коммуникации в медицинской практике. Она активно используется в современной медицине для улучшения качества взаимодействия между медицинскими работниками и пациентами. Калгари-Кембриджская модель общения в медицинской среде предполагает, средний медицинский персонал должны уметь эффективно общаться с пациентами, чтобы достичь наилучших результатов лечения и улучшить качество жизни пациентов. Модель включает в себя несколько ключевых навыков, которые должен обладать медицинский персонал. [9,10] Навыки выстраивания отношений включают в себя умение установить контакт с пациентом, уважительное отношение к нему, эмпатию и понимание его потребностей и ожиданий. Эти навыки помогают создать доверительную атмосферу и установить отношения, основанные на взаимном уважении и понимании. Навыки слушания и наблюдения за пациентом включают в себя умение внимательно слушать и наблюдать за пациентом, учитывать его невербальные сигналы и проявлять эмпатию. Эти навыки помогают понять потребности пациента и обеспечить ему необходимую поддержку.

Техника задавания вопросов предполагает умение задавать вопросы таким образом, чтобы получить максимально полезную информацию от пациента. Это включает в себя умение задавать открытые вопросы, которые позволяют пациенту свободно выражаться, а также умение задавать уточняющие вопросы, чтобы получить дополнительную информацию. Структурирование опроса пациента включает в себя умение структурировать опрос пациента таким образом, чтобы получить максимально полезную информацию от него. Это включает в себя умение задавать вопросы последовательно и логически связано, чтобы получить всю необходимую информацию. Дозирование разъяснений включает в себя умение предоставлять пациенту информацию о его состоянии и лечении в достаточном объеме, но не перегружать его излишней информацией. Это помогает пациенту лучше понимать свое состояние и принимать более осознанные решения относительно своего лечения. Эти навыки отлично иллюстрируют пациенто-ориентированный подход, который сосредоточен на понимании пациента и соответствующем реагировании на его потребности в процессе коммуникации. [5]. Для среднего медицинского персонала наиболее важным навыком является умение устанавливать эффективные партнерские отношения с пациентами в любых ситуациях, включая гнев, боль, тревогу, отчаяние или беспокойство, поскольку это является ключевым аспектом взаимодействия между медицинским работником и пациентом. [1]. Ключевыми компетенциями в межличностных отношениях для медицинского персонала являются умение выбирать правильную стратегию коммуникации с пациентами и навыки ведения беседы. Оптимальным подходом к взаимодействию между медицинским персоналом и пациентами также является модель консультативных отношений [6]. Консультативная модель взаимодействия между медицинским персоналом и пациентом базируется на предположении, что взрослый человек способен анализировать информацию и определять для себя наиболее значимые аспекты, а средний медицинский работник обладает необходимыми навыками коммуникации, чтобы помочь пациенту принимать решения. Считается, что медицинский персонал на среднем уровне компетентен в определении разницы между предпочтениями пациента и рекомендациями, которые ему предоставляются. Данная модель взаимодействия между медицинским персоналом и пациентом способствует повышению осведомленности пациента о таких важных аспектах, как профилактика здоровья, здоровый образ жизни и правильное лечение. Совещательная модель взаимодействия между медицинским персоналом и пациентом способствует активному участию пациента в процессе диагностики и лечения, а также помогает ему принимать ответственность за свое здоровье. В рамках данной модели была разработана концепция информированного согласия пациента на проведение медицинских манипуляций или диагностики.

Резюме. Научные источники подчеркивают важность коммуникативных навыков для успешного взаимодействия между средним медицинским персоналом и пациентами. В Республике Казахстан не проводилось эмпирических исследований, подтверждающих ее эффективность. Исследования и разработка эффективных стратегий обмена информацией между медицинским персоналом и пациентами могут помочь улучшить коммуникативную компетентность среднего медицинского персонала и качество обучения будущих медицинских работников.

Ключевые слова: коммуникативные навыки среднего медперсонала, коммуникативная компетентность, взаимоотношения медицинская сестра и пациента

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ОРТА ҚЫЗМЕТКЕРЛЕРДІҢ БАЙЛАНЫСТЫҚ БІЛІКТІЛЕРІ: ӘДЕБИЕТТЕРГЕ ШОЛУ

Түйін сөздер: мейірбике персоналының коммуникативті дағдылары, коммуникативті құзыреттілік, медбике мен пациент арасындағы қарым-қатынас

COMMUNICATION SKILLS OF MEDIUM STAFF: A LITERATURE REVIEW

Keywords: communication skills of nursing staff, communicative competence, relationship between a nurse and a patient

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LUNG CANCER: MODERN CLINICAL AND DIAGNOSTIC CONCEPT

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Annotation: This scientific and analytical work presents modern world and local-regional data on incidence, mortality, lethality and five-year survival rate of such a common oncological pathology as lung cancer. The issues of etiology and pathogenesis, features of distribution, modern principles of diagnostics, including screening, as well as prognosis are covered in detail. The epidemiological characteristics of this pathology in our republic are given in the context of regions of the country.

Key words: oncology, lung cancer, biomarkers, bronchoscopy, low-dose computed tomography, screening, epidemiology, incidence, mortality, lethality, five-year survival rate, prognosis.

Lung cancer (LC) is a tumor of epithelial origin developing in the mucous membrane of the bronchus, bronchioles and mucous bronchial glands. Central LC is localized in the bronchi (main, intermediate, lobar, segmental, subsegmental). According to the direction of growth, a distinction is made between exophytic (endobronchial) cancer, in which the tumor grows into the lumen of the bronchus; endophytic (exobronchial) cancer, in which the tumor grows mainly into the thickness of the lung parenchyma; branched cancer with a cuff-shaped peribronchial growth of the tumor around the bronchi, as well as tumors with a mixed growth pattern with the predominance of one or another component. Peripheral LC is localized in the peripheral parts of

the lung. A distinction is made between a nodular form of tumor, pneumonia-like cancer and cancer of the apex of the lung with Pancoast syndrome [1].

The diagnostic criteria are as follows. Complaints: cough with or without sputum, presence or absence of blood streaks in sputum (hemoptysis), shortness of breath during physical exertion, weakness, sweating at night, subfebrile temperature, weight loss. Anamnesis: the symptoms of LC are nonspecific, therefore they are characteristic of many diseases of the respiratory system; this is why diagnostics in many cases is untimely. The tumor in the initial stage is asymptomatic due to the absence of pain endings in the lung tissue. When the tumor grows into the bronchus, a cough appears, initially dry, then with light sputum, sometimes with an admixture of blood. Hypoventilation of the lung segment occurs, followed by its atelectasis. The sputum becomes purulent, which is accompanied by an increase in body temperature, general malaise, shortness of breath. Cancerous pneumonia joins. Cancerous pleurisy, accompanied by pain syndrome, may join cancerous pneumonia. If the tumor grows into the vagus nerve, hoarseness is added due to paralysis of the vocal muscles. Damage to the phrenic nerve causes paralysis of the diaphragm. Invasion of the pericardium is manifested by pain in the heart area. Damage to the superior vena cava by the tumor or its metastases causes a violation of the outflow of blood and lymph from the upper half of the body, upper limbs, head and neck. The patient's face becomes puffy, with a cyanotic tint, the veins on the neck, arms, and chest swell.

Physical examination: weakening of breathing on the affected side, hoarseness (if the tumor grows into the vagus nerve); puffiness of the face, with a cyanotic tint, swollen veins on the neck, arms, and chest (if the tumor grows into the superior vena cava).

Laboratory tests. It is recommended to determine the levels of the following tumor markers (depending on the histological structure of LC) for the purposes of differential diagnostics at the diagnosis stage and to assess the effectiveness of treatment: neuron-specific enolase for small cell LC; soluble fragment of cytokeratin 19 (CYFRA 21-1) in the blood, squamous cell carcinoma antigen (SCC) in the blood; CYFRA 21-1 in the blood, adenogenic cancer antigen CA-125 in the blood for adenocarcinoma; CYFRA 21.1 and SCC in the blood, cancer embryonic antigen for large cell LC. Cytological examination of pleural fluids and tumor smears for atypical cells (increase in cell size up to giant, change in shape and number of intracellular elements, increase in size of the nucleus, its contours, different degrees of maturity of the nucleus and other cell elements, change in the number and shape of nucleoli), examination of pleural fluids. Histological examination - large polygonal or spiky cells with well-defined cytoplasm, round nuclei with clear nucleoli, with the presence of mitoses, cells are located in the form of cells and cords with or without keratin formation, presence of tumor emboli in vessels, severity of lymphocytic-plasmocytic infiltration, mitotic activity of tumor cells. Molecular genetic testing of tumors (biopsy and postoperative materials, glass blocks, fluids, free circulating tumor DNA): EGFR (with formalin-fixed and paraffin-embedded tissue samples or blood plasma samples) - for non-small cell LC, regardless of the prevalence of the process (adenocarcinoma, squamous cell carcinoma in young non-smoking patients); T790M - should be performed in case of ineffectiveness and resistance to targeted drugs; ALK, ROS1 - for non-small cell LC (in patients with adenocarcinoma, for squamous cell carcinoma - in young non-smoking patients or with a mixed histological variant); PD-L1 - for non-small cell cancer (with locally advanced or metastatic cancer); BRAF - for non-small cell cancer; KRAS - for non-small cell cancer; MET mutation with loss of exon 14 in patients with locally advanced and metastatic non-small cell LC (MET gene amplification is one of the causes of secondary resistance to tyrosine kinase inhibitors, which is observed in 20% of patients resistant to EGFR tyrosine kinase inhibitor therapy); comprehensive genomic profiling of patients - in patients with a severe clinical course, aggressive tumors, with a high risk of progression, no effect from traditional antitumor treatment methods (advanced non-small cell LC). If clinically significant genomic changes/tumor biomarkers are detected as a result of comprehensive genomic profiling,

the use of registered drugs for unregistered indications is allowed to provide medical care/treatment of a specific patient based on the conclusion of a multidisciplinary group of the supervising organization in the field of oncology in cases where standard therapeutic options have been exhausted [1,2].

Instrumental studies: chest radiography in two projections (peripheral cancer is characterized by fuzziness, blurring of shadow contours; tumor infiltration of lung tissue leads to the formation of a kind of radiance around the node, which can be detected only in one of the edges of the neoplasm; in the presence of peripheral LC, a path can be detected that connects tumor tissue with the root shadow, caused by either lymphogenous spread of the tumor or its peribronchial, perivascular growth; X-ray picture for central cancer - the presence of tumor masses in the area of the root of the lung; hypoventilation of one or more segments of the lung; signs of valvular emphysema of one or more segments of the lung; atelectasis of one or more segments of the lung; X-ray picture for apical cancer is accompanied by Pancoast syndrome - it is characterized by the presence of a rounded formation in the apex of the lung, pleural changes, destruction of the upper ribs and the corresponding vertebrae); computed tomography (CT) of the chest and mediastinum - clarification of the nature of the process, the degree of damage to the root of the lung, mediastinum and chest, assessment of metastatic lesions of the lymph nodes (when conducting a study with contrast enhancement, determination of damage to the main vessels of the mediastinum; is a mandatory examination method for making a diagnosis); diagnostic bronchoscopy - the presence of a tumor in the lumen of the bronchus, completely or partially obstructing the lumen of the bronchus (with a central location of the pathological focus, diagnostic bronchoscopy is recommended under sedation with histological and cytological examination); with a peripheral location of the tumor, therapeutic and diagnostic thoracoscopy or thoracotomy with express histological and cytological examination is necessary; ultrasound examination of the supraclavicular and cervical lymph nodes; complex ultrasound diagnostics (liver, gallbladder, pancreas, spleen, kidneys); esophagoscopy; ultrasound-guided puncture/aspiration biopsy; open biopsy of enlarged supraclavicular and cervical lymph nodes (if enlarged lymph nodes are present); magnetic resonance imaging of the brain with contrast (CT of the brain if there are contraindications to magnetic resonance imaging); positron emission tomography + CT of the whole body; spirometry [1].

As noted by a number of researchers [3-6], LC is the second leading cancer in terms of new cases and the leading cancer in terms of cancer deaths worldwide. From a rare disease about a 100 years ago, LC has gained prominence as one of the leading cancers by the twenty-first century. The growth in LC burden has largely been attributed to the rise in cigarette smoking, which is expected to have peaked in industrialized countries. It should be emphasized that, the tobacco smoking epidemic is unfolding in regions of Asia and Africa, due to which, the LC burden is increasing in several countries of these regions. Although LC survival rates are one of the lowest among frequent cancer groups, there are wide disparities in five-year survival rates across countries, from less than 10% in countries such as Brazil, Bulgaria, India, and Thailand to 32.9% in Japan. About 80-85% of LC is non-small cell LC, which is further sub-divided into adenocarcinoma, squamous cell carcinoma, and large cell carcinoma and 10-15% of LC is small cell LC and the rest is lung carcinoid tumor and other LC. About 8% of LC is inherited or occur due to genetic predisposition. Tobacco smoking is by far the single most significant risk factor of LC, followed by air pollution, passive smoking, and occupational exposure to carcinogens such as asbestos and radon.

Sharma R. [3] in his work indicates that globally, there were 2.21 million (2.18-2.24 million) new cases and 1.8 million (1.77-1.83 million) deaths due to LC in 2020. Males accounted for approximately two-thirds of the global burden [1.44 million (1.41-1.46 million) new cases and 1.19 million (1.16-1.21 million) deaths]. The global age-standardized incidence rate (ASIR) of LC was

22.4/100,000, with males ASIR (31.5/100,000) being more than double that of females (14.6/100,000). Global age-standardized mortality rates (ASMR) was 18.0/100,000, varying from 11.2/100,000 in females to 25.9/100,000 in males. The mortality-to-incidence ratio (MIR) at the global level was 0.82 with not much difference between males (0.83) and females (0.79). It is important to note that East Asia was the leading region in terms of incident cases and deaths with an estimated 1.01 million (1.00-1.02 million) incident cases and 841,174 (831,852-850,601) deaths in 2020, followed by Northern America [cases: 253,537 (252,452-254,627); deaths: 159,641 (158,736-160,551)]. LC was ranked among the top three cancer groups out of 34 cancer groups in terms of new cases in 11/21 regions and among top three in 15/21 regions in terms of cancer deaths. The MIR of LC varied from 0.63 in Northern America to 0.96 in Micronesia, with MIR being 0.80 or above in the majority of regions except Australia/New Zealand (0.69), Northern Europe (0.73) and Western Europe (0.78). Polynesia had the highest ASIR (37.3/100,000) and Micronesia had the highest ASMR (34.9/100,000). Majority of African regions had low age-standardized rates, with Western Africa recording the lowest ASIR (2.2/100,000) and ASMR (2.1/100,000). In 2050, the global burden of LC is projected to reach 3.8 million new cases and 3.2 million deaths each year. In 2050, LC cases and deaths will be more than 100,000 in 10/21 regions led by Eastern Asia, which is projected to record 1.7 million incident cases and 1.5 million deaths. The burden of LC in regions of Asia (South-Eastern Asia, South-Central Asia, and Western Asia) and Africa (Northern Africa, Southern Africa, and Western Africa) is expected to double or more between 2020 and 2050, whereas regions in Europe (Northern Europe, Southern Europe, Western Europe, Central and Eastern Europe) are expected to witness the smallest increases in the LC burden. As a result of these changes, the LC burden in several Asian regions will surpass that in a few regions of Europe. For instance, South-Eastern Asia (123,309) and South-Central Asia (121,369) had lesser number of incident cases than Central and Eastern Europe (151,632) and Western Europe (146,460) in 2020; however, by 2050, these two regions in Asia will surpass the number of incident cases in Central and Eastern Europe and Western Europe. In 2050, LC is projected to claim similar number of lives in South-Eastern Asia (248,326) and South-Central Asia (238,020) as that in Northern America (253,058), although the projected number of incident cases in Northern America (378,587) is much higher than projected new cases in South-Eastern Asia (271,416) and South-Central Asia (264,309). In addition, even though Asia is in the initial stages of the smoking epidemic, the continent already accounted for 60% of incident cases and 62% of all LC deaths in 2020. If current rates persist in the future, there will be 2.4 million new cases and 2.2 million deaths in Asia due to LC in 2050. Therefore, anti-smoking campaigns and public awareness campaigns about health risks of smoking are urgently required to stop and reverse the smoking epidemic in Asia.

Today, molecular genetic studies are becoming an integral part of diagnosing the type and kind of oncological pathology in order to develop an optimal individual treatment plan for the patient.

In its fundamental review Saller J.J., Boyle T.A. [7], consecrated the current most clinically relevant aspects of thoracic molecular pathology. Historically, genomic alterations (GAs) that were considered drivers in LC were interrogated in panels using an à la carte approach with techniques such as Sanger sequencing, pyrosequencing, immunohistochemistry (IHC), and fluorescence in situ hybridization (FISH), which limited reportable GAs to select genes. Mutations in EGFR and translocations in the ALK gene and the ROS1 gene were the first three alterations recognized as clinically actionable drivers, and comprised the majority of the initial clinical genetic testing in LC. As the use of next-generation sequencing (NGS) became more cost-effective and widely used, it revealed additional actionable GAs. Evidence has accumulated to prove that NGS is an accurate technology with performance that is concordant or better than conventional methods. Advances in information about actionable GAs from comprehensive genomic profiling (CGP) has propelled

precision medicine forward with the aim to provide evidence-based interpretation of GAs for targeted therapy. The increase in the number of genes and GAs covered by NGS has expanded the variety of GAs identified as actionable in LC. A shift toward NGS-based testing in advanced LC has decreased the number of LC cases where a driver is not identified. Increasingly, case reports describe patients with novel drivers identified by NGS that would not have been identified if they were evaluated solely by hotspot-based panels. The researchers point out that historically, LC was divided categorically into non-small-cell LC (NSCLC) (~85%) and small-cell LC (SCLC) (~15%) by pathologist review of hematoxylin and eosin (H&E) stained slides. NSCLC is a heterogeneous category of entities that includes lung adenocarcinoma (LUAD) as the most common histologic cancer type (~50%), squamous cell carcinoma of the lung (SqCCL) as the second most common type (~30%), large-cell lung carcinoma (LCLC) (~10%), and combinations of histologic phenotypes such as adenosquamous carcinoma (ASC), and rare histologic entities, such as atypical carcinoid (AC) tumor, bronchial gland carcinoma, and sarcomatoid carcinoma, collectively accounting for the remaining types of NSCLC (~10%). In clinical practice, LC patients typically undergo an initial biopsy to determine whether there are histomorphologic features on H&E that are able to diagnostically distinguish between NSCLC or SCLC. Performance of IHC typically will assist in determining the subtypes of NSCLC. IHC that favors NSCLC that is LUAD is typically positive for CK7 and TTF-1, and negative for p63, CK5/6, and p40. IHC that favors NSCLC that is SqCCL is typically positive for p63, CK5/6, and p40 and negative for TTF-1 and CK7. The art of establishing a diagnosis may be challenging as many pathologists are aware that, in practice, some tumors might not have «read the book» regarding conventional IHC staining patterns. In such cases, other special stains such as mucin can assist (e.g., mucin is typically positive for LUAD, and negative for SqCCL). ASCs are a rarely encountered tumor that is biphasic, meaning there is a component that is LUAD and a component that is SqCCL. These components by definition have at least 10% each of malignant squamous and glandular components. Neuroendocrine IHC markers (CD56, chromogranin, and synaptophysin) are typically positive for neuroendocrine carcinomas such as SCLC and LCLC. In NSCLC, the tumor proportion score (TPS) for PD-L1 as determined by IHC (e.g., PD-L1 IHC 22C3 pharmDx) assists in determining eligibility for immunotherapy. While tissue is submitted for NGS, rapid testing for mutations in EGFR, KRAS, and BRAF are selectively tested via a rapid method such as pyrosequencing, while rearrangements in ALK and ROS1 can be rapid identified via FISH. When NGS results are made available, these results can corroborate the results of rapid testing, and potentially provide other GAs that may be actionable targets.

Oncogenotypes are molecular alterations that include genomic mutations, alterations that cause dysregulation in mRNA expression, dysregulation in expression of miRs, and epigenomic changes. As NGS-based DNA sequencing has become increasingly available, the knowledge about different types of mutations that are potentially actionable beyond the genetic biomarkers with associated FDA-approved targeted therapies has expanded. An oncogene is a gene in which activating mutations confer gain-of-function to a gene, which ultimately promotes oncogenesis. Conversely, a tumor-suppressor gene is a gene in which inactivating mutations confer loss-of-function to a gene, which ultimately promotes oncogenesis. In this paper, our colleagues detailed genomic, transcriptomic, epigenomic and proteomic differences between different histological types of LC relevant to research and therapeutic strategies [7].

Next, we will consider issues of early diagnosis of LC, including, of course, screening.

As noted, Lam S. et al. [8], low-dose CT (LDCT) screening for LC substantially reduces mortality from LC, as revealed in randomized controlled trials and meta-analyses. This review is based on the ninth CT screening symposium of the International Association for the Study of LC, which focuses on the major themes pertinent to the successful global implementation of LDCT screening and develops a strategy to further the implementation of LC screening globally. These recommendations provide a five-year roadmap to advance the implementation of LDCT screening

globally, including the following: 1) establish universal screening program quality indicators; 2) establish evidence-based criteria to identify individuals who have never smoked but are at high-risk of developing LC; 3) develop recommendations for incidentally detected lung nodule tracking and management protocols to complement programmatic LC screening (LCS); 4) integrate artificial intelligence and biomarkers to increase the prediction of malignancy in suspicious CT screen-detected lesions; and 5) standardize high-quality performance artificial intelligence protocols that lead to substantial reductions in costs, resource utilization and radiologist reporting time; 6) personalize CT screening intervals on the basis of an individual's LC risk; 7) develop evidence to support clinical management and cost-effectiveness of other identified abnormalities on a LC screening CT; 8) develop publicly accessible, easy-to-use geospatial tools to plan and monitor equitable access to screening services; and 9) establish a global shared education resource for LC screening CT to ensure high-quality reading and reporting.

Barta J.A. et al. [9] in their work they emphasize that, lung nodules are frequently detected on LDCT scans performed for LC screening and incidentally detected on imaging performed for other reasons. There is wide variability in how lung nodules are managed by general practitioners and subspecialists, with high rates of guideline-discordant care. This may be due in part to the level of evidence underlying current practice guideline recommendations (primarily based on findings from uncontrolled studies of diagnostic accuracy). The primary aims of lung nodule management are to minimize harms of diagnostic evaluations while expediting the evaluation, diagnosis, and treatment of LC. Potentially useful tools such as LC probability calculators, automated methods to identify patients with nodules in the electronic health record, and multidisciplinary team evaluation are often underused due to limited availability, accessibility, and/or provider knowledge. Finally, relatively little attention has been paid to identifying and reducing disparities among individuals with screening-detected or incidentally detected lung nodules. At the same time, lung nodules may be identified on chest scans of individuals who undergo LC screening (screening-detected nodules) or among patients for whom a scan was performed for another reason (incidental nodules); although the vast majority of lung nodules are not LC, it is important to have evidence-based, standardized approaches to the evaluation and management of a lung nodule; the primary aims of lung nodule management are to diagnose LC while it is still in an early stage and to avoid unnecessary procedures and other harms.

In Kazakhstan, methods for improving the early diagnosis of such a formidable disease as LC are also being actively developed. Including this method [10]. The aim of this study was to present the baseline results of a pilot project conducted to evaluate the effectiveness of LC screening using LDCT in regions with excessive radon levels in the Republic of Kazakhstan. In total, 3671 participants were screened by low-dose chest CT. Current, former, and never-smokers who resided in regions with elevated levels of radon in drinking water sources and indoor air, aged between 40 and 75 with no history of any cancer, and weighing less than 140 kg were included in the study. All lung nodules were categorized according to the American College of Radiology Lung Imaging Reporting and Data System (Lung-RADS 1.0). Overall, 614 (16.7%) participants had positive baseline CT findings (Lung-RADS categories 3 and 4). Seventy-four cancers were detected, yielding an overall cancer detection rate of 2.0%, with 10.8% (8/74) stage I and a predominance of stage III (59.4%; 44/74). Women never-smokers and men current smokers had the highest cancer detection rates, at 2.9% (12/412) and 6.1% (12/196), respectively. Compared to never-smokers, higher odds ratios (OR) of LC detection were found in smokers (OR, 2.48; 95% confidence interval [CI], 1.52 to 4.05, $p < 0.001$) and former smokers (OR, 2.32; 95% CI, 1.06 to 5.06, $p = 0.003$). The most common histologic type of cancer was adenocarcinoma (58.1%).

Ning J. et al. [11] in their study provide data showing that the prognosis of patients with LC at different clinical stages differs significantly. The five-year survival rate of stage IA groups can exceed 90%, while patients with stage IV can be less than 10%. Therefore, early diagnosis is

extremely important for LC patients. This research focused on various diagnosis methods of early LC, including imaging screening, bronchoscopy, and emerging potential liquid biopsies, as well as volatile organic compounds, autoantibodies, aiming to improve the early diagnosis rate and explore feasible and effective early diagnosis strategies. Let us dwell in more detail on endoscopic methods of diagnosing LC for verification of a malignant tumor. Nowadays, pathological diagnosis has been regarded as gold standard for diagnosing cancer. There are several methods for obtaining histological specimens, including bronchoscopy, ultrasound or CT-guided percutaneous lung biopsy. Among them, bronchoscopy has been developed rapidly and widely recognized in recent years. It not only expands the field of vision for diagnosis, but also improves the efficiency of diagnosis. So, the following types of endoscopic diagnostics of LC are distinguished:

1. White light bronchoscopy (WLB). It is mainly used for early detection and diagnosis of central LC, and the diagnosis rate can reach more than 95% in detecting high-grade dysplasia or worse. However, for some mucosal, submucosal early lesions and preneoplastic lesions, the diagnosis rate is very low.

2. Autofluorescence bronchoscopy (AFB). The operating principle of AFB is that different spectrum emerge in normal tissues, dysplasia and carcinoma in situ. As an important means for early detection of bronchial premalignant lesions, some studies have proposed that compared with sputum cytology, the sensitivity of AFB to detect hyperplasia and metaplasia was higher. Regardless of the results of sputum cytology, AFB can be recommended to high-risk patients. Moreover, when combined with spiral CT, sputum examination or WLB, AFB can obviously enhance the diagnosis rate of premalignant lesions and carcinoma in situ.

3. Narrow band imaging (NBI). NBI is an imaging technique that can visualize vascular morphology and mucosal structure. Analysis indicated that NBI has higher sensitivity (80%), specificity (84%), and diagnostic odds ratio (31.49%) than AFB when detecting premalignant airway lesions; NBI was also superior to WLB in detecting early and invasive LC, visual drawing of point blood vessel visual pattern highly supported adenocarcinoma histology of LC and tortuous vessels favored squamous cell cancer. Therefore, when examining lung-occupying lesions with NBI, not only can the diagnosis rate be improved, but also the pathological type can be evaluated initially. So, in the detection of early LC, NBI can be used as an effective method.

4. Endo-bronchial ultrasound (EBUS). EBUS combined with a special aspiration biopsy needle can be used for real-time ultrasound guided transbronchial needle aspiration biopsy, namely EBUS-TNAB. Compared with traditional diagnosis strategies, EBUS-TNAB can shorten the time for treatment decisions and may improve the survival of LC patients without increasing costs.

Now, regarding this pathology in our country at the republican level. The incidence of LC in the Republic of Kazakhstan in 2023 was 19.5 (30.6 - men; 8.8 - women) per 100 thousand population (20.1 - in 2022), which in absolute numbers amounted to 3873 people (3925 cases - a year earlier), taking the 2nd rank place in the general population, second, of course, only to breast cancer. The proportion of cases with a diagnosis established for the first time in life, recorded by oncological organizations was 10.5% (11.2% - in 2022). At the same time, 2974 men fell ill (proportion - 18.4%, 1 rank place), women - 899 (proportion - 4.3%, 9 rank place) [12]. The LC level is above the national average in 9 regions of the country: North Kazakhstan - 42.3 (the highest level); Karaganda - 36.5; East Kazakhstan - 34.6; Akmola - 32.6; Pavlodar - 32.5; Kostanay - 30.9; West Kazakhstan - 27.1; Abay - 24.3; Aktobe - 21.7. This indicator is below the national average in 11 regions: Turkestan - 8.4; (the lowest level); Mangistau - 9.5; the city of Shymkent - 10.6; Zhambyl - 11.5; Almaty - 13.6; Kyzylorda - 14.7; the city of Almaty - 15.1; Zhetysay - 15.9; the city of Astana - 16.4; Atyrau - 17.6; Ulytau - 18.1 regions per 100 thousand population. Mortality from this pathology was 10.3 (men - 16.7; women - 4.1) per 100 thousand population. In the structure of causes of death of persons of both sexes in 2023, this pathology continues to occupy a leading position (1st rank place), both in men, amounting to 23.7% (1626 people), and in the general

population, amounting to 15.8% (2046 people). For women, this figure was 6.9% and 4th rank place.

The regions with the mortality rate from LC above the national average (10.3 per 100,000 population) are: East Kazakhstan - 22.4 (maximum level); Abay - 19.5; Pavlodar - 18.2; North Kazakhstan - 16.0; Karaganda - 15.5; Akmola and West Kazakhstan - 14.6; Kostanay - 11.6. The lowest rates were recorded in Turkestan - 4.0 (minimum level); Mangistau - 5.7; the city of Shymkent - 6.5; Atyrau - 6.7; Kyzylorda - 7.0; Almaty - 8.0; Aktobe - 8.4; Zhambyl - 8.9; Zhetysu - 9.2; in the city of Almaty - 9.4; Ulytau - 9.5; in the city of Astana - 10.1 regions per 100 thousand population [12].

The number of deaths from LC, not registered with oncological organizations and diagnosed posthumously in the Republic of Kazakhstan in 2023 amounted to 83 people; at the same time, the specific weight was 2.1% and this is the 5th rank place, as in the previous year.

At the same time, the one-year lethality rate was 37.2%, taking the 6th rank place among all nosological forms of malignant neoplasms. At the same time, the ratio between one-year lethality and neglect (stage IV) was, as in 2022, 1.4. At the same time, we recall that the farthest from "1" is the worst ratio between the indicators of one-year lethality and neglect.

Now, regarding preventive examinations. It should be noted that during large-scale preventive examinations of the population in 2023, significantly more patients with malignant neoplasms were actively identified than in 2022. This is 25,193 patients versus 23,623 patients identified in 2022, i.e. +6.6%. This is due to the further abatement of the epidemiological situation with coronavirus and the increased availability of preventive care for the population. The proportion of patients identified during preventive examinations increased from 62.0% to 62.4% of the total number of patients identified per year.

As for LC, the early detection of this pathology during preventive examinations increased from 33.6 to 35.2%. The number of newly diagnosed LC patients registered with oncology organizations was 3,754 patients (3,821 patients in 2022). At the same time, the absolute number of LC patients identified during preventive examinations was 2,213 people (2,088 a year earlier), and the proportion was 59.0% and 54.6%, respectively. 779 people out of 2,213 are patients with stages I and II (in 2022 - 702 patients out of 2,088). The proportion of LC patients identified at early stages, as indicated above, was 35.2% versus 33.6 a year earlier.

Of course, when analyzing the epidemiological situation, early diagnosis indicators are very important issues. The regions where the proportion of patients with early stage I of the pathology in question is above the national average (9.5% - 8th place among the worst indicators together with malignant lymphomas) include the following: North Kazakhstan - 27.5% (the best indicator); Karaganda - 19.3%; Akmola - 13.4%; Ulytau - 12.5%; Astana city - 11.7%; Kyzylorda - 11.4%. West Kazakhstan region is on par with the national average. The lowest indicators of early diagnosis were recorded in Zhambyl and North Kazakhstan - only 2.2%; Atyrau - 2.4%; Aktobe - 3.0%; Abay - 4.2%; Mangistau - 5.5%; Almaty city - 5.6%; Kostanay - 6.0%; Almaty - 6.4%; Shymkent city - 7.1%; Pavlodar - 7.5%; East Kazakhstan - 8.2% and Zhetysu - 8.3% regions of the country [12].

Unfortunately, for a number of reasons, which include objective reasons, only every fourth patient with LC is detected in the early (I-II) stages of this pathology.

The regions where the proportion of patients with LC detected at stages I-II is above the national average (28.0% - 6th rank place "from the bottom") include the following regions. The uncontested leader is the North Kazakhstan region, where every second patient with this formidable disease is detected in the early stages (50.0%). Next come: Akmola - 36.2%; Aktobe - 35.1%; Kyzylorda - 35.0%; Zhetysu - 34.3%; Almaty city - 30.5%; West Kazakhstan - 29.1%; Astana city - 29.0% and Kostanay - 28.6% regions. Low rates of early diagnosis were recorded in Mangistau - 13.7% (the worst result in the country); Almaty - 15.8%; Turkestan - 16.2%; East Kazakhstan - 19.8%; Abay - 21.0%; Ulytau - 22.5%; Pavlodar - 24.7%; Karaganda - 25.2%; Shymkent city - 26.0%;

Atyrau - 26.8% and Zhambyl - 27.3% regions [12].

As is clearly seen from the above data, there is a very large spread in early diagnostic rates across the country, from very good to dismal. Of course, it is necessary to take into account migration processes and other factors that affect early diagnostic rates, but nevertheless, the results obtained give reason not to stop there, both for oncologists and pulmonologists, general practitioners, since improving the rates of early diagnostics of malignant tumors, as one of the main postulates and one of the main tasks of medicine in general, continues to be relevant today. The proportion of stage IV LC among all nosological forms of malignant neoplasms was 26.5%. Unfortunately, in this indicator, LC is higher than all other localizations, second only to pancreatic cancer. At the same time, as was said above, the proportion of patients with LC detected at stages I-II was 28.0%, which indicates that the overwhelming majority of patients with LC were detected at locally advanced with loco-regional lesions - stage III of the disease. This stage was 45.5%, i.e. almost half of all patients, and we know what aggressive, often complex treatment is used for such a spread of the oncological process and what a disappointing prognosis is for these patients.

As for the average republican indicator of the proportion of stage IV (26.5%), against this background, Turkestan - 46.4%; Abay - 43.4% and Ulytau - 40.0% regions stand out. They are followed by: Akmola - 35.0%; Karaganda - 33.8%; the city of Astana - 33.2%; Zhetysu - 32.4%; Kostanay - 31.9% and other regions. The lowest proportion of stage IV LC was noted in the North Kazakhstan region, where this figure was 12.6% [12].

The morphological verification rate of the disease in the country was 77.2%. The leaders in this aspect with a 100% rate are Zhambyl and Ulytau regions; then come Almaty (92.6%), Atyrau (90.2%), the city of Shymkent (87.4%), the city of Astana (84.6%), Karaganda (84.5%), Turkestan (84.4%), Abay (83.2%), Kostanay (83.1%), East Kazakhstan (78.0%) regions. Aktobe region is on par with the national average. This indicator is below the national average in the following regions: Kyzylorda (37.4% - the worst indicator in the republic), the city of Almaty (54.8%), Pavlodar (65.7%), Akmola (68.3%), Mangistau (71.2%), North Kazakhstan (74.8%), Zhetysu (75.0%) and West Kazakhstan (76.0%) regions [12].

The total number of patients with malignant neoplasms registered with specialized oncology organizations of the republic continued to grow and by the end of 2023 amounted to 218,186 people, with an increase of 6.0% compared to the level of the previous year (2022 - 205,822, +5.8%). The overall incidence rate of malignant neoplasms increased by 3.9%, from 1055.3 to 1096.4 per 100 thousand people. The growth of this indicator is due to both the increase in the incidence and detection of pathology, and the increase in the survival rate of cancer patients. In addition, statistical data on patients diagnosed with malignant neoplasms, who have been under observation for 5 years or more and continue to be observed in 2023, showed that the number of patients under observation by oncological organizations in Kazakhstan for over five years continued to grow and at the end of the reporting year amounted to 117,616 people, with an increase of 6.2% (2022 - 110,790 people, +6.6%) (form No. 7).

One cannot ignore such an important clinical aspect as the coverage in the Republic of Kazakhstan of special treatment for patients diagnosed with LC for the first time in their lives. In 2023, the number of hospitalizations for all nosological forms of malignant tumors in oncological organizations of the country amounted to 108,252 cases (2022 - 101,095), with an increase of 7.1% compared to the previous year, which is associated with a constant increase in the number of cancer patients, improvement of the standardization of oncological care, and the development of palliative and restorative services. At the end of 2023, the absolute number of patients with LC who completed specialized treatment was 1,448 people, continuing treatment - 1,102 patients. In percentage terms, the following results were obtained by methods and types of treatment. Only 21.3% of patients received surgical treatment, only radiation - 4.6%, only drug treatment - 25.0%, combined - 3.2%, complex - 38.0% and chemo-radiation - 5.6%.

Further, regarding the five-year survival rate of patients. As for LC, at the end of 2023, 7,119 people or 35.8 per 100 thousand of the population were registered with the dispensary. At the end of 2022, there were 6,702 patients or 34.4 per 100 thousand of the population, respectively.

At the same time, the mortality rate of the observed contingents in 2023 decreased compared to the previous year and amounted to 28.7% in 2023 (31.6% in 2022).

The five-year survival rate of patients with LC was 55.4% in 2023 and 55.3% in 2022 [12].

Summarizing the above, we can conclude that LC, along with breast cancer, continues to firmly occupy a leading place from year to year among all existing malignant tumors of other localizations. At the same time, taking into account a number of factors, the indicators of early diagnosis do not allow oncologists to "sleep peacefully", since the locally advanced stage III, which significantly prevails over all stages, in addition to the prevalence itself, gives a large number of complications due to the location of vital centers and tissue structures near the primary focus and locoregional metastases. Variability and veiling of symptoms, their similarity with various non-core processes, leads to neglect of the disease. All this requires both oncologists and, first of all, primary health care workers and, of course, pulmonologists, phthisiologists to increase the level of oncological alertness, inform the population about early symptoms that may indicate this pathology or the onset of proliferative changes and conduct high-tech diagnostic measures, including for the purpose of differential diagnosis and, as a result, timely treatment. People from the risk group are recommended to visit a pulmonologist annually and, if necessary, undergo an examination. Epidemiological assessment of the situation with LC in our country suggests that there are sometimes significant differences in the regions not only in incidence rates, but also in the parameters of early diagnosis and mortality from this pathology. In connection with the above, this pathology continues to be a serious problem of modern clinical oncology.

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ПРОЖИТОЧНЫЙ МИНИМУМ В КАЗАХСТАНЕ В 2024 ГОДУ: АНАЛИЗ И ПУТИ РЕШЕНИЯ

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Аннотация: В статье рассматривается вопрос прожиточного минимума в Казахстане на 2024 год. Проведен анализ текущего состояния и факторов, влияющих на уровень прожиточного минимума, включая экономические, социальные и демографические аспекты. Особое внимание уделено сопоставлению официальных данных с реальными потребностями населения. В заключении представлены предложения по улучшению методологии расчета прожиточного минимума и меры, направленные на повышение уровня жизни граждан. Цель - обозначить значение прожиточного как инструмента социальной защиты малообеспеченных слоев населения, определить его релевантное количественное значение и пути его возможного роста

Ключевые слова: прожиточный минимум, продуктовая корзина, социальная защита, ВВП, социальные выплаты, потребность, расходы, расчет, государство

Abstract: The article discusses the issue of the living wage in Kazakhstan for 2024. An analysis of the current state and factors influencing the level of the living wage, including economic, social and demographic aspects, was carried out. Particular attention is paid to comparing official data with the real needs of the population. In conclusion, proposals are presented to improve the methodology for calculating the living wage and measures aimed at improving the standard of living of citizens. The goal is to outline the significance of the subsistence allowance as an instrument of social protection of low-income groups of the population, to determine its relevant quantitative value and ways of its possible growth

Key words: living wage, food basket, social protection, GDP, social payments, need, expenses, calculation, state

Прожиточный минимум - один из ключевых показателей, определяющих уровень жизни населения, размер социальных выплат и политику государства в социальной сфере. Прожиточный минимум представляет собой сумму денежных средств, необходимую для удовлетворения минимальных потребностей человека в пище, одежде, жилье, медицинских услугах и других базовых потребностях. В Казахстане он определяется на основе продуктовой корзины, которая включает в себя минимальный набор товаров и услуг,

необходимых для поддержания жизнедеятельности. Этот показатель играет ключевую роль в социально-экономической политике страны. Он используется для расчёта минимальной заработной платы, пенсий, социальных пособий и других выплат. Кроме того, прожиточный минимум отражает уровень жизни населения и является индикатором экономического состояния страны. Введение этого понятия позволяет государству более эффективно разрабатывать меры по поддержке уязвимых слоев населения и снижению уровня бедности.

В 2024 году в Казахстане ситуация с прожиточным минимумом остается актуальной темой для обсуждения, так как этот показатель напрямую влияет на качество жизни миллионов граждан. В 2024 году в Казахстане прожиточный минимум установлен на уровне 43 407 тенге, что, на первый взгляд, может показаться недостаточным для полноценной жизни, особенно в крупных городах. Этот показатель непосредственно влияет на уровень социальных выплат, минимальной пенсии и пособий. Однако для более точного анализа нужно учесть несколько факторов, таких как различия в ценах по регионам, состав продуктовой корзины, средние зарплаты и размер стипендий.

Рассмотрим основные аспекты, связанные с прожиточным минимумом, и предложим пути решения существующих проблем.

Один из аспектов, при помощи которого рассчитывается прожиточный минимум—это продуктовая корзина. Прожиточный минимум и его связь с продуктовой корзиной.

1. Продуктовая корзина – это стоимость минимального набора продуктов питания для одного человека, она варьируется по регионам. В крупных городах, таких как Алматы и Астана, цены на основные продукты, включая мясо, молоко и хлеб, значительно выше, чем в сельской местности.

Минимальная заработная плата в 2024 году составляет 85 000 тенге, что вдвое превышает установленный прожиточный минимум. Однако этого недостаточно для покрытия всех расходов в городах, где значительная часть доходов уходит на аренду жилья, коммунальные услуги и медицинское обслуживание. Например, аренда однокомнатной квартиры в Астане может обойтись в 100 000–150 000 тенге, что делает жизнь в крупных городах особенно сложной для малообеспеченных слоев населения.

2. Социальные выплаты

Социальные выплаты, такие как пенсии и пособия, также связаны с уровнем прожиточного минимума. В 2024 году базовая пенсия минимально составляет около 28 218 тенге. Эта сумма едва ли покрывает минимальные расходы на продукты питания и коммунальные услуги, не говоря уже о других потребностях. Низкий размер социальных выплат особенно остро ощущается пенсионерами и малообеспеченными семьями, которые часто сталкиваются с выбором между необходимыми медицинскими услугами и покупкой базовых продуктов.

3. Проблемы удовлетворения минимальных потребностей

Прожиточный минимум включает только самые базовые потребности: питание, одежду, и услуги первой необходимости. Однако он не учитывает важные расходы, такие как:

- Образование детей;
- Культурные и досуговые нужды;
- Непредвиденные медицинские расходы;
- Транспортные расходы.

Для семей с детьми или пожилыми членами семьи установленного уровня прожиточного минимума явно недостаточно для поддержания достойного уровня жизни. Один из главных недостатков они не учитывают количество иждивенцев, приходящихся на каждого работающего.

Региональные различия в оплате труда. В 2024 году минимальная заработная плата в Казахстане составляет 85.000 тенге, что в два раза превышает прожиточный минимум. Однако это не значит, что каждый гражданин может обеспечить себя и свою семью на эту сумму. В разных регионах зарплаты могут существенно различаться:

Алматы: Средняя зарплата составляет около 200.000 – 250.000 тенге, что позволяет обеспечить более высокий уровень жизни в сравнении с другими регионами.

Астана: Средняя зарплата здесь находится в пределах 180.000- 220 000 тг.

Областные центры: Средняя зарплата в таких городах, как Шымкент, Павлодар и Караганда, варьируется от 150 000 до 180 000 тенге.

Сельская местность и удалённые районы: В сельской местности зарплаты могут составлять 80 000-120 000 тенге, что значительно ниже уровня минимальной заработной платы в столице.

Эти различия в зарплатах, наряду с различиями в ценах на продукты и услуги, напрямую влияют на способность граждан поддерживать необходимый уровень жизни, особенно в менее обеспеченных регионах. Проблема заключается в различии официально установленной суммы прожиточного минимума от минимальных потребностей для жизни человека с учетом его социального положения. Это проблема осознается практически на всех уровнях нашего общества, но на эту тему наложено негласное табу.

Пути решения. Чтобы улучшить ситуацию с прожиточным минимумом в Казахстане, необходимо предпринять следующие шаги:

1. Пересмотр структуры прожиточного минимума. Текущая методика расчета прожиточного нуждается в пересмотре (в некотором уточнении). Важно учитывать не только базовые потребности, но и дополнительные расходы, включая образовательные, медицинские и транспортные. Это позволит лучше адаптировать минимальный уровень к реальным потребностям населения. А также рекомендуется повышать сумму помощи до некоторого предела, чтобы у получателя не снижалась мотивация к самостоятельному стремлению улучшить собственное положение, чтобы не возобладало иждивенчество.

2. Повышение минимальной заработной платы и социальных выплат. Минимальная заработная плата и базовые социальные выплаты, такие как пенсии и пособия, должны быть привязаны к фактическому уровню жизни, особенно в крупных городах. Это поможет компенсировать разрыв между доходами граждан и реальными расходами. Цены по регионам и местам проживания могут существенно различаться и поэтому требуется дифференциация уровней прожиточного минимума

3. Субсидии на аренду жилья и коммунальные услуги. Для населения с низкими доходами, особенно в крупных городах, необходимы программы субсидирования аренды жилья и коммунальных услуг. Это позволит сократить финансовую нагрузку на семьи и повысить их качество жизни.

4. Развитие программ занятости. Создание рабочих мест с достойной оплатой труда в сельских регионах поможет сократить миграцию в крупные города и повысить общий уровень доходов населения.

5. Укрепление системы медицинского и социального страхования. Доступ к качественным медицинским услугам и страховым программам поможет снизить финансовую нагрузку на семьи в случае непредвиденных обстоятельств.

Примерный расчет прожиточного минимума по нашим данным с минимальными расценками для г. Астана:

Статьи расходов на одного человека	Расходы тенге / месяц
Коммунальные платежи: $(25\ 000 \times 7 \text{ (зимой)} + 20\ 000 \times 5 \text{ (летом)}) / 12$	22 917
Сотовый телефон - 2500 тенге	2 500
Передвижение в автобусе : $110 \text{ тенге} \times 2 = 220 \text{ тг/день} \times 30 \text{ дней}$	6 600
Хлеб: $120 \text{ тенге} / 2 \text{ (половина булки)} = 60 \text{ тг/день} \times 30 \text{ дней}$	1 800
Макаронны	1 000
Яйца (20 шт)/мес	1 500
Мясо (2500тг/кг) x 2 кг/мес	5 000
Сахар, чай, крупы	2 000
Овощи-100 тг/день x 30 дней	3 000
Фрукты-100 тг/день x 30 дней	3 000
Общая сумма :	49 317

Расчет по минимальным ценам уже превышает официальный прожиточный минимум на 5 910 тенге (49 317 - 43 407).

Прожиточный минимум в Казахстане в 2024 году остается важным индикатором социально-экономической ситуации в стране. Для улучшения жизни населения требуется комплексный подход, включающий внесение некоторых поправок в методики расчета прожиточного минимума, повышение заработной платы и социальных выплат, а также внедрение программ поддержки для уязвимых категорий граждан. Эти меры позволят не только улучшить качество жизни, но и создать условия для более справедливого распределения.

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Қазақстандағы инфляциялық таргеттеу стратегиясының ерекшеліктері

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Мақалада Қазақстан Ұлттық Банкінің жүргізіп отырған монетарлық саясатына және оның ел экономикасының дамуына ықпалына байланысты мәселелер қарастырылады. Қолданылатын ақша-несие саясаты инфляциямен күресуге бағытталған және тауарлардың кеңейтілген өндірісіне негізделген экономикалық өсуді қамтамасыз етпей, елдің жалпы экономикалық мүдделерін ескермейді.

Қазақстанда толыққанды инфляциялық таргеттеу режимін құру үшін қажетті негізгі үш бағыттың шеңберіндегі шаралар сипатталған:

1) инфляциялық күтулерді тиімді бекіту үшін ақша-кредит саясатының институционалдық және операциялық негіздерді нығайту;

2) тұрақты және тиімді қаржы секторы арқылы ақша-кредит саясатының импульстерін беруді күшейту;

3) тұрақты фискалды тәртіппен нығайтылған қолайлы және құрылымдық теңгерімді макроэкономикалық ортаны құру. Осы бағыттар бойынша ойдағыдай және тәртіпке келтірілген жұмыс ақшакредит саясатының тиімділігі арттыруға, және барынша маңызды, Қазақстан экономикасының орнықты дамуы үшін негіз болады.

Инфляциялық таргеттеуді қолданатын елдердің халықаралық тәжірибесіне сәйкес инфляцияның нысаналы көрсеткіштерінің мына түрлері аталады: белгіленген орташа көрсеткіші жоқ аралық, нақты көрсеткіш және, оның түрі ретінде, ықтимал болжау аралығы бар нақты көрсеткіш. Инфляция бойынша таргеті бар елдердің 60%-ы инфляция бойынша нақты бағдарды пайдаланады. Ықтимал болжамының аралығымен нақты мақсаты бар көптеген елдер бұл аралықтың ауқымын +/-1 пайыздық тармақ деп белгілейді (1-2-суреттер). Инфляцияның нақты нысаналы көрсеткішінің, оның ішінде ықтимал болжамының аралығы бар нақты таргеттің артықшылығы оның бірімәнді болуында және нарыққа орталық банктің мақсаты туралы нақты сигнал беруінде. Таргеттің нақты форматы коммуникациясы, ыңғайлылығы және инфляциялық күтулердің тұрақтануы тұрғысынан қолайлы, себебі ол:

1) орталық банк саясатының мақсаттарына қатысты халық, бизнес және нарыққа кәсіби қатысушылар үшін белгісіздікті азайтады, айқындық пен ашықтықты қамтамасыз етеді;

2) ақша-кредит саясаты нақты мақсатқа жетуді көздейтінін, орталық банктің мақсатқа қол жеткізу үшін барлық қолжетімді құралдарды пайдаланудағы жауапкершілігі мен табандылығын білдіреді;

3) инфляцияның нақты және өлшенетін мақсатын қамтамасыз ете отырып, орталық банкке және ол жүргізіп отырған ақша-кредит саясатына деген сенімді арттырады.



Ескерпе: <https://www.nationalbank.kz/file/download>

Бұл инфляциялық күтулердің тұрақтануын арттырады және инвестициялар мен өсу үшін барынша тұрақты ортаны орнатады. Нақты таргет айналасында ықтимал болжамның аралығын белгілеу жүргізіліп отырған ақша-кредит саясатының болжамдылығы мен икемділігі арасындағы теңгерімге қол жеткізуге, сонымен қатар орталық банктің есеп беру процесін барынша айқын етуге мүмкіндік береді. Нақты көрсеткіш айналасында ауытқу аралығының симметриясы орталық банк үшін инфляция аралықтың жоғарғы шекарасынан аспауы және оның төменгі шекарасынан төмен түспеуі тең дәрежеде маңызды екенін білдіреді. Ықтимал ауытқу аралығы бар нақты нысаналы көрсеткіш инфляцияға әртүрлі күтпеген өзгерістерге ұшырағыштығын және бір айдан екінші айға қарай нақты нысаналы көрсеткішіне жете алмайтындығын жақсы көрсетеді деп саналады.

Ақша-кредит саясаты құралдарының нәтижелілігі көбінесе Ұлттық Банктің ішкі экономикалық процестерге, оның ішінде инфляцияға ықпал ету белгілері берілетін трансмиссиялық тетік арналарының тиімділігіне байланысты болады. Базалық мөлшерлеменің макроэкономикалық өлшемдерге әсерінің жеткіліксіз дәрежесі ағымдағы кезеңде Ұлттық Банктің ақша-кредит саясаты үшін негізгі сын-қатерлердің бірі болып табылады. Қазақстанда ақша-кредит трансмиссиясы арналарының көпшілігі қандай да бір себептер бойынша тиімді жұмыс істемейді.

Пайыздық арнаның тиімділігі екі параллель кезеңде: қаржы нарығының мөлшерлемелерін банк өнімдерінің құнына трансмиссиялау кезеңінде және ақша нарығының қысқа мерзімді мөлшерлемелерінің өзгерістерін ұзақ мерзімді құралдар бойынша мөлшерлемелерге ауыстыру кезеңінде шектеледі. пайыздық саясаттың банк өнімдерінің құнына әсері ақша нарығында өтімділік көлемінің шамадан тыс болуымен шектелген, бұл банктер үшін өз өнімдерінің құнын өзгерту бойынша ынтасын төмендетеді. Сонымен қатар кредиттеу нарығында ресурстардың нақты құнының бұрмалануы байқалады. Ішкі нарықта мемлекеттік бағалы қағаздарды жүйелі және тұрақты шығару арқылы кірістілік

қисығын құру бізге қарыз алу құны бойынша әділ баға эталонын қалыптастыруға мүмкіндік береді. Осыған байланысты Стратегияда көзделген шаралардың басым бөлігі нақ осы трансмиссиялық тетік арнасының тиімділігін арттыруға бағытталатын болады. Валюта арнасының, яғни айырбастау бағамының инфляцияға әсері симметриялы емес. Тиісінше, нығаюға қарағанда теңге бағамы әлсіреуінің тұтынуды бағасына ықпалы көп.

Банктердің резервтер көлемін реттеу арқылы жұмыс істейтін кредиттік арнаның жұмыс істеуі және соның салдарынан олардың кредиттік ұсыныстарды өзгертуі қазіргі уақытта төмен кредиттік белсенділікпен және жоғары кредиттік тәуекелдермен бұрмалануда. 2016 - 2019 жылдар аралығында жалпы ішкі өнімге қатысты кредиттер үлесі 27%-дан 20%-ға дейін төмендеді.

Тұрақты нақты инфляцияның қалыптасу кезеңінің ұзақ болмауына байланысты және күтілетін инфляцияның сыртқы сектордағы және ішкі тауар нарықтарындағы қысқа мерзімді күтілмеген өзгерістерге ұшырағыштығымен инфляциялық күтулер арнасы орнықсыз. Ұлттық Банк құралдарынан импульстерді инфляцияға дейін жеткізу жылдамдығы, деңгейі және сипаты Қазақстандағы экономикалық жағдайларға, қаржы жүйесінің құрылымы мен даму деңгейіне, экономика субъектілерінің ісәрекетіне негізделген. Пайыздық арнаның трансмиссиялық тетігінің тиімділігін арттыру үшін экономикадағы қолданыстағы шектеулерді еңсеру бойынша бірқатар міндеттерді орындау қажет.

Қазақстан экономикасының құрылымында тау-кен өнеркәсібі мен қызмет көрсету саласы басым. Экспорттың негізгі үлесі көмірсутек шикізатына тиесілі. Қазақстанда 2019 жылы өңделген биржалық тауарлардың үлесі 19,9%-ға дейін төмендеуі кезінде шикізат экспортының үлесі 72,9%-ға жетті. Экспорттың төмен әртараптануы да дайын тауарлардың 6,6%-дық деңгейіндегі үлесімен расталады. Осы орайда экономикалық циклдерде әлемдік шикізат тауарларымен тығыз байланыс бар. Бұл ретте соңғы 20 жылда олардың баға құбылмалылығы, сондай-ақ сауда талаптарының күтілмеген өзгерістерінің мөлшері мен жиілігі біршама ұлғайды. Мұнай бағасы мен экспорттың өзара байланысы 82%-ды құрайды. Экономиканың шикізат экспортына тәуелділігі негізгі макроэкономикалық көрсеткіштерге: мемлекеттік бюджеттің кіріс бөлігіне, елдің төлем балансына, ішкі валюта нарығына әсер ете отырып, экспорттық қаражат түсімдерінің айтарлықтай құбылмалылығына әкеледі. Мұнайдың әлемдік бағасы құлдырау салдарынан төлем балансының ағымдағы шотының тапшылығы кеңейде. Өңдеу өнеркәсібінің тауарлар шығаруды төмендетуі және оларды экспорттаудың қысқаруы («Голланд ауыруы») экспорттың шикізат секторында шамадан тыс шоғырлануының жанама нәтижесі де болып табылады. Әлемдік шикізат нарықтарындағы күтілмеген өзгерістер айырбастау бағамының құбылуына әкеледі және ауысу әсері арқылы ішкі бағаларға әсер етеді. Инфляцияның өсуі, өз кезегінде, ақша-кредит саясаты құралдарының тиімділігін шектейді және Ұлттық Банк тарапынан барынша қатаң шаралар қабылдау қажеттілігіне әкеледі.

Қазақстан Республикасы Ұлттық Банкінің Ақша-кредит саясаты комитеті базалық мөлшерлемені +/- 1 п.т. дәлізімен жылдық 15,25% деңгейінде белгілеу туралы шешім қабылдады. Шешім жаңартылған болжамдар мен инфляция тәуекелдері балансының бағалауын ескере отырып қабылданды. Қазақстанда жылдық инфляция қазан айында 8,5%-ға дейін өсті. Бұл «Тарифті инвестицияға айырбастау» бағдарламасын іске асыру аясында реттелетін қызметтердің айтарлықтай қымбаттауы мен теңгенің әлсіреуі салдарынан орын алуда. Оған қоса инфляцияның орнықты бөлігі де өсуде. Жоғары ішкі сұраныс жағдайында азық-түлікке жатпайтын тауарлар мен нарықтық қызметтер бағасының өсуі инфляцияның жеделдеуіне ықпал етті. Бюджеттің кіріс бөлігін орындамауға байланысты жалғасып жатқан фискалдық ынталандыру есебінен экономика ішіндегі проинфляциялық қысым сақталуда. Қазан айында халықтың инфляциялық күтулері төмендегенмен, құбылмалы болып қалуда. Жаһандық инфляция жалпы баяулауда. Бұл дамыған экономикалардағы еңбек нарығындағы

жағдайдың тұрақтануы және неғұрлым баяу іскерлік белсенділікті қоса алғанда, сыртқы монетарлық талаптардың біртіндеп жеңілдеуіне әкелуде. Алайда сыртқы инфляциялық қысым соңғы айларда артуда. Оған азық-түліктің әлемдік бағасының өсуі, Ресейдегі неғұрлым жоғары инфляция және айтарлықтай бағамдық ауытқулар себеп болуда. Қаржы нарықтарында едәуір өскен құбылмалылық байқалуда, бұл белгісіздік пен инфляциялық күтулердің өсуіне әсер етуі мүмкін. Базалық сценарийде Brent маркалы мұнайдың бағасы болжамды кезеңнің соңына дейін орташа есеппен бір баррель үшін 70 АҚШ долларына дейін төмендету жағына қарай қайта қаралды. Сценарий шарттары бағаның нақты динамикасын, Қытай тарапынан сұраныстың төмендеуін, әлемдік экономиканың баяулауын және Солтүстік және Оңтүстік Америкада өндірудің өсуін ескере отырып қалыптастырылған. 2024 жылға болжанған инфляция 8-9%-ға дейін нақтыланды. 2025 жылға арналған болжам – 6,5-8,5%-ға дейін, 2026 жылға арналған болжам 5,5-7,5%-ға дейін өсу жағына қарай қайта қаралды. Инфляцияның орнықты бөлігі 2026 жылы 5%-ға жақын қалыптасады. Жалпы инфляция 2027 жылы нысанаға жақын қалыптасады деп күтіледі. Алдағы жылдарға инфляция бойынша неғұрлым жоғары болжам фискалдық ынталандырудың кеңеюіне, тұрғын-үй коммуналдық қызметтер (ТКҚ) реформаларының жалғасуына, айырбастау бағамының әлсіреуіне және сыртқы инфляциялық қысымның күшеюіне байланысты. Инфляция болжамының тәуекелдері ішкі сұраныс тарапынан қысымның өсуіне, сыртқы инфляцияның жеделдеуіне және инфляциялық күтулердің артуына байланысты. Сонымен қатар мемлекеттік қаржыны тұрақтандыру құралдарына қатысты белгісіздік сақталуда. Реттелетін бағалар мен тарифтерді одан әрі өсуі, оның қарқыны мен мерзімі де болжамның маңызды тәуекелі болып қалып отыр.

2024 жылға болжанған Қазақстан экономикасының өсуі 4-4,5% деңгейінде нақтыланды. 2025 және 2026 жылдарға арналған болжам тиісінше 4,5-5,5% және 4,6-5,6%-ға дейін қайта қаралды. Неғұрлым төмен болжамдар мұнайдың сценарийлік бағасының төмендеуіне және бірқалыпты сыртқы сұранысқа байланысты. Ұлттық Банктің бағалауы бойынша болжамды кезең ішінде экономика ішкі ұсыныс мүмкіндіктерінен асып түсетін сұраныстың кеңеюі жағдайында өседі. Бұл орнықты түрде проинфляциялық қысым көрсететін болады. Айырбастау бағамының әлсіреуі, инфляцияның өсуіне байланысты нақты мәндегі пайыздық мөлшерлемелердің төмендеуі, сондай-ақ оның алдағы жылдарға болжамдарының артуы аясында жиынтық ақша-кредит шарттары жұмсарды. Қаржы нарықтарында өскен құбылмалылықпен бірге бұл базалық мөлшерлемені көтеруді қажет етті. Қаржы және энергетика нарықтарындағы құбылмалылықты ескере отырып, Комитет инфляцияны орнықты баяулау траекториясына тезірек қайтару және 5%-дық таргетке жету үшін жақын арада шешім қабылдау кезінде ақша-кредит саясатын қосымша қатаңдату қажеттілігін мұқият бақылайтын болады.

THE ROLE OF INVESTMENT IN HUMAN CAPITAL FOR THE SOCIO-ECONOMIC DEVELOPMENT OF THE COUNTRY'S REGIONS

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Abstract. The main focus of the research on this topic is on how investments in human capital have a significant impact on the socio-economic development of various regions of the country. China was chosen as the object of the study. This article examines the essence of human capital, its components, as well as the impact of investments in healthcare, education and the development of professional skills on labor productivity growth and competitiveness. Special attention is paid to the analysis of the relationship between the inventive potential and the quality of human capital, which contribute to the development of a sustainable economy and social stability. In addition to identifying the main problems and obstacles faced by China's regions in this process, the study offers examples of effective approaches to attracting investment in human capital.

Keywords: investments in human capital, socio-economic development, regional economy, education, healthcare, innovative potential, sustainable development, government policy

Introduction. The modern world economy is characterized by a significant role of human capital in ensuring sustainable socio-economic development. In the context of globalization and digitalization, human capital is becoming a key factor in the competitiveness and innovation potential of a region or country. One of the countries that demonstrates successful examples of investing in human capital to stimulate regional development is China.

China has achieved impressive results in modernizing its economy over the past few decades, largely due to its strategic approach to human capital development. The country is actively developing educational and social programs, as well as improving conditions for the growth and development of professional skills of citizens. At the same time, there is a significant difference in the level of development between the regions of China, which makes the analysis of the effectiveness of investments in human capital especially relevant.

Scientific research in the field of human capital highlights its importance for economic growth and social stability. Thus, the research of C. Goldin formed the foundations of the theory of human capital, defining education, health care and vocational training as the main components[1]. Their work was complemented by research by M. E. Caucutt and L. Lochner [2], who emphasized the importance of early childhood development for the formation of human capital, and X. Lin and other authors[3], who proposed a link between human capital and economic growth through innovation. In the context of China, researchers such as Benis A. and

other authors emphasize the need for an integrated approach that takes into account both educational programs and healthcare, as well as modern challenges related to the digital economy[4].

Despite considerable attention to the topic of human capital in the scientific literature, there are many unresolved issues. In particular, how exactly do investments in human capital contribute to reducing socio-economic inequality between regions? What is the role of public and private investment in this area? What are the most effective approaches to achieve sustainable development? These issues are becoming especially important in the context of China, where the development of high-tech sectors of the economy requires qualified personnel, and the development of western and central regions remains relatively slow.

This study is devoted to the analysis of the role of investments in human capital for the socio-economic development of China's regions. It will examine the key areas and tools that are used to improve the level of education, vocational training and health care, as well as their impact on socio-economic indicators. Special attention will be paid to the analysis of successful regional practices and their possible adaptation in other countries.

The methodological basis of the research is a combination of quantitative and qualitative analysis methods, including statistical analysis of regional data, a review of Chinese public policy and the study of international experience. The main purpose of the work is to identify the most effective mechanisms for investing in human capital and assess their contribution to the regional development of China.

Thus, the study not only complements the existing scientific literature, but also offers recommendations for the development of effective human capital management strategies that can be applied both in China and in other countries.

Materials and methods.

Within the framework of this study, the following methods were chosen as a methodology: Econometric analysis - The application of these methods of econometric modeling made it possible to identify the impact of investments in human capital on key macroeconomic indicators of China's regions (GDP, unemployment rate, indicators of social stability). For this purpose, data from the National Bureau of Statistics of China for the last 10 years were used(Figure 1). A comparative analysis of the regions was carried out. The differences in the socio-economic development of China's regions depending on the volume and structure of investments in human capital are studied. The analysis was carried out in the following categories:

Investments in education (the share of GDP allocated to education, coverage of higher and secondary education programs).

Investments in healthcare (healthcare costs, coverage of the population with medical services).

Development of digital infrastructure (Internet accessibility, digital learning programs).Three regions of China are selected as examples:

Guangdong Province is an example of a highly developed region with active investments in human capital.Guizhou Province, representing less developed regions with growing investment programs. And the capital Beijing itself as a center of educational and innovative clusters.

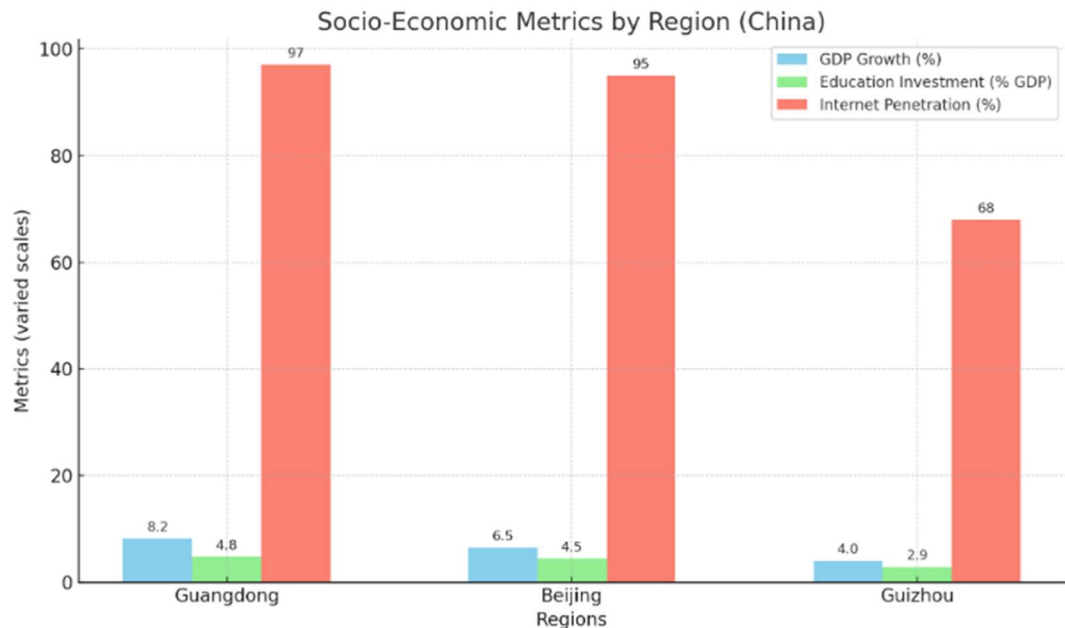
The case analysis allowed us to compare the results and identify successful strategies for investing in human capital.

Results and discussion.

Within the framework of this study, an analysis of the impact of investments in human capital on the socio-economic development of various regions of China was carried out. The main

focus is on three regions — the provinces of Guangdong and Guizhou, as well as the capital Beijing(Figure1).

Figure 1. Socio-Economic by Region China



Source compiled by the author based on data from the reports of the National Bureau of Statistics of China [5]

The chart shows the key socio-economic indicators for three regions of China: Guangdong, Beijing and Guizhou. Guangdong is showing the highest growth due to active investments in human capital. The high proportion of investment in education in Guangdong and Beijing highlights their focus on developing educational infrastructure. Guangdong and Beijing are also leaders in terms of digital infrastructure, which confirms the importance of digitalization for socio-economic development.

Regions with higher levels of investment in education demonstrate significant advantages in socio-economic development. For example, Guangdong Province shows a high level of employment and an average wage level. The region has a high coverage of higher education programs (about 78% of young people aged 18-24), which contributes to the development of high-tech industries[6].

In contrast, in Guizhou Province, the higher education enrollment rate is less than 40%. This limits opportunities for economic diversification and increases the region's dependence on agriculture. Investments in healthcare play an important role in improving the quality of life and increasing labor productivity. In Beijing, the level of accessibility of medical services exceeds 90%. This leads to a decrease in morbidity and an increase in life expectancy.

At the same time, in Guizhou Province, there is limited access to medical services, which has a negative impact on economic activity and the standard of living of the population. In Beijing, the level of accessibility of medical services exceeds 90%. This leads to a decrease in morbidity and an increase in life expectancy[7].

At the same time, in Guizhou Province, there is limited access to medical services, which has a negative impact on economic activity and the standard of living of the population.

Access to digital technologies is becoming an important factor affecting economic efficiency and social mobility. The digital economy and startup culture are developing in Guangdong Province[8]. This contributes to the creation of new jobs and the growth of GDP per capita.

On the contrary, Guizhou limits the opportunities for the introduction of innovative solutions into the economy of the region. In Guangdong, the implementation of STEM education support programs, the development of medical technologies and digital startups have ensured the region's GDP growth by 8.2% per year on average over the past five years.

Beijing is demonstrating success in developing educational clusters and introducing innovations. This strengthens the region's position as a leader in the number of patents and venture capital.

Guizhou, despite lagging behind, shows positive dynamics due to the introduction of national poverty reduction programs and the development of education in rural areas[9].

Conclusion. The socioeconomic growth of Chinese areas is significantly influenced by investments in human capital. High levels of investment in digital technologies, healthcare, and education help to create an atmosphere that is conducive to the growth of innovative industries, enhancing economic activity and raising living standards. Guangdong Province, for instance, has shown notable success in high-tech businesses, job creation, and GDP growth as a result of considerable investments in education and digital infrastructure. Beijing, on the other hand, is enhancing its standing as a patent and venture capital leader by leveraging its robust innovation and educational foundation.

In contrast, regions with lower investment volumes, such as Guizhou, are experiencing slow development. Limited opportunities in education and health hinder economic diversification and innovation, which leads to increased dependence on agriculture and a decrease in the standard of living of the population. However, despite these challenges, Guizhou is showing positive dynamics, thanks to the introduction of national programs aimed at reducing poverty and developing education in rural areas.

Thus, for the accelerated and sustainable development of all regions of China, it is necessary to increase investments in education, healthcare and digitalization, which will not only improve the quality of life of the population, but also create the basis for long-term economic growth and social mobility.

For the successful and balanced development of all regions of China, it is necessary to continue increasing investments in human capital, which contributes not only to economic growth, but also to improving social mobility and the quality of life of the population. It is important that each region can adapt its investments in accordance with local needs and characteristics, which will ensure the sustainable development of the country as a whole.

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Technical Sciences

ИССЛЕДОВАНИЕ СЕЙСМОСТОЙКОСТИ БЕЗРИГЕЛЬНЫХ ЖЕЛЕЗОБЕТОННЫХ КАРКАСНЫХ ЗДАНИЙ С УЧЕТОМ КРУТИЛЬНЫХ КОЛЕБАНИЙ

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Аннотация. В статье приведены результаты численного исследования напряженно-деформированного состояния пятиэтажного безригельного железобетонного каркасного здания монолитной конструкции, запроектированного на действие нагрузок особого сочетания с учетом сейсмического воздействия. На основании анализа результатов численного исследования обосновано ограничение количества этажей при проектировании здания без вертикальных устоев жесткости. Рекомендовано: при проектировании каркасных зданий монолитной конструкции в сейсмических районах принимаемое количество этажей обосновать на основании анализа работы каркаса здания с учетом упруго пластических свойств материалов несущих конструкций (бетона и арматуры).

Ключевые слова: предельно допустимые деформации, типы соединения, железобетонные каркасные здания, монолитные конструкции, сейсмические нагрузки, численное исследование, физическая нелинейность.

Исследована сейсмостойкость трехпролетного в поперечном направлении и восьмипролетного в продольном направлении пятиэтажного каркасного офисного здания монолитной конструкции. Высота первого этажа здания равна 4.8м, а высота остальных четырех этажей принята по 3м. Шаг колонн 6.4х6.4м. Колонны защемлены на уровне верхнего обреза фундамента. При исследовании напряженно-деформированного состояния конструкций безригельного железобетонного каркасного здания, класс бетона и арматуры железобетонных элементов каркаса приняты в соответствии с требованиями норм. При этом класс бетона принят В25, арматура класса А400(А-III). Размеры сечения колонн 400х400мм,

армирование колонн симметричное; плиты перекрытия и покрытия – монолитные толщиной 200мм.

Нагрузки, действующие на конструкции и здание в целом, приняты в соответствии с требованиями норм для офисных зданий. Принято пять загрузжений здания, включая сейсмическую нагрузку, действующую в поперечном направлении зданий.

**Оценка сейсмостойкости железобетонных каркасных зданий с учетом требований
СНиП РК 2.03-30-2006**

Оценка сейсмостойкости железобетонных каркасных зданий монолитной конструкции с учетом требований СНиП РК 2.03-30-2006 «Строительство в сейсмических районах» выполнена для 5-ти этажного каркасного здания монолитной конструкции с высотой первого этажа $h_{1эт}=4.8м$, запроектированного в соответствии с требованиями норм [1] для строительства в районах с расчетной сейсмичностью 7 баллов;

В результате упругого расчета безригельных железобетонных каркасных систем монолитной конструкции на особые сочетания нагрузок с силой сейсмического воздействия, равной 7 баллов, принято армирование элементов каркаса здания, которое приведено в таблице 1.

Таблица 1 - Результаты расчета и принятое армирование колонн безригельного 5-ти этажного офисного здания

Принятое количество продольной арматуры колонн							
по результатам упругого расчета					с учетом конструктивных требований		
номер этажа	обозначение колонны	процент армирования, %	площадь сечения одной арматуры, см ²	диаметр арматуры	процент армирования, %	площадь сечения одной арматуры, см ²	диаметр арматуры, мм
1-й этаж	УК 11	0.68	2.72	22	0.98	3.8	22
	УК 21	1.66	6.64	32	1.66	8.04	32
2-й этаж	УК 31	0.21	0.8	12	0.98	3.8	22
	УК 41	0.06	0.24	12	0.98	3.8	22
3-й этаж	УК 51	0	0	0	0.98	3.8	22
	УК 61	0.18	0.72	12	0.98	3.8	22
4-й этаж	УК 71	0	0	0	0.98	3.8	22
	УК 81	0.36	1.44	16	0.98	3.8	22
5-й этаж	УК 91	0.02	0.08	12	0.98	3.8	22
	УК 101	0.71	2.80	20	0.98	3.8	22

На основании результатов расчета принято следующее армирование колонн здания. Колонны первого этажа, расположенные вдоль наружных разбивочных осей, армированы четырьмя арматурами диаметром 22мм (обозначение колонн УК11). Внутренние колонны первого этажа армированы четырьмя арматурами диаметром 32мм (обозначение колонн УК21). Колонны верхних этажей армированы четырьмя стержнями диаметром 22мм (обозначение колонн УК31-УК101).

Методика численного исследования работы железобетонных элементов

Работа материалов железобетонных конструкции в физически нелинейной стадии имеет место при действии на них нагрузок особого сочетания с учетом сейсмической нагрузки расчетной величины. Поэтому программа исследований предполагала изучение

работы железобетонного безригельного многопролетного пятиэтажного каркаса монолитной конструкции на действие сейсмических нагрузок с целью выявления несущей способности систем с учетом образования трещин в железобетонном элементе и неупругих деформаций бетона и арматуры.

При этом физическая нелинейность бетона и арматуры в данной работе описана по зависимостям, приведенным в библиотеке ПК ЛИРА.

В целом исследована неупругая работа железобетонного каркасного здания на совместное действие нагрузок особого сочетания с учетом сейсмического воздействия, превышающее расчетной величины. Сейсмическая нагрузка при исследовании железобетонного каркасного здания прикладывалась горизонтально этапами в поперечном направлении здания. При численном исследовании фиксировалось значение перемещения каркаса для каждого шага изменения нагрузок, на основании которого построены графики «нагрузка-перемещение» для безригельного железобетонного каркасного здания монолитной конструкций до его полного разрушения.

Принятая в данной работе методика исследования работы железобетонных каркасных зданий на действие нагрузок особого сочетания с учетом сейсмического воздействия более подробно описаны также в ранних работах авторов настоящей статьи [2-6].

Численное исследование напряженно деформированного состояния конструкции безригельного железобетонного каркасного здания монолитной конструкции

По результатам расчета с учетом упруго пластической работы материалов конструкций для 5-ти этажного безригельного железобетонного здания монолитной конструкции, запроектированного для района с расчетной сейсмичностью 7 баллов, максимальное перемещение здания под воздействием горизонтальной сейсмической нагрузки, составило 49.6 мм. Согласно требованиям пункта 5.28 [1] при типах соединения между ненесущими стеновыми конструкциями и несущими конструкциями здания, не обеспечивающих отдельную работу этих конструкций, предельно допускаемое значение перемещения для 5-ти этажного безригельного железобетонного здания монолитной конструкции составляет 45мм.

Для рассматриваемого случая, при принятых характеристиках здания, применение в сейсмических районах безригельных каркасных зданий монолитной конструкций согласно данным упруго пластического расчета не допускается.

При этом следует отметить, что при проектировании зданий в сейсмоактивных районах необходимо также учитывать влияние крутильных воздействий при землетрясении. Это обстоятельство указывает на то, что деформации здания с учетом крутильных моментов также не должны превышать предельного значения деформации, предусмотренного в нормах [1].

Возникновение крутильных воздействий на здания при сейсмических нагрузках связано с тем, что в действительности прохождение сейсмических волн происходит с определенной конечной скоростью, зависящей от плотности и характеристики грунта. Различные участки основания по длине здания колеблются с разными значениями ускорений, что вызывает в здании появление инерционных сил, которые пропорциональны массе и ускорению. В случае, если длина здания достигает величин, соизмеримых с длиной сейсмической волны, крутящий момент, возникающий в плане здания в связи с действием инерционных сил, может достичь очень больших величин.

Такие крутильные колебания могут иметь место и в зданиях с несущим железобетонным каркасом, в том числе и в безригельных каркасных железобетонных зданиях, если при проектировании или строительстве нарушены условия симметрии, или же имеют место несовпадения центра жесткости и центра масс здания. В связи с этим в

настоящей работе исследована также работа безригельного железобетонного каркасного здания с учетом возникновения крутильных колебаний из-за наличия эксцентриситета между центром масс и центром жесткости здания.

При численном исследовании работы пространственного каркаса с учетом кручения фиксировалось значение перемещения каркаса для каждого шага изменения нагрузок, на основании которого построены графики «нагрузка-перемещение».

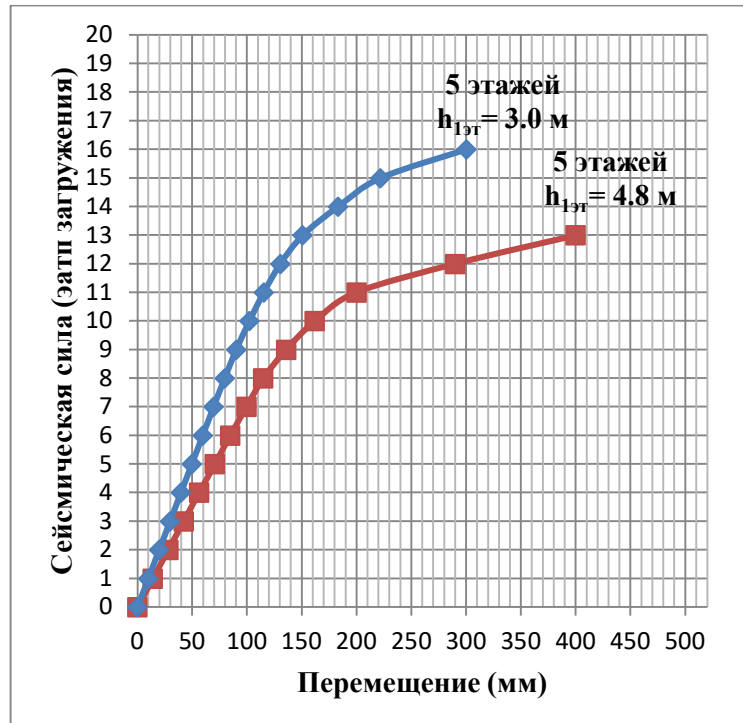
Для исследования воздействия крутильных колебаний на работу здания рассмотрены неблагоприятные варианты загрузки временной нагрузкой.

Ниже приведены результаты численного исследования безригельного пятиэтажного железобетонного здания на совместное воздействие нагрузок особого сочетания без учета и с учетом возникновения крутильных колебаний здания при землетрясении.

По результатам расчета с учетом упруго пластической работы материалов конструкций для 5-ти этажного безригельного железобетонного здания монолитной конструкции, максимальное перемещение здания под воздействием горизонтальной сейсмической нагрузки с учетом крутящих моментов составило 70.5 мм.

Для рассматриваемого случая, применение в сейсмических районах безригельных каркасных зданий с высотой первого этажа $h_{1эт}=4.8$ м и с колоннами сечением 40x40см, согласно данным численного исследования работы каркаса здания с учетом упруго пластических свойств бетона и арматуры не допускается.

На рисунке 1 представлены результаты работы безригельного железобетонного каркасного здания монолитной конструкции с высотой первого этажа $h_{1эт}=4.8$ м на совместное действие нагрузок особого сочетания с расчетной сейсмичностью равной 7 баллам. Для сравнения на этом графике приводятся результаты численного исследования работы пятиэтажного безригельного железобетонного каркасного здания с высотой каждого этажа по 3м.



Этап загрузки соответствует 7 баллам сейсмического воздействия

Рисунок 1 – График «нагрузка-перемещение» для пятиэтажного железобетонного безригельного каркаса монолитной конструкции с высотой первого этажа 3 м и 4.8 м

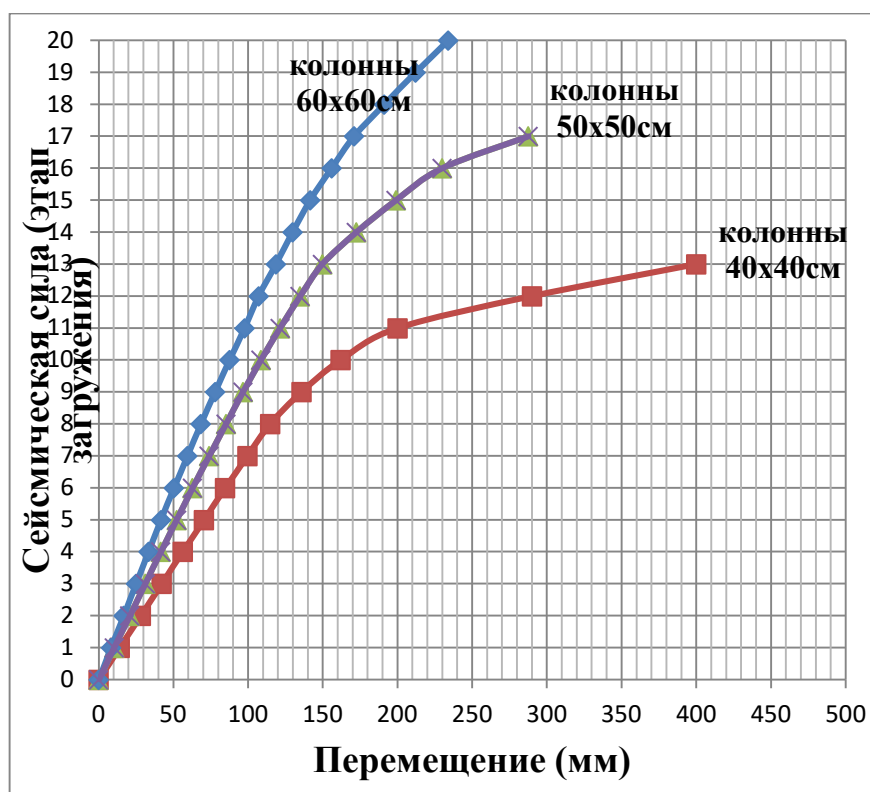
Ниже приведена таблица 2 с результатами численного исследования безригельного каркаса с высотой первого этажа $h_{1\text{эт}}=3.0$ м и $h_{1\text{эт}}=4.8$ м и колоннами сечением 40x40см, запроектированные для района сейсмичностью 7 баллов.

Таблица 2 – Значения первого тона колебаний и значения перемещений характерных узлов здания

Характеристики безригельного железобетонного каркасного здания с размерами поперечного сечения колонн 40x40см высотой первого этажа $h_{1\text{эт}}=3.0$ м				
Кол-во этажей здания	Т, период 1-го тона колебаний (с)	f, (мм) перемещение характерных узлов здания		Предельно допустимые значения перемещений по СНиП РК 2.03-30-2006 мм)
		по результатам упругого расчета	с учетом упруго пластических свойств материалов	
5 эт	1.565	34.8	49.6	45
Характеристики безригельного железобетонного каркасного здания с размерами поперечного сечения колонн 40x40см высотой первого этажа $h_{1\text{эт}}=4.8$ м				
Кол-во этажей здания	Т, период 1-го тона колебаний (с)	f, (мм) перемещение характерных узлов здания		Предельно допустимые значения перемещений по СНиП РК 2.03-30-2006 (мм)
		По результатам упругого расчета	С учетом упруго пластических свойств материалов	
5 эт	1.908	43.3	70.5	50.4

Из анализа результатов исследования можно сделать вывод о том, что при исследовании напряженно деформированного состояния конструкции безригельного железобетонного каркасного здания монолитной конструкции с высотой первого этажа $h_{1\text{эт}}=4.8$ м с колоннами сечением 40x40см, запроектированных для районов сейсмичностью 7 баллов, горизонтальная жесткость здания не удовлетворяет требованиям норм. В связи с этим для выявления размеров поперечных сечений колонн, при которых были бы удовлетворены условия достаточной горизонтальной жесткости здания, была также исследована работа пятиэтажного безригельного каркасного здания с высотой первого этажа $h_{1\text{эт}}=4.8$ м и размерами сечения колонн 50x50см и 60x60см.

Повышение жесткости здания с увеличением размеров поперечного сечения колонн с 40x40см на 50x50см и 60x60см для 5-ти этажного безригельного железобетонного каркасного здания монолитной конструкции, запроектированного для района сейсмичностью 7 баллов, показали следующие результаты. На рисунке 2 представлены результаты работы 5-ти этажного безригельного железобетонного каркасного здания монолитной конструкции колонны, поперечное сечение которых, увеличено с 40x40 на 50x50 см и на 60x60 см.



5-ый этап загрузки (по оси ординат) соответствует 7 баллам сейсмического воздействия

10-ый этап загрузки (по оси ординат) соответствует 8 баллам сейсмического воздействия

Рисунок 2 – Графики «нагрузка-перемещение» для 5-ти этажного железобетонного безригельного каркаса монолитной конструкции с высотой первого этажа $h_{1эт}=4.8м$

Как видно из рисунка 2, увеличение поперечного сечения колонн с 40x40 см на 50x50 см и 60x60см, способствовало увеличению жесткости 5-ти этажного здания, запроектированного для района сейсмичностью 7 баллов. Ниже приведена таблица 3 с результатами численного исследования для 5-ти этажного безригельного каркаса монолитной конструкции, поперечное сечение колонн которых составило 40x40см, 50x50см и 60x60см, запроектированные для района сейсмичностью 7 баллов.

Таблица 3 – Значения первого тона колебаний и значения перемещений характерных узлов здания.

Характеристики 5-ти этажного безригельного железобетонного каркасного здания с высотой первого этажа $h_{1эт} = 4.8$ м				
Поперечное сечение колонн, (см)	T, период 1-го тона колебаний (с)	f, (мм) перемещение характерных узлов здания		Предельно допустимые значения перемещений по СНиП РК2.03-30-2006 (мм)
		по результатам упругого расчета	с учетом упруго пластических свойств материалов	
40x40	1.908	43.3	70.5	45
50x50	1.610	35.9	52.2	45
60x60	1.406	32.5	41.7	45

Как следует из анализа результатов численного исследования работы пятиэтажного безригельного железобетонного каркасного здания, увеличение размеров поперечного сечения колонн приводит к увеличению жесткости здания в горизонтальном направлении здания. При этом соблюдение требований норм [1] в части ограничения предельно допустимой горизонтальной деформации здания выполняется для зданий с размерами колонн 60x60см с типом соединения между несущими стеновыми конструкциями и несущими конструкциями здания, не обеспечивающими отдельную работу несущих и несущих конструкций при сейсмических воздействиях.

Рекомендации по определению границ применимости многоэтажных безригельных железобетонных каркасных зданий

На основании анализа результатов численного исследования можно утверждать, что современному проектировщику необходимо уделять внимание не только на традиционный расчет в упругой стадии работы конструкций, но и анализировать работу конструкций и здания в целом с учетом упруго пластических свойств материалов, так как это дает более реальную картину работы здания при действии на него сейсмической нагрузки.

Результаты численного исследования работы многоэтажных железобетонных безригельных каркасных зданий с учетом упруго пластических свойств материалов, приведенные в настоящей работе, показывают, что в зданиях, запроектированных с учетом требований норм [1], значения максимальных перемещений здания могут превышать предельно допустимые горизонтальные деформации здания, предусмотренные требованиями норм. Это связано с тем, что жесткости каркасных зданий при сейсмических воздействиях расчетной величины могут не удовлетворить требованиям, предусмотренным в нормах для предотвращения разрушений конструкций стенового заполнения, перегородок, витражей и других несущих элементов.

В связи с этим при проектировании безригельного каркасного здания монолитной конструкции на расчетные значения нагрузок, силой соответствующей сейсмичности площадки строительства, необходимо предусмотреть условия которые будут способствовать повышению жесткости здания в горизонтальном направлении для ограничения предельно допустимых деформаций (перемещений) здания.

Повышение жесткости здания в горизонтальном направлении возможно путем применения колонн больших размеров сечения. Результаты численного исследования показали, что при увеличении поперечного сечения колонн с 40x40 см на 60x60см для 5-ти

этажного безригельного каркасного здания монолитной конструкции, запроектированного для района с сейсмичностью 7 баллов, способствовало повышению жесткости здания. В частности, максимальное перемещение 5-ти этажного безригельного каркасного здания монолитной конструкции с колоннами, поперечное сечение которых 40x40см, составило 70.5мм, что не отвечает требованиям норм, тогда как после увеличения размера колонн с 40x40см на 60x60см, максимальное перемещение здания составило 41.7 мм, что отвечает требованиям норм по предельно допустимым горизонтальным деформациям здания, указанных в пункте 5.28 [1].

Основные выводы

Как показывают результаты настоящего исследования, применение безригельных железобетонных каркасных зданий монолитной конструкции в сейсмических районах необходимо обосновать дополнительными расчетами зданий с учетом упруго-пластических свойств материалов конструкций, так как результаты упругого расчета могут быть недостаточными для обоснованного заключения о применимости такого рода зданий при проектировании в сейсмических районах.

Результаты численного исследования пятиэтажных безригельных каркасных зданий монолитной конструкции на действие нагрузок с учетом упруго пластических свойств бетона и арматуры показывают, что при сейсмических нагрузках, соответствующих землетрясениям расчетной интенсивности, максимальные перемещения здания могут превышать предельно допустимые горизонтальные деформации здания, предусмотренные требованиями норм [1].

Численные исследования напряженно-деформированного состояния безригельного железобетонного каркаса монолитной конструкции с высотой первого этажа $h_{ЭТ}=4.8\text{м}$, с учетом упругопластических свойств материалов конструкций, при действии нагрузок, соответствующих расчетной сейсмической нагрузке и, превышающей расчетные величины показали:

а) при проектировании безригельных каркасных зданий монолитной конструкции в районах сейсмичностью 7 баллов в железобетонном каркасе с колоннами 60x60см для 5-ти этажного безригельного каркасного здания монолитной конструкции, наблюдается развитие незначительных деформаций, позволяющих общей системе работать без потери общей устойчивости системы. Об этом свидетельствуют полученные перемещения здания и перекосы этажей, не превышающие предельно допустимых величин, предусмотренных требованиями п. 5.28 [1].

Безригельные каркасные здания с применением колонн больших размеров сечения удовлетворяют требованиям п.5.28 [1], а именно, обеспечивается горизонтальная жесткость здания, что способствует выполнению условия предельно допустимых перемещений.

При проектировании на строительных площадках сейсмичностью 7 баллов количество этажей безригельных железобетонных каркасных зданий монолитной конструкции следует принимать по результатам данных упруго пластического расчета для исключения возможности получения не допустимых деформации здания.

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РАЗРАБОТКА НОВЫХ МЕТОДОВ ОЦЕНКИ КЛИЕНТСКОЙ УДОВЛЕТВОРЕННОСТИ В УСЛОВИЯХ ЦИФРОВОЙ ТРАНСФОРМАЦИИ

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Аннотация

Цифровая трансформация изменяет способы взаимодействия с клиентами и требует внедрения новых методов для оценки их удовлетворенности. Традиционные инструменты, такие как опросы и анкеты, уже не могут полностью удовлетворить потребности в условиях быстро меняющегося поведения клиентов. В данной статье рассматриваются современные подходы к оценке клиентской удовлетворенности, включая применение больших данных, искусственного интеллекта и анализа пользовательского поведения. Обсуждаются как преимущества, так и ограничения этих методов, а также их значение для повышения конкурентоспособности компаний.

Ключевые слова: цифровая трансформация, клиентская удовлетворенность, большие данные, искусственный интеллект, анализ поведения, новые методы.

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Abstract

Digital transformation is changing the ways businesses interact with customers and requires the implementation of new methods to assess customer satisfaction. Traditional tools, such as surveys and questionnaires, can no longer fully meet the demands in the context of rapidly changing customer behavior. This article explores modern approaches to measuring customer satisfaction, including the use of big data, artificial intelligence, and user behavior analysis. Both the advantages and limitations of these methods are discussed, as well as their significance for enhancing the competitiveness of companies.

Keywords: digital transformation, customer satisfaction, big data, artificial intelligence, behavior analysis, new methods.

Введение

Цифровая трансформация оказывает значительное воздействие на бизнес-процессы, включая управление клиентским опытом. Уровень удовлетворенности клиентов стал ключевым показателем успеха компании. Однако традиционные методы оценки, такие как опросы, уже не способны в полной мере отразить реальные потребности клиентов. Это

связано с развитием технологий, таких как искусственный интеллект, анализ больших данных и автоматизация.

Основные моменты:

1. Влияние цифровой трансформации на ожидания клиентов: увеличение скорости взаимодействия через цифровые каналы; индивидуализация услуг на основе анализа данных; растущее значение омниканальных стратегий.

2. Традиционные методы оценки удовлетворенности: анкетирование и интервью: плюсы и минусы; проблемы с репрезентативностью и актуальностью данных.

3. Современные подходы к оценке клиентской удовлетворенности:

1) использование больших данных: сбор и анализ данных из различных источников (социальные сети, мобильные приложения, CRM-системы);

2) искусственный интеллект и машинное обучение: автоматизация анализа обратной связи, предсказание поведения клиентов;

3) анализ поведения пользователей: отслеживание цифровых следов, таких как клики, время на сайте, покупки.

4. Примеры успешного внедрения новых методов: кейсы компаний, применяющих искусственный интеллект для анализа клиентского опыта; инструменты, такие как Net Promoter Score (NPS), дополненные данными из цифровых источников.

5. Преимущества и недостатки современных методов

1) преимущества: высокая точность, персонализированный подход, оперативность;

2) недостатки: необходимость инвестиций в технологии, вопросы конфиденциальности данных.

Заключение

Современные методы оценки удовлетворенности клиентов в эпоху цифровой трансформации позволяют компаниям глубже понимать своих клиентов и настраивать свои стратегии в соответствии с их потребностями. Тем не менее, для успешного внедрения этих подходов необходимо интегрировать современные технологии, обучать сотрудников и соблюдать этические стандарты работы с данными. Компании, которые смогут эффективно применять эти инструменты, получат значительное конкурентное преимущество на рынке.

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Pedagogical Sciences

Challenges and Opportunities in Teaching Colloquial English in Azerbaijani Public and Private Schools

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Abstract

The important disparities between Azerbaijani public and private schools in teaching colloquial English, an essential skill for effective modern communication within our increasingly globalized world, are explored thoroughly in this thesis. Researchers based this study on data from Azerbaijani secondary schools. It reveals significant challenges for both educators and students in these schools. Meaningful differences in key areas were examined: resource allocation, teacher training, and curriculum design. Systemic challenges, including a meaningful lack of teacher preparation for conversational English instruction, along with obsolete teaching methodologies popular in many public schools, as well as unequal access to many important resources, are highlighted by the research. Revolutionary practices are readily offered by private schools despite important obstacles. Opportunities for reform are also provided by these schools. To bridge the meaningful gap between public and private education, we propose several key recommendations: prioritizing large teacher development initiatives, modernizing at least some teaching practices, and guaranteeing equitable access to many important linguistic resources. This research directly helps Azerbaijani policymakers, along with educators, to importantly improve colloquial English teaching, making it far more all-embracing.

Keywords: Colloquial English, public schools, private schools, Azerbaijan, teacher training, language education, policy reform

Introduction

Today's incredibly linked world now absolutely requires a really good grasp of colloquial English. An important challenge, especially in state schools, persists in Azerbaijani education: teaching conversational English, despite progress in English language education. This thesis thoroughly investigates just how important colloquial English is in effectively preparing students for real-world communication, both domestically, and across the globe.

Overview of Teaching Practices

Advanced teaching methodologies, smaller class sizes, along access to many interactive resources like conversational workshops and multimedia tools, benefit many students in private schools. Customary grammar and writing exercises characterize many public schools. This often leaves some pupils with underdeveloped conversational skills. Meaningful differences exist between the two settings, importantly in the level of teacher preparedness, coupled with the training they receive for colloquial English instruction.

Challenges in Teaching Colloquial English

Limited access to educational resources, insufficient teacher training programs, along with curricula prioritizing formal English over conversational fluency, present many important

challenges for public schools. Larger class sizes, coupled with a dearth of extracurricular opportunities to practice conversational English, exacerbate these challenges. The important challenges faced by even the well-resourced private schools, frankly, stem from their tendency to serve a very specific, rather limited demographic, thus importantly obstructing equitable access to quality language education.

Opportunities for Reform

Opportunities to improve colloquial English instruction are identified by the research. Targeted policy changes along with practical reforms are suggested for this improvement. Amongst these, several examples are included.

The government will importantly expand teacher training programs, concentrating on at least five conversational English methodologies.

We must importantly update curricula. This includes adding really useful real-life communication scenarios.

Partnerships, sharing resources plus best practices, are being encouraged between public, and private schools.

We should importantly increase the use of really helpful technology, including language-learning apps and online conversational platforms, to effectively supplement customary teaching methods.

Conclusion and Recommendations

Systemic challenges must be tackled thoroughly, alongside existing opportunities for reform being fully utilized, to effectively bridge the large gap between public as well as private schools' teaching of colloquial English. Importantly, effective teacher development, coupled with revolutionary curriculum design, plus equitable resource allocation, must be jointly championed by policymakers alongside educators. These measures will allow Azerbaijani schools to importantly better equip students with the important conversational English skills required for thriving in today's world.

THE ROLE OF PHYSICAL EDUCATION IN HIGHER EDUCATION INSTITUTIONS OF KAZAKHSTAN: PROBLEMS AND PROSPECTS

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Abstract:

Physical education in higher education institutions (HEIs) of Kazakhstan is an essential component of education, impacting not only the health of students but also their academic performance, psychological well-being, and social adaptation. This article examines key aspects of physical education in the educational environment of Kazakhstan, analyzes the problems faced by students and educators, and proposes ways to improve the physical education system. Particular attention is given to the introduction of new technologies and approaches that could enhance the effectiveness of physical education in HEIs.

Keywords:

Physical education, HEIs of Kazakhstan, students, motivation, sports infrastructure, health, innovative technologies, academic performance.

РОЛЬ ФИЗИЧЕСКОЙ КУЛЬТУРЫ В ВУЗАХ КАЗАХСТАНА: ПРОБЛЕМЫ И ПЕРСПЕКТИВЫ

Аннотация:

Физическая культура в ВУЗах Казахстана является важной составляющей образования, влияющей не только на здоровье студентов, но и на их академическую успеваемость, психологическое состояние и социальную адаптацию. В статье рассмотрены ключевые аспекты физической культуры в образовательной среде Казахстана, проанализированы проблемы, с которыми сталкиваются студенты и преподаватели, а также предложены пути для улучшения системы физического воспитания. Особое внимание уделено внедрению новых технологий и подходов, которые могут повысить эффективность физкультурной работы в ВУЗах.

Ключевые слова:

Физическая культура, ВУЗы Казахстана, студенты, мотивация, спортивная инфраструктура, здоровье, инновационные технологии, академическая успешность.

1. Introduction

In the context of high academic workloads and the rapid development of information technologies, physical education in higher education institutions (HEIs) of Kazakhstan faces several challenges. The lack of time for sports activities, sedentary lifestyles, and low motivation among students create significant issues for the physical education system in the country. At the same time, physical education and sports play a key role in maintaining the physical and psychological health of young people, as well as in enhancing their ability to engage in academic and social activities.

The aim of this article is to analyze the state of physical education in Kazakhstan's HEIs, identify problems, and define directions for improving and modernizing the physical education process.

2. The Importance of Physical Education for Students in Higher Education Institutions of Kazakhstan

2.1. Physical Activity and Student Health

Physical activity in Kazakhstan has become a critical factor in maintaining the health of students. According to the Ministry of Health of the Republic of Kazakhstan, in 2020, approximately 35% of students suffer from diseases related to physical inactivity, including cardiovascular diseases, osteochondrosis, obesity, and diabetes. This alarming statistic highlights the need to increase the physical activity of young people and involve students in regular physical education activities.

Sports participation contributes to:

- Improvement of cardiovascular health and metabolism;
- Prevention of diseases related to a sedentary lifestyle (e.g., hypertension, osteoporosis, diabetes);
- Enhancement of psychological well-being, reduction of stress, and alleviation of anxiety.

2.2. Psychological Effects of Physical Activity

Physical activity has a profound impact on the psycho-emotional state of students, which has become increasingly relevant in Kazakhstan in light of the growing levels of stress, particularly during exam periods. Regular participation in sports boosts endorphin levels, reduces anxiety and depression, and helps combat fatigue and overload.

Additionally, physical education fosters the development of communication and social skills, strengthens teamwork, and is particularly important for students in their process of social adaptation.

2.3. Academic Success and Productivity

Engaging in physical education has a significant effect on students' academic performance. According to a study conducted in Kazakhstan in 2022, students who actively participate in sports demonstrate higher academic results than their sedentary peers. Regular physical activity enhances concentration, memory, reduces fatigue, and improves overall work efficiency.

3. Problems of Physical Education in Higher Education Institutions of Kazakhstan

3.1. Lack of Time and Motivation Among Students

One of the main problems is the lack of time for physical education. University students often face heavy academic loads and additional external commitments, which lead to a decrease

in interest and available time for physical activity. According to a survey conducted among students in 2023, 42% of respondents stated that they cannot find time for sports due to their busy schedules.

Moreover, low motivation for physical education remains one of the critical issues. In most universities, physical education is still perceived as a mandatory, yet secondary, part of the educational process. Motivation for engaging in physical activities is often lacking, especially when the activities do not provide immediate results or enjoyment.

3.2. Lack of Infrastructure and Accessible Facilities

Many universities in Kazakhstan suffer from a lack of sports facilities, gyms, and areas for active physical engagement. In regional areas, where sports facilities are often outdated and their number is limited, students face challenges in accessing sports activities. Even in large cities such as Almaty and Astana, there is a shortage of modern sports complexes, which negatively impacts the quality of physical education.

3.3. Weak Integration of New Sports Trends

Despite the wide variety of modern sports trends, such as functional training, yoga, Pilates, and CrossFit, most universities in Kazakhstan still focus on traditional sports such as football, basketball, and volleyball. This does not meet the needs of students who are interested in newer fitness trends. Physical education programs are often not adapted to current fitness trends, which further reduces interest in physical activities.

4. Prospects and Development Directions for Physical Education in Higher Education Institutions of Kazakhstan

4.1. Modernization of Infrastructure and Accessibility

There is a need for a comprehensive modernization of the sports infrastructure in higher education institutions, particularly in remote and regional areas. This includes:

- Construction and renovation of sports complexes, gyms, and multi-purpose sports facilities;
- Ensuring students have access to sports facilities at all times, allowing for flexible scheduling of physical activities;
- Improving outdoor training conditions, and establishing areas for skateboarding, cycling, and parkour.

4.2. Integration of Technology and Digitalization of the Sports Process

The integration of modern technologies and digital solutions can significantly enhance student engagement in physical education:

- Development of mobile applications to monitor physical activity and track student progress;
- Online training sessions and video courses in popular fitness trends, yoga, and other sports disciplines, enabling students to engage in physical activity regardless of time and location;
- The use of technology for personalized training programs and injury prevention.

4.3. Innovations in Physical Education Programs

To increase student motivation to participate in physical education, it is recommended to:

- Expand the range of sports disciplines offered at universities, incorporating new trends such as yoga, Pilates, CrossFit, dance, and functional training;
- Introduce elective courses focused on individual training, allowing students to select activities based on their personal interests and physical capabilities;
- Establish clubs and sports associations to encourage socialization and provide support for students in their sports pursuits.

4.4. Motivation and Incentives for Students

The student motivation system should include:

- Implementation of reward programs for students who actively participate in physical education, such as discounts on sports events, scholarships, and opportunities to participate in university sports competitions;
- Organization of sports tournaments, inter-university championships, and events that promote teamwork and encourage student involvement in physical activities.

4.5. Professional Development for Physical Education Instructors

A continuous professional development program for physical education instructors is essential to ensure they are equipped to teach students using modern methodologies and approaches, integrate innovative technologies, and address the psychological and emotional aspects of working with young people.

5. Conclusion

Physical education in higher education institutions of Kazakhstan plays a crucial role in maintaining student health and enhancing their academic performance. Despite existing challenges, such as lack of time and motivation, as well as limited infrastructure, it is possible to implement effective solutions to improve the physical education system. The development of infrastructure, the integration of technologies and innovative approaches, and the creation of a student motivation system will significantly improve the level of physical activity in universities and contribute to the formation of a healthy and active lifestyle among the youth of Kazakhstan.

PHYSICAL ACTIVITY IN THE MODERN WORLD: SIGNIFICANCE, ISSUES, AND PERSPECTIVES

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Abstract

Physical activity is a crucial aspect of a healthy lifestyle and plays a key role in maintaining physical and mental health. In the context of modern realities such as urbanization, technological progress, and sedentary lifestyles, physical activity has become a critical element in disease prevention and the formation of sustainable health habits. This article explores the impact of physical activity on health, the issues associated with its deficiency, and the trends and prospects related to the promotion of sports and physical activity in modern society.

Introduction

In recent decades, physical activity has become an increasingly important topic of study, as modern lifestyles, including rapid technological development and urbanization, contribute to an increase in the number of people leading sedentary lives. As a result, the prevalence of chronic diseases related to insufficient physical activity, such as cardiovascular diseases, type 2 diabetes, obesity, and depression, is on the rise.

Physical activity refers to any movement that requires energy expenditure. It includes a wide range of activities, from everyday tasks such as walking and cleaning to intensive sports training. Regular physical activity has a positive impact on physical, psychological, and social health.

The aim of this article is to analyze the relevance of physical activity in the modern world, identify the problems associated with its lack, and examine the prospects and trends in the sphere of physical activity.

The Importance of Physical Activity for Health

Physical activity has a multifaceted impact on human health. Numerous studies confirm that regular physical activity contributes to the improvement of various health indicators, including:

- Cardiovascular system: Regular physical exercise strengthens the heart and blood vessels, reducing the risk of hypertension, stroke, and other cardiovascular diseases.
- Mental health: Physical activity promotes the production of endorphins, "feel-good" hormones that improve mood and help combat depression and anxiety.
- Weight control: Moderate physical activity helps maintain a healthy weight, improves metabolism, and prevents the development of obesity.
- Bone and muscle health: Physical activity strengthens bones and muscles, reducing the risk of osteoporosis and joint diseases in older age.
- Improved sleep: Regular physical exercise contributes to better sleep quality and reduces insomnia.
- Increased life expectancy: Systematic physical activity contributes to a longer life expectancy and reduces the risk of premature mortality.

Problems Associated with Lack of Physical Activity

Despite the obvious benefits of physical activity, modern trends show that the majority of people in developed countries lead sedentary lives. This is due to several factors:

- Urbanization and technological progress: Modern cities offer conveniences that reduce physical activity. People often use cars for transportation, and desk jobs require minimal physical exertion.
- Office work and sedentary lifestyles: Due to computerization and automation, many people spend a significant part of the day sitting, leading to spinal problems, obesity, and cardiovascular diseases.
- Lack of time and motivation: Modern individuals often cite a lack of time for physical exercise and low motivation to engage in sports.

According to the World Health Organization (WHO), approximately 80% of adolescents and over 25% of adults do not engage in sufficient physical activity, leading to a significant increase in diseases associated with physical inactivity.

Trends and Perspectives in Physical Activity

Modern research and trends in physical activity show that, despite existing problems, physical activity is gaining increasing popularity. Several key trends in this field include:

- Fitness movement: Interest in fitness and a healthy lifestyle is growing every year. Popular activities include yoga, Pilates, dance workouts, strength training, and functional training.
- Impact of technology: Smartwatches, fitness trackers, and mobile apps help people monitor their physical activity, set goals, and receive personalized recommendations.
- Group workouts and social networks: Fitness communities and group workouts are becoming increasingly popular, which helps motivate individuals to engage in physical activity. Social networks and online platforms also play an important role in promoting active lifestyles.

- Flexibility and accessibility: Modern workouts are becoming more flexible and accessible. Many people prefer to train at home using online courses or mobile apps, allowing them to exercise at convenient times without leaving their homes.

- Outdoor spaces and active recreation: In recent years, there has been growing interest in active outdoor recreation, such as cycling, running, rock climbing, hiking, and other forms of active leisure.

Recommendations for Improving Physical Activity in Society

To overcome the problems associated with insufficient physical activity, comprehensive measures need to be implemented at various levels:

- Education and awareness: It is important to conduct educational programs aimed at raising awareness about the importance of physical activity for health. This may include courses in schools and universities, as well as public campaigns.

- Creating infrastructure for active recreation: Cities should create conditions for active recreation, including parks, bike lanes, sports fields, and access to open spaces.

- Supporting physical activity in the workplace: Employers can implement programs that encourage employees to engage in physical activity, such as offering gym memberships, organizing sports events, or simply promoting active breaks during work.

- Integration of technology: The use of technology to track physical activity and create motivation for exercise will help people maintain consistency and interest in physical activity.

Conclusion

Physical activity plays a crucial role in maintaining health and well-being. In the context of modern life, where many people face the challenges of physical inactivity and sedentary lifestyles, it is important to actively implement measures aimed at promoting physical activity. Regular exercise not only improves physical health but also contributes to better mental health, increased social activity, and a longer life. In the future, it is expected that interest in healthy living and physical activity will continue to grow, leading to a decrease in the prevalence of chronic diseases and an improvement in the overall quality of life.

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Fostering classroom culture and management: a contemporary perspective on enhancing learning environments

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Abstract. This article explores the concept of classroom culture and its pivotal role in fostering effective teaching and learning. It highlights strategies for promoting mutual respect, inclusivity, and collaboration among students and teachers. The study examines the integration of advanced management models, digital tools, and constructive feedback systems in contemporary classrooms. Using a comparative approach, it evaluates the application of these strategies in both developed and developing nations, offering insights into their potential to improve academic and social outcomes. Recommendations for practical implementation and measurable indicators of success are also provided.

Key words: Classroom culture, classroom management, inclusivity, educational technology, behavioral analytics, collaborative learning, positive reinforcement



Introduction

Sınıf və auditoriya mədəniyyəti tədris prosesində tələbələr və müəllimlər arasında qarşılıqlı hörmət, etik davranış və məhsuldar ünsiyyət prinsiplərinə əsaslanan bir sistemdir. Bu mədəniyyət təkcə akademik biliklərin öyrənilməsi üçün çərçivə və ya qaydalar toplusu deyil, həm də tələbələrin şəxsiyyət kimi inkişaf etməsi, sosial bacarıqlarını artırması və müsbət dəyərlərini formalaşdırması üçün vacib amillərdir. Sınıf və auditoriya mədəniyyətinin əsas məqsədi təhsil mühitində nizam-intizamı təmin etmək, hər bir fərdin fikrini azad və sərbəst ifadə edə bilməsi üçün müvafiq şərait yaratmaq, qarşılıqlı hörmət və əməkdaşlıq mühitini formalaşdırmaq və tədris prosesinin səmərəliyini artırmaqdır.

Bu mədəniyyətin vacib komponentlərindən biri dərsə davamiyyətdir. Tələbələr dərslərə gecikməməli və zəruri tədris vəsaitlərilə hazır gəlməlidirlər. Gecikmək, dərsə hazırlaşmadan gəlmək kimi arzuolunmaz hallar tədris prosesini pozaraq həm müəllimə, həm də digər tələbələrə qarşı hörmətsizlik kimi qəbul edilir. Həmçinin, müəllim və tələbələr bir-birinə hörmətlə yanaşmalı, etik davranış normalarına riayət etməlidirlər. Başqasının fikrini dinləmək, hətta onunla

razılaşmasaq belə, təmkinli olmaq və qeyri-etik ifadələrdən çəkinmək bu mədəniyyətin əsasını təşkil edir.

Dərsə davamiyyət və hazırlıq mədəniyyəti, bir "toxum əkmək və ona qayğı göstərmək" prosesinə bənzəyir. Təsəvvür edin ki, hər dərs bir toxumdur. Əgər bu toxumu vaxtında əkib, ona su verib, günəş işığı ilə təmin etsəniz, o toxum böyüyərək sağlam bir ağaca çevrilər. Amma əgər toxumu əkməkdə geciksəniz, ona lazımi qayğı göstərməsəniz, toxum ya böyüməz, ya da inkişafdan qalaraq məhsul verməz.

Dərsə davamiyyət və hazırlıq mədəniyyəti "qatara vaxtında minmək" kimidir. Təsəvvür edin ki, hər dərs bir qatar reysidir. Siz o qatarın hərəkət cədvəli və qrafikinə əməl etməsəniz, istədiyiniz mənzilə yetişməzsəniz. Hazırlıqlı olmaq isə qatara lazımi resurslarla dolu çanta ilə minmək kimidir, əgər siz hazır deyilsənizsə, qatar sizi aparsa belə, səyahətiniz məhsuldar olmayacaq.

Nəhayət, dərsə davamiyyət və hazırlıq mədəniyyəti "planlı əkinçilik", bir "zəncirin halqası", ya da "səfərə hazırlaşmaq" kimidir. Vaxtında iştirak etməklə və hazırlıqlı olmaqla, həm öz inkişafınız, həm də kollektiv uğur üçün sağlam bir təməl yaradırsınız.

Sınıf və auditoriya mədəniyyətində ünsiyyət qaydaları mühüm yer tutur. Danışan şəxsi diqqətlə dinləmək, onun sözünü kəsməmək və suallar vasitəsilə interaktiv bir mühit yaratmaq bu mədəniyyətin vacib elementlərindəndir. Öz fikirlərini ifadə edərkən isə başqalarına hörmət edərək müzakirələr aparmaq əsas qaydalardandır.

Kommunikasiya insanların bir-biri ilə məlumat, fikir, duyğu və ideyalarını paylaşdığı körpüdür. Bu körpü sayəsində insanlar bir-biri ilə anlaşmaq və əlaqə qurmaq imkanını əldə edir. Obrazlı desək, kommunikasiya "ürəkdən ürəyə gedən yol" kimidir, bu yolla insanlar yalnız düşüncələrini deyil, həm də hisslərini, niyyətlərini və s. paylaşırlar.

Təsəvvür edin ki, hər insan öz dünyasında bir adadır. Fərqli adalar arasında əlaqə yaratmağın yeganə yolu isə bir gəmi ilə "ünsiyyət dənizindən" keçməkdir. O gəmi də kommunikasiya və ya ünsiyyətdir. Əgər həmin gəmi sağlamdırsa, adalar arasında möhkəm əlaqə yaranır, ya da gəmi zədələnsə, adalar bir-birindən uzaqlaşır və təcrid olunur.

Kommunikasiya bir "rəngli şüşədən" baxmaq kimidir. İnsanlar fərqli dillərdə danışsa da, fərqli mədəniyyətlərdən gəlsə də, kommunikasiya bu şüşəni aydınlaşdıran işıq rolunu oynayır. Əlverişli kommunikasiya zamanı şüşə təmiz və şəffaf olur, hər kəs qarşısındakı mənzərəni aydın görə bilir. Əlverişsiz kommunikasiya isə şüşəni bulandırır, hər şey dumanlı və anlaşılmaz olur.

Qısacası, kommunikasiya fərdlər, qruplar və cəmiyyətlər arasında körpü yaradan anlaşmanın əsas vasitəsidir. Bu, təkcə sözlərlə deyil, həm də bədən dili, jestlər, mimika və emosiyalarla baş verən çoxşaxəli prosesdir.

Nizam-intizam sınıf və auditoriya mədəniyyətinin digər bir vacib prinsipidir. Səs-küy yaratmaq, qaydaları pozmaq və ya texnoloji vasitələrdən məqsədsiz istifadə etməklə digər şəxslərin diqqətini yayındırmaq qətiyyəən yolverilməzdir.

Nizam-intizam mədəniyyəti, həyatın xaosdan qaydaya keçidini təmin edən "orkestr dirijoru" kimidir. Təsəvvür edin ki, bir orkestrdə müxtəlif musiqi alətləri var, hər biri fərqli səs çıxarır və fərqli funksiyalara malikdir. Əgər bu alətlər bir-birindən asılı olmayaraq, nizamsız şəkildə çalınsa, səs-küy yaranar. Amma bir dirijorun rəhbərliyi ilə hər bir musiqiçi yerində və öz məqamında ifa edərsə, harmoniya yaranar, mükəmməl simfoniya ərsəyə gələr. Nizam-intizam mədəniyyəti də eynilə belədir, o, fərdlərin və ya qrupların həmahənglə hərəkət etməsini təmin edir.

Başqa bir obrazla desək, nizam-intizam mədəniyyəti bir saatın mexanizmi kimidir. Saatın içində çox sayda dişli çarx var, hər biri fərqli ölçüdədir və fərqli şəkildə hərəkət edir. Ancaq hər çarx öz yerində düzgün işlədikdə, saat zamanın dəqiq ölçüsünü təmin edir. Əgər bir çarx pozularsa və ya nizamsız hərəkət edərsə, bütünlükdə saat işləməz. Nizam-intizam mədəniyyəti də bir cəmiyyətdə, sinifdə və ya komandada bu "düzgün işləyən çarxlar" sistemini təmin edir.

Demək, nizam-intizamı bir bağbanın baxdığı bağa bənzətmək olar. Əgər bağban bitkiləri vaxtında sulasa, əlaq otlarını təmizləsə və hər ağaca qayğı göstərsə, bağ gülüstana çevrilər və

görənlərə estetik gözəllik bəxş edər. Amma əgər bağban diqqətsiz olsa, bağda xaos yaranar, bitkilər quruyar və heç bir gözəllik qalmaz. Nizam-intizam mədəniyyəti də bir bağbanın qayğısı kimi, fərdlərin həyatını, birgə ünsiyyət və fəaliyyət mühitini səliqəli və məhsuldar edir.

Son olaraq, nizam-intizam mədəniyyətini bir yol xəritəsinə bənzətmək olar. Hər kəs bu xəritəyə riayət edərsə, öz məqsədinə təhlükəsiz və vaxtında çatır. Amma bu xəritəni nəzərə almayaraq qaydaları pozarsa, yollar tıxacla, qəzalarla və xaosla dolu olar. Nizam-intizam mədəniyyəti də həyatın "yol xəritəsi" kimi, qaydaları və harmoniyanı qorumaq üçün vardır. Nizam-intizam mədəniyyəti hər şeyin düzgün işləməsini, hər kəsin bir-birinə hörmət etməsini və harmonik bir mühitin yaranmasını təmin edən "əsas sistem"dir.

Məkanın təmiz saxlanması və istifadə olunan resursların zərər görməməsi də sinif mədəniyyətinin bir hissəsidir. Auditoriyanı və ya sinfi səliqəli şəkildə saxlamaq həm özünə, həm də gələcək istifadəçilərə hörmətin göstəricisidir.

Sinif və ya auditoriyanı təmiz saxlamaq və resurslara diqqət yetirmək "öz evinə qayğı göstərmək" kimidir. Təsəvvür edin ki, sinif sizin ikinci evinizdir. Əgər zibil evə atılsa, mebellər səliqəsiz saxlanılsa, ziyan görsə, orada yaşamaq çətin olar. Sinif də eynilə bir ev kimi kollektiv mühitdir və orada hər kəsin rahatlığı üçün təmizlik və qayğı şərtidir.

Sinif resurslarını qorumaq və təmiz saxlamaq "bir kitabı oxuyub səliqəli qaytarmaq" kimidir. Əgər kitabı cırıb geri qaytarsanız, sizdən sonrakı oxucular çətinlik çəkəcəklər. Amma kitaba ehtiyatla yanaşsanız, o kitab sizdən sonra da bir çox insana fayda verəcək. Sinif resursları da belədir, onlardan düzgün istifadə edərək, gələcəkdə digər tələbələrin də eyni faydanı görməsini təmin etmiş olursunuz.

Beləliklə, sinif mədəniyyətində məkanın təmiz saxlanması və resurslara qayğı göstərilməsi, həm hər bir fərdin rahatlığını təmin edir, həm də o mühitin uzunmüddətli funksionallığını və faydasını qoruyur. Bu, yalnız bir tələbənin deyil, bütöv bir kollektivin ortaq məsuliyyətidir.

Komanda işi və əməkdaşlıq da auditoriya mədəniyyətinin əhəmiyyətli bir tərəfidir. Bu, tələbələrin birgə çalışaraq ortaq məqsədlərə nail olma bacarıqlarını inkişaf etdirir. Fikir müxtəlifliyinə dözümlülük də xüsusi əhəmiyyət kəsb edir. Müxtəlif dünya görüşlərinə hörmət etmək, sağlam müzakirələr aparmaq və fərqli fikirlərə açıq olmaq tələbələrin sosial və intellektual inkişafına töhfə verir. Sinif və auditoriya mədəniyyətinin bu qaydalarına riayət edilməsi həm tələbələrin akademik uğurunu artırır, həm də sosial bacarıqlarının inkişafını təmin edir. Belə bir mədəniyyət həm də münafiqələrin qarşısını alır, əməkdaşlıq mühitini möhkəmləndirir və təhsil keyfiyyətini yüksəldir.

Komanda işi və əməkdaşlıq mədəniyyəti, "araba çəkmək üçün bir neçə insanın bir araya gəlməsi" kimidir. Təsəvvür edin ki, ağır bir arabaya yük qoyulub və bu arabanın irəliləməsi üçün bir neçə insan birlikdə güc sərf edir. Əgər hər kəs eyni istiqamətdə çəkərsə, araba asanlıqla irəliləyər. Amma birisi başqa tərəfə çəksə və ya gücünü yetərinə sərf etməsə, araba ya yerindən tərpənməz, ya da məqsədə çatmaq çox çətin olar. Komanda işi də məhz belədir – hər kəs bir məqsəd üçün eyni istiqamətdə çalışdıqda, uğur qaçılmaz olur.

Əməkdaşlıq mədəniyyəti "bir bina inşa etmək" kimidir. Bu binanın tikilməsi üçün memar, inşaatçı, elektrik ustası və bir çox fərqli mütəxəssis birlikdə çalışmalıdır. Əgər hər biri öz işini düzgün və vaxtında görsə, bina möhkəm və gözəl olar. Amma kiminsə işi yarımçıq qalsa, bina tamamlanmaz və ya tez dağılacaq qədər zəif olar. Hər bir üzv komanda işində "binanın daşları"dır, hər bir fərdin düzgün işləməsi ümumi uğur üçün zəruridir.

Demək, komanda işi və əməkdaşlıq mədəniyyəti, bir məqsədə çatmaq üçün fərqli bacarıqların, güclərin və fikirlərin bir araya gəlməsi prosesidir. Bu mədəniyyət olmadan heç bir komanda irəliləyər və ya uğur qazana bilməz. Hər kəs bir-birinə dəstək olduqda, hər kəs öz rolunu məsuliyyətlə yerinə yetirdikdə, komanda həm harmonik, həm də məhsuldar şəkildə fəaliyyət göstərir.

Nəticə olaraq, sinif və auditoriya mədəniyyəti yalnız qaydalar toplusu deyil, eyni zamanda tələbə və müəllimlər arasında qarşılıqlı hörmətə, məsuliyyətə və əməkdaşlığa əsaslanan bir əxlaqi sistemdir. Bu mədəniyyətin qorunması və inkişaf etdirilməsi təhsil mühitinin uğurlu və məhsuldar olması üçün zəruridir. Həm müəllimlər, həm də tələbələr bu mədəniyyətin tərkib hissəsi olmaqla onun davamlılığına töhfə verməlidirlər.

Tələbələri rəy bildirməyə, müəllimləri isə faydalı rəy verməyə həvəsləndirmək, təhsil mühitində qarşılıqlı öyrənmə və inkişaf üçün böyük əhəmiyyət kəsb edir. Bunun üçün tələbələrdə rəy bildirmə mədəniyyətini inkişaf etdirmək, müəllimlərin isə konstruktiv rəy vermək bacarığını təşviq etmək lazımdır. İlk növbədə tələbələrə rəy bildirməyin əhəmiyyəti izah olunmalıdır.

Tələbələrə başa salmaq lazımdır ki, rəy bildirməklə onlar dərslərin prosesinin öz ehtiyaclarına qarşılayacaq şəkildə təkmilləşdirilməsinə töhfə verə bilər, öz fikirlərini ifadə etmək bacarığını inkişaf etdirər və müəllimlərə daha yaxşı bir təhsil mühiti yaratmaqda köməklik göstərirlər. Bu anlayış onların rəy bildirməyə daha həvəslə yanaşmasına səbəb olacaq.

Tələbələrin rəy bildirərkən özlərini sərbəst hiss etmələri vacib amillərdəndir. Bunun üçün açıq və dəstəkləyici bir mühit yaradılmalıdır. Tələbələr verdikləri rəylərə görə tənqid edilməkdən qorxmamalıdır. Əksinə, hər rəy üçün təşəkkür edilməli və onların töhfəsi yüksək qiymətləndirilməlidir. Məsələn, “Bu fikrin bizim üçün çox faydalı olacaq, təşəkkür edirəm” kimi cümlələr tələbələrə özlərini qiymətli hiss etdirə bilər. Bununla yanaşı, anonim rəy bildirmə imkanları yaradılmalıdır. Tələbələrin öz fikirlərini anonim şəkildə ifadə edə bilməsi, onları daha açıq və dürüst olmağa həvəsləndirə bilər. Bu məqsədlə anonim onlayn sorğular, rəy və təkliflər qutusu və ya yazılı rəylər toplamaq kimi üsullardan istifadə etmək olar.

Rəy bildirmə prosesi həm də maraqlı və interaktiv olmalıdır. Məsələn, dərslərin sonunda qısa bir sorğu təşkil etmək, tələbələrin dərslə haqqında düşüncələrini interaktiv platformalar vasitəsilə paylaşmasını təmin etmək və ya sinifdə “fikir divarı” yaradaraq onların kağız üzərində öz fikirlərini yazmasına şərait yaratmaq effektiv üsullardandır. Bundan əlavə, tələbələrə rəy bildirməyin nəticələrini göstərmək vacibdir. Müəllimlər onların rəylərini nəzərə aldıklarını göstərdikdə, tələbələr öz töhfələrinin həqiqətən dəyərləndirildiyini hiss edəcəklər. Məsələn, “Keçən həftədəki təklifiniz əsasında bu mövzunu vizual materiallarla izah etməyə qərar verdim” kimi cümlələr tələbələrin motivasiyasını artırır.

Eyni zamanda müəllimlər də faydalı və konstruktiv rəy bildirmək üçün həvəsləndirilməlidir. Bunun üçün əvvəlcə onlara konstruktiv rəyin əhəmiyyəti izah edilməlidir. Müəllimlərə başa salmaq lazımdır ki, faydalı rəy tələbənin səhvini göstərməklə kifayətlənməməli, ona bu səhvi necə düzəldə biləcəyi ilə bağlı konkret tövsiyələr də təqdim etməlidir. Məsələn, “Tərif-Tövsiyə-Tərif” metodu burada çox effektiv ola bilər: əvvəlcə tələbənin yaxşı etdiyi bir şey qeyd olunur, sonra inkişaf etdirilməsi lazım olan bir məqam vurğulanır və sonda tələbəni həvəsləndirən bir cümlə ilə yekun vurulur. Müəllimlərə rəy bildirmək üçün sadə və effektiv çərçivələr təqdim etmək də onları bu prosesdə daha aktiv edə bilər. Şablonlardan, qiymətləndirmə formalarından və ya onlayn platformalardan istifadə onların işini asanlaşdırır.

Müəllimlərə rəylərinin fərdiləşdirilməsi tövsiyə olunmalıdır. Konkret və səmimi rəy tələbəyə daha böyük təsir göstərir. Məsələn, “Sərbəst işin təqdimatında istifadə etdiyiniz nümunələr çox maraqlı idi, növbəti dəfə ona vizual əlavələr etsən, daha təsirli alınacaq” kimi konkret rəylər tələbələrin həm motivasiyasını artırır, həm də onları inkişaf üçün istiqamətləndirir. Bununla yanaşı, müəllimlərə tənqiddən çox, motivasiyaedici və inkişafyönümlü rəylər bildirməyin vacibliyi vurğulanmalıdır. Faydalı rəy, tələbəni ruhdan salmaq əvəzinə ona inkişaf üçün yol göstərən bir vasitə olmalıdır. Bu yanaşma müəllim-tələbə münasibətlərini daha da möhkəmləndirir.

Sonda həm tələbələrin, həm də müəllimlərin rəylərini qiymətləndirmək və onları bu mövzuda həvəsləndirmək üçün kiçik mükafatlandırma və tanınma mexanizmləri yaradıla bilər. Məsələn, məhsuldar rəy bildirmiş tələbələrə xüsusi təşəkkür etmək və ya müəllimlərin səmərəli rəy vermə fəaliyyətlərini nümunə kimi göstərmək onların motivasiyasını artıracaq. Tələbələri rəy

bildirməyə, müəllimləri isə faydalı rəy verməyə həvəsləndirmək, yalnız fərdlərin deyil, ümumi təhsil mühitinin inkişafına böyük töhfələr verəcək. Belə bir mühitdə tələbələr özlərini dəyərli hiss edər, müəllimlər isə tələbələrin inkişafına daha təsirli şəkildə köməklik göstərə bilirlər.

Sınıf mədəniyyətində inklüziv mühitin təşviqi hər bir fərdin təhsil prosesinə bərabər və fəal şəkildə cəlb edilməsini təmin etmək məqsədini güdür. Inklüziv mühit müxtəlifliklərə hörmətlə yanaşan, hər bir fərdin fərqliliyini dəyər kimi qəbul edən və insanların öyrənmə potensialını maksimum dərəcədə reallaşdırmasına şərait yaradan bir təhsil ekosistemidir. Belə bir mühitin təşviqi yalnız sosial bərabərlik prinsipinə xidmət etmir, həm də icmanın inkişafına, əməkdaşlığa və qarşılıqlı anlaşmaya töhfə verir.

Inklüziv öyrənmə mühiti yaradılmasında əsas prinsip "hər kəsin öz yerinin olması" anlayışdır. Hər bir tələbə mənşəyindən, mədəniyyətindən, fiziki və ya intellektual qabiliyyətlərindən, cinsiyyətindən və ya digər fərqlərindən asılı olmayaraq, özünü təhsil prosesinin ayrılmaz bir hissəsi kimi hiss etməlidir. Belə bir mühit yaratmaq üçün bir neçə əsas yanaşmaya diqqət yetirilməlidir. İlk növbədə, fərdlərin müxtəlifliyini qəbul edən və bu müxtəliflikləri inteqrasiya edən bir sinif və ya təhsil mühiti qurulmalıdır. Müxtəlif tələbə qruplarının ehtiyacları nəzərə alınaraq, həm fiziki, həm də psixoloji baxımdan əlçatan bir mühit təmin edilməlidir. Məsələn, fiziki maneələri aradan qaldırmaq üçün binalarda rampalar, əlçatan sinif materialları və xüsusi yardım texnologiyaları istifadəyə verilməlidir.

Dərs prosesində istifadə olunan tədris metodları da inklüziv mühitin təşviqi üçün xüsusi rol oynayır. Müxtəlif öyrənmə tərzlərinə və fərqli ehtiyaclara uyğun tədris üsulları tətbiq edilməlidir. Bunun üçün müəllimlər fənlərin tədrisində fərqli resurslardan istifadə etməli, tədris prosesini həm vizual, həm də praktiki yanaşmalarla zənginləşdirməlidirlər. Məsələn, eşitmə məhdudluğu olan tələbələr üçün yazılı materialların təmin edilməsi, ya da fiziki imkanları məhdud tələbələr üçün uyğunlaşdırılmış praktiki tapşırıqlar hazırlanması bu istiqamətdə atılan addımlardır. Bu, həm fərdlərin ehtiyaclarını ödəyir, həm də qarşılıqlı anlaşma şəraitində birgə öyrənməni təşviq edir.

Inklüzivliyi təşviq etmək üçün empatiya və hörmət mədəniyyətinin yaradılması da olduqca vacibdir. Müəllimlər, tələbələr və valideynlər bir-birlərinə anlayışla yanaşmalı, fərqli baxış bucaqlarını və təcrübələri qəbul etməlidir. Tələbələrlə müxtəlifliklərin dəyərini izah edən, onların empatiya bacarıqlarını inkişaf etdirən fəaliyyətlər təşkil edilə bilər. Məsələn, qrup layihələrindən istifadə etməklə müxtəlif tələbələr birlikdə çalışa bilərlər, bu isə onların bir-birini daha yaxşı başa düşməsinə imkan yaradır. Sınıfdə müxtəlif mədəniyyətlər və həyat tərzləri ilə bağlı müzakirələr aparmaq, fərqli mövzularda fikir mübadiləsi təşkil etmək və tələbələrin öz təcrübələrini paylaşmağa təşviq edilməsi inklüzivliyə töhfə verən üsullardır.

Inklüziv təhsillə bağlı müəllimlərin öz bilik və bacarıqlarını artırması üçün mütəmadi olaraq təlimlər keçirilməlidir. Onlara, fərqli qruplardan olan tələbələrə necə yanaşmaq, onları necə həvəsləndirmək və tədris prosesini fərdiləşdirmək barədə praktiki biliklər təqdim edilməlidir. Həmçinin, təhsil mühitində inklüzivliyi təşviq etmək üçün xüsusi proqramlar hazırlanmalıdır. Məsələn, siniflərdə tələbələrin təmsilçiliyini artırmaq, müxtəlifliklərin daha çox dəyərləndirildiyi mühitlər yaratmaq üçün təşəbbüslər həyata keçirilməlidir.

Inklüziv mühit yaratmaq həm də icma daxilində əməkdaşlığı və qarşılıqlı dəstəyi artırır. Belə mühitlərdə tələbələr yalnız akademik biliklər öyrənmir, həm də müxtəlif insanlarla işləmək, başqalarına hörmətlə yanaşmaq və kollektiv məsuliyyət hissi qazanmaq bacarıqlarını inkişaf etdirirlər. Bu cür yanaşma gələcəkdə onların daha böyük icmalarda fəaliyyət göstərmələrinə təkan verir.

Nəticə olaraq, icma və öyrənmə üçün inklüziv mühitin təşviqi, hər bir fərdin potensialını reallaşdırmasına imkan yaradan, bərabərlik, hörmət və əməkdaşlıq prinsiplərinə əsaslanan bir yanaşmadır. Bu yanaşma həm təhsil mühitində harmoniya yaradır, həm də cəmiyyətin daha tolerant, anlayışlı və vahid bir sistem halına gəlməsinə kömək edir. Inklüziv mühitin yaradılması yalnız fərdlərin deyil, bütövlükdə cəmiyyətin inkişafına yönəlmiş bir addımdır.

Sınıf və auditoriya mədəniyyəti mövzusunda effektiv sınıf idarəetmə strategiyaları 21-ci əsr təhsil mühitində tələbələrin inkişafını və öyrənmə prosesinin keyfiyyətini artırmaq üçün vacib bir yanaşmadır. Müasir siniflər əvvəlki dövrlərdən əsaslı şəkildə fərqlənir və müəllimlər tək-cə bilik ötürən deyil, həm də lider, mentor və təşkilatçı rolunu oynayır. Bu strategiyalar tələbə-mərkəzli yanaşma, texnologiyanın inteqrasiyası, davranışların idarə edilməsi və əməkdaşlıq kimi müasir yanaşmaların tədris prosesinə tətbiqini nəzərdə tutur. Tələbə-mərkəzli yanaşma bu günün təhsil sistemində əsas rol oynayır. Burada müəllim bələdçi rolunu oynayır və tədris prosesi tələbələrin ehtiyac, maraq və bacarıqlarına uyğun şəkildə təşkil edilir. Differensial tədris metodları tətbiq edilməklə fərqli qabiliyyətlərə malik tələbələrə fərdi yanaşma təmin olunur. Eyni zamanda tələbələrin öz fikirlərini ifadə etməsi və dərs prosesində seçim etmək imkanlarının artırılması onların daha fəal iştirakını təmin edir. Məsələn, layihə əsaslı öyrənmə tələbələrə real problemləri həll etməkdə öz bilik və bacarıqlarını tətbiq etmək imkanını yaradır.

Effektiv strategiyaların ümumi təsiri (qlobal məlumatlar)

Strategiya	Akademik təsir (%)	Sosial təsir (%)
Pozitiv davranışların təşviqi	25%	40%
Differensial tədris	35%	30%
Tələbə-mərkəzli yanaşmalar	30%	50%
Rəqəmsal texnologiyaların istifadəsi	20%	20%
Hörmət və əməkdaşlıq təşviqi	15%	60%

Bu nəticələr göstərir ki, sınıf mədəniyyətinin inkişaf etdirilməsi akademik və sosial nəticələrdə əhəmiyyətli irəliləyişləri təmin edir.

2019-cu ildə ABŞ-da keçirilən genişmiqyaslı bir tədqiqatda, sınıf mədəniyyətinə yönəlmiş strategiyaların akademik nəticələrə təsiri araşdırılmışdır. Aşağıdakı nəticələr əldə olunmuşdur:

- ✚ **Pozitiv davranışların təşviqi:** Bu strategiya tətbiq edilən siniflərdə tələbələrin akademik göstəricilərində **25%-lik artım** qeyd alınmışdır.
- ✚ **Differensial tədris metodlarının tətbiqi:** Fərqli öyrənmə bacarıqlarına uyğun fərdiləşdirilmiş yanaşmalar akademik nailiyyətləri **35% artırmışdır**.
- ✚ **Tələbə-mərkəzli metodların istifadəsi:** Layihə əsaslı öyrənmə kimi strategiyalar tətbiq olunduqda tələbələrin ümumi qiymət ortalamalarında **30%-lik artım** müşahidə edilmişdir.
- ✚ **Rəqəmsal alətlərin istifadəsi:** Tədris prosesində texnologiya istifadə edilən siniflərdə tələbələrin performansını **20% yaxşılaşmışdır**.

2020-ci ildə Finlandiyada aparılan bir araşdırma sınıf mədəniyyətinin sosial bacarıqlara təsirini araşdırmışdır:

- ✚ **Empatiya və ünsiyyət bacarıqları:** Hörmət və əməkdaşlıq təşviq edilən siniflərdə tələbələrin empatiya səviyyəsində **40%-lik artım** qeyd olunmuşdur.
- ✚ **Qrup işlərində effektivlik:** Qrup işlərinin təşviq edildiyi siniflərdə tələbələrin komanda daxilində işləmə bacarığı **50% artmışdır**.
- ✚ **Münaqişələrin idarə olunması:** Konfliktlərin idarə edilməsi üzrə tətbiq edilən metodlarla sınıf daxilindəki münaqişələrin sayı **60% azalmışdır**.
- ✚ **Özünəinamın artması:** Pozitiv rəy sisteminin tətbiqi tələbələrdə özünəinam səviyyəsini **30% artırmışdır**.

Braziliyada 2021-ci ildə keçirilən tədqiqatda inkişaf etdirici modellərin tətbiqindən sonra aşağıdakı nəticələr əldə olunmuşdur:

- ✚ **Davamiyyətin artması:** İnküziv sınıf mədəniyyəti formalaşdırıldıqdan sonra dərslə davamiyyət səviyyəsi **15%-dən 25%-ə qədər artmışdır**.

- 📌 **Təhsil motivasiyası:** Müəllimlərin tələbə davranışlarına müsbət yanaşması motivasiyanı **20%-dən çox** artırmışdır.
- 📌 **Akademik uğurlar:** Layihə əsaslı yanaşma ilə keçirilən dərslərdən sonra tələbələrin yekun qiymətlərində **18%-lik artım** müşahidə edilmişdir.

21-ci əsrin siniflərində texnologiyaların inteqrasiyası çox vacibdir və bu proses yalnız dərsləri maraqlı etmək üçün deyil, həm də tələbələrin rəqəmsal savadlılıq bacarıqlarını inkişaf etdirmək üçün həyata keçirilir. Müasir təlim texnologiyaları dərs prosesini interaktiv və fərdiləşdirilmiş hala gətirir. İnteraktiv lövhələr, təhsil tətbiqləri, planşetlər və rəqəmsal qiymətləndirmə alətləri kimi vasitələrdən istifadə dərs prosesini daha təsirli edir. Müəllimlər həmçinin onlayn platformalar vasitəsilə tələbələrin əməkdaşlığını təşviq edə və dərs materiallarını asanlıqla bölüşə bilirlər. Virtual reallıq və artırılmış reallıq kimi texnologiyalar isə dərslərin daha dərin və yadda qalan olmasını təmin edir. Texnologiyanın bu formada istifadəsi yalnız yenilik kimi deyil, həm də təhsil məqsədlərinə xidmət edən əsas vasitə kimi qəbul edilməlidir.

Müasir siniflərin idarə edilməsində tələbələrin davranışlarının pozitiv şəkildə idarə olunması mühüm əhəmiyyət kəsb edir. Pozitiv idarəetmə tələbələrin motivasiya edilməsi və müsbət davranışlarının gücləndirilməsi üzərində qurulur. Sinifdə aydın qaydalar və gözləntilər əvvəlcədən müəyyən edilməli və bu qaydaların formalaşdırılmasında tələbələrin iştirakı təmin olunmalıdır. Davranışların müsbət gücləndirilməsi üçün tələbələrə mükafatlandırma, təşəkkür və motivasiyaedici üsullar tətbiq edilməlidir. Müəllimlər tələbələrin emosional vəziyyətinə həssas yanaşmalı və onların çətinliklərini başa düşərək dəstək olmalıdırlar. Münaqişələrin effektiv idarə edilməsi isə tələbələr arasında harmoniya yaratmaq üçün vacibdir. Bunun üçün müəllimlər vasitəçilik bacarıqlarını inkişaf etdirməli və münaqişələrin həllində tələbələrin iştirakını təmin etməlidir.

Əməkdaşlıq və qrup işi 21-ci əsr təhsilinin ayrılmaz hissəsidir. Tələbələr birgə çalışaraq problemlərin həllini öyrənir, müxtəlif perspektivləri qəbul edir və komanda işində iştirak etməyi bacarırlar. Müəllimlər qrup işləri təşkil edərkən tələbələrə konkret rollar verməli və onların bir-biri ilə effektiv əməkdaşlıq etməsini təmin etməlidirlər. Müxtəlif qabiliyyətlərə malik tələbələrdən qruplar formalaşdırmaq, bu qrupların fəaliyyətini izləmək tələbələrin sosial və akademik inkişafına şərait yaradır. Eyni zamanda, texnologiyanın tətbiqi ilə tələbələr hətta məsafədən əməkdaşlıq etmək imkanını qazanır və qrup işləri daha çevik şəkildə həyata keçirilir.

Ümumilikdə, effektiv sinif idarəetmə strategiyaları, tələbələrin akademik və şəxsi inkişafını dəstəkləyən, müasir texnologiyaları və pozitiv yanaşmaları birləşdirən, müəllimlərin daha çox rəhbərlik və dəstəkçi rolunda çıxış etdiyi bir modeldir. Bu strategiyalar müasir təhsil mühitində uğurlu öyrənmə və tədris prosesinin əsasını təşkil edir və tələbələrin gələcəkdə global dünyanın aktiv üzvləri kimi formalaşmasına töhfələr verir.

Həmçinin, sinif və ya auditoriyanın idarəedilməsi planı - sinifdə inkişafyönümlü mühit yaratmaq, düzgün davranışları tənzimləmək, dərs prosesinin effektivliyini təmin etmək və ümumi təlim-təربiyə məqsədlərinə çatmaq üçün müəyyən edilmiş bir yanaşmadır. Müasir siniflərdə müəllim və tələbələr arasında hörmət, aydın gözləntilər, pozitiv davranışların aşkar edilməsi fəal şəkildə qurulmalıdır.

Sinfi idarəetmə planının əsas elementlərini belə təsvir etmək olar: Sinif idarəetmə planının ilk elementi siniflərinin təyin edilməsi və rabitə əlaqəsidir. Müəllim dərs ilinin əvvəlində tələbələrlə birlikdə sinif qaydalarını hazırlamalı və bu qaydalar hər bir fərd üçün aydın olmalıdır. Tələbələrin qaydaların hazırlanmasında iştirakı onların əməl edilməsinə kömək edəcək. Bu qaydalar real, aydın və sadə olmalıdır. Məsələn, qaydalarda “bir-birimizə hörmətlə yanaşırıq”, “əl qaldırmadan danışırıq” və ya “tapşırıqları vaxtında yerinə yetiririk” kimi konkret ifadələr yer ala bilər. Bu qaydalar sinifdə görünən yerdə asılmalı və mütəmadi olaraq tələbələrə xatırladılmalıdır. Bununla tələbələr qaydaların yalnız kağız üzərində qalmadığını, əksinə, sinif həyatının əsas bir hissəsi olduğunu anlayırlar. Müəllimlər bu qaydaları müntəzəm olaraq dərs prosesində tətbiq etməli və

tələbələrin bu qaydalara əməl etməsini izləməlidirlər. Eyni zamanda, qaydalar yalnız məhdudlaşdırıcı rol oynamamalıdır; onlar həm də tələbələrə özlərini öyrənmə mühitində sərbəst və təhlükəsiz hiss etmələrinə imkan yaratmalıdır.

Sınıf idarəetmə planının digər vacib elementi isə mükafatlandırma və nəticələrin müəyyən edilməsidir. Pozitiv davranışların təşviqi sinifdə harmonik və motivasiyaedici mühit yaratmaq üçün mühüm rol oynayır. Müəllimlər tələbələrin gözlənilən davranışlara riayət etmələrini mükafatlandırmaq üçün müxtəlif üsullardan istifadə edə bilirlər. Bu mükafatlar şifahi tərif, xüsusi sertifikatlar, “həftənin tələbəsi” seçimi və ya kollektiv şəkildə həyata keçirilən fəaliyyətlər ola bilər. Məsələn, bir həftə ərzində qaydalara riayət edən bütün sinif üçün əlavə bir oyun saatı təşkil edilə bilər. Nəticələrin müəyyən edilməsi də qaydaların təsirini artırır. Əgər tələbə qaydalara əməl etmirsə, bu, dərhal cəza ilə deyil, əksinə, davranışın səbəblərini başa düşərək və onu düzəltməyə yönəlmiş yanaşma ilə həll edilməlidir. Məsələn, qayda pozuntusu zamanı tələbə ilə fərdi söhbət edilərək ona davranışının sinifə necə təsir etdiyi izah edilə bilər.

Sınıf idarəetmə planında məkanın və vaxtın düzgün idarə edilməsi də xüsusi əhəmiyyət daşıyır. Sınıf mühiti tələbələrin öyrənməsini asanlaşdırmalı və diqqətlərini cəlb etməlidir. Vaxtın idarə edilməsi isə dərsin məhsuldarlığı üçün vacibdir. Müəllim dərsin planını tərtib edərkən mövzuya uyğun vaxt bölgüsü aparmalı və dərslər zamanı yaranan vaxt itkilərini minimuma endirməlidir.

Sınıf idarəetmə planı tələbələr arasında əməkdaşlıq mədəniyyətinin təşviqinə də xidmət etməlidir. Tələbələr birgə çalışaraq problemlərin həlli, tapşırıqların icrası və qrup işlərində fəal iştirak etməyi öyrənməlidirlər. Müəllimlər müxtəlif bacarıqlara malik tələbələrdən ibarət qruplar təşkil edərək, onların bir-birindən öyrənməsinə şərait yaratmalıdır. Bu cür qrup işləri, tələbələr arasında həm akademik, həm də sosial bacarıqları inkişaf etdirir və onların birgə fəaliyyətlərdə effektiv iştirakını təşviq edir. Müxtəlif əməkdaşlıq metodlarının tətbiqi tələbələr arasında kollektiv məsuliyyət hissini də gücləndirir.

Nəhayət, sınıf idarəetmə planı dinamik olmalı və davamlı olaraq təkmilləşdirilməlidir. Müəllimlər mütəmadi olaraq əks-əlaqəni nəzərə almalı və idarəetmə planında zəruri dəyişikliklər etməlidirlər. Dərs prosesində qarşılaşdıqları çətinlikləri təhlil edərək, öz idarəetmə metodlarını daha təsirli hala gətirmək üçün yeni yanaşmalar tətbiq etməlidirlər. Eyni zamanda, müəllimlər öz peşəkar inkişaflarını davam etdirməli və müasir tədris metodlarına uyğunlaşmalıdırlar.

Ümumiyyətlə, sınıf idarəetmə planı yalnız qaydalar və prosedurlar toplusu deyil, həm də müəllim və tələbələr arasında qarşılıqlı hörmət və əməkdaşlıq üzərində qurulan bir sistemdir. Bu plan tələbələrin özlərini təhlükəsiz və motivasiya olunmuş hiss etdiyi, müəllimlərin isə tədris məqsədlərinə effektiv şəkildə nail olduğu bir mühit yaratmağa xidmət edir. Belə bir idarəetmə yanaşması həm dərs prosesinin keyfiyyətini artırır, həm də tələbələrin akademik və sosial bacarıqlarının inkişafına mühüm töhfələr verir.

Nəticə olaraq qeyd edə bilərik ki, sınıf mədəniyyətinin təkmilləşdirilməsi məqsədilə ilkin mərhələdə tələbələrin davranış və iştirakına dair keyfiyyət və kəmiyyət göstəriciləri (dərsə davamiyyət səviyyəsi, vaxtında yerinə yetirilən tapşırıqların faizi və tələbələrin fəallıq göstəriciləri) yaradılmalıdır. Məsələn, dərsə davamiyyətin ölçülməsi üçün həftəlik statistikalar hazırlanmalı, tələbələrin dərslərdə iştirakı, vaxtında yerinə yetirilən tapşırıqların faizi və ya sinifdəki ümumi aktivlik səviyyəsi (məsələn, suallar vermək, müzakirələrdə iştirak etmək) kimi göstəricilər nəzərə alınmalıdır. Bu göstəricilər həm müəllimlər, həm də tələbələr üçün şəffaf olmalı, dərs ilinin əvvəlində müəyyənləşdirilməli və mütəmadi olaraq təhlil edilməlidir.

Sinifdə qarşılıqlı hörmət və pozitiv davranışların təşviqi üçün müəllimlər mütəmadi müşahidələr aparmalı və tələbələrin davranışlarını qeydə almalıdır. Məsələn, tələbələrin bir-biri ilə ünsiyyəti, münaqişələrin idarə edilməsi və sınıf qaydalarına əməl etmə səviyyəsi haqqında məlumat toplanaraq davranışları təhlil edilməlidir. Bunun üçün müəllimlər “pozitiv davranışların qeydiyyatı” adlanan bir sistem yarada bilər, burada tələbələrin göstərdiyi müsbət davranışlar

qeydə alınaraq mükafatlandırıla bilər. Bu yanaşma tələbələrdə öz davranışlarına dair məsuliyyət hissini artırır.

Daha geniş perspektivdən yanaşaraq, sinifdə tətbiq edilən strategiyaların effektivliyini qiymətləndirmək üçün həm müəllimlərin, həm də tələbələrin fikirlərini əks etdirən anonim sorğular təşkil edilməlidir. Məsələn, tələbələrdən sinif qaydalarının tətbiqi, dərslər metodlarının effektivliyi və sinifdəki ümumi atmosfer haqqında rəy bildirmələri istənilə bilər. Müəllimlər isə öz növbəsində tətbiq etdikləri yanaşmaların tələbələrin inkişafına təsirini qiymətləndirməli və ehtiyac olduğu təqdirdə dəyişikliklər etməlidirlər.

Sinifdə texnologiyanın istifadəsinin təkmilləşdirilməsi də sinif mədəniyyətinin inkişafında mühüm rol oynayır. Rəqəmsal vasitələrdən istifadənin faydalarını ölçmək üçün statistikalar tərtib edilməli, məsələn, interaktiv lövhələrdən, onlayn platformalardan və qiymətləndirmə vasitələrindən istifadənin tələbələrin nailiyyətlərinə təsiri öyrənilməlidir. Müəyyən bir dövr ərzində texnologiya tətbiq edilməyən və tətbiq edilən dərslər müqayisə olunaraq, nəticələr təhlil edilməli və texnologiyanın təsiri daha dəqiq müəyyənləşdirilməlidir.

Sinif mədəniyyətini inkişaf etdirmək üçün müəllimlərin peşəkar inkişafına yönəlmiş proqramlar da nəzərə alınmalıdır. Müəllimlərin sinif idarəetməsi üzrə təlimlərdə iştirak etməsi onların idarəetmə bacarıqlarını artırmaqla yanaşı, tələbələrə daha uyğun metodlar tətbiq etməsinə şərait yarada bilər. Bu təlimlərin təsirini ölçmək üçün isə müəllimlərin iştirak etdiyi dərslərdə tələbələrin davranışı və akademik göstəriciləri müqayisə edilməlidir.

Deməli, sinif mədəniyyətinin təkmilləşdirilməsi məqsədilə tətbiq edilən hər bir strategiya ölçülə bilən nəticələr əsasında təhlil edilməli və bu nəticələr davamlı olaraq təkmilləşdirilməlidir. Yalnız bu cür tədqiqat yönümlü yanaşma sinifdə səmərəli və harmonik bir təhsil mühiti yaratmaqda davamlı uğuru təmin edə bilər.

Aşağıda müxtəlif ölkələrdə tətbiq olunan texnologiya və yanaşmaların səviyyələrini əks etdirən qarfiq yerləşdiririk.

Müxtəlif ölkələrdə inkişaf etdirici mödellərin istifadə səviyyəsi

Ölkə	Modellərin ümumi istifadəsi (%)	Davranışların analitik idarə edilməsi (%)	Pozitiv davranışların təşviqi (%)	Rəqəmsal sinif texnologiyaları istifadəsi (%)
Hindistan	45%	30%	50%	40%
Braziliya	50%	35%	55%	45%
Nigeriya	30%	25%	40%	20%
İndoneziya	55%	40%	60%	50%
Meksika	60%	45%	65%	55%

Məqalənin aktuallığı. Sinif mədəniyyəti və idarəetmə strategiyaları müasir təhsil sisteminin inkişafında mühüm əhəmiyyət kəsb edir. Məqalə tələbələrin akademik və sosial bacarıqlarını artırmaq üçün müxtəlif inklüziv tədris metodlarının tətbiqini təhlil edir. Bu mövzu global miqyasda dəyişən təhsil tələbləri fonunda yeni həll yolları axtarmaq nöqtəyi-nəzərindən böyük aktuallığa malikdir.

Məqalənin elmi yeniliyi. Məqalədə sinif mədəniyyətinin müxtəlif komponentlərinin elmi təhlili aparılaraq, inkişaf etmiş və etməkdə olan ölkələrdə tətbiq edilən müasir metodlar müqayisəli şəkildə araşdırılıb. Texnologiyanın təhsildə tətbiqi, davranışların analitik idarə edilməsi və pozitiv motivasiya strategiyalarının sinif mühitinə təsiri bu mövzunun elmi yeniliyini ortaya qoyur.

Məqalənin praktik əhəmiyyəti və tətbiqi. Təklif olunan strategiyalar müəllimlərə effektiv sinif idarəetməsi üçün yeni yanaşmalar təqdim edir. Təhsil texnologiyaları, davranış- motivasiya

sistemləri və inklüziv metodların praktik tətbiqi ilə sinifdə həm akademik uğurların, həm də sosial uyğunlaşmanın artırılması mümkündür. Məqalədə qeyd olunan tövsiyələr təhsil müəssisələrində dərhal tətbiq edilə biləcək praktik yollar təqdim edir.

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Mobile Learning For COOL Informatics: COoperative Open Learning in IT

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Abstract: COOL Informatics is a project that wants to foster informatics education in primary and secondary schools by integrating it in different subjects. The term “COOL” references to the following approaches: (1) to the Austrian teaching model COOL – COoperative Open Learning, (2) to CComputer-supported Open Learning as well as (3) to the adjective “cool” in the sense of motivating and useful. Mobile Learning with mobile phones and tablets is one part of COOL Informatics as it covers all three approaches. From our experiences and the results of former discussions with students we can say, that technology-supported learning seems to be more motivating and “cool” than traditional learning methods. This is one reason why we introduced mobile learning in our vocational high school of commerce and tourism. The paper describes the steps of the implementation from workshops for the students over mobile learning in language lessons to app programming in Applied Informatics for cross-curricular learning. Finally it reports on the evaluation of the workshops and the project on app programming.

1 INTRODUCTION

Students are „digital natives“. They grow up with technology and they use it in their everyday life. Lundin et al. (2010) mention that “Mobile IT is becoming one of the most commonly used tools in our everyday live.” So why not use mobile phones and other mobile devices in classrooms? Especially mobile phones play an important role in the students’ life and most of them don’t even turn them off in the classroom. Although this is a nuisance, as some teachers may reply, it could also be a very useful resource and have benefits for learners as well as for teachers (Corbeil & Valdes-Corbeil, 2007; Traxler, 2007).

Especially for language learning, mobile devices offer plenty of possibilities and may be inte-grated in the classroom as well as in informal learning settings. (Chinnery, 2006; Sabitzer & Bischof, 2012)

This paper reports on the introduction of mobile learning as a part of the project “COOL Informatics” in an Austrian vocational school of commerce and tourism with students between 14 and 19 years.

It describes the introductory workshops for students and two approaches to mobile learning: the use of smartphones and tablets in foreign language lessons and the project “App-Programming with the App-Inventor” in Applied Informatics. Finally, the evaluation and outcomes of questionnaires given before and after the workshops are presented as well.

2 MOBILE LEARNING AND COOL INFORMATICS

COOL Informatics can be interpreted in different ways as proposed in (Sabitzer & Pasterk, 2013). All of the three interpretations want to improve the learning process by considering how the brain works in educational context.

- COOL as “cool” describes learning situations in a sense of interesting or fun. One advantage of such situations can be that the neurotransmitter dopamine is released. That happens when for instance people are curious or have fun and dopamine supports learning and memory functions (Wise, 2004). Learning by playing would be an example for this interpretation.
- COOL as COoperative Open Learning (Hölbling, Wittwer & Neuhauser, 2011) means an approach to handle the heterogeneity in classrooms and to promote soft-skills like communication competence or responsibility. It bases on concepts from progressive education and emphasizes on cooperative aspects of learning. They support the longtime memory because the required recalls from memory during the cooperation lead to a restorage and hence better storage (Brand & Markowitsch, 2009).
- COOL as COmputer-supported Open Learning means to support and improve cooperation in education by the usage of technology. The modality or multimedia effect is a further advantage of computer- or technology-supported learning. It means that information is better stored and recalled, if it was double-coded and students perceived it through different media, like e.g. visual and auditory media (Low & Sweller 2005). Mobile learning can be included in all of these three senses as a supporting and motivating device.
- For a lot of students Mobile learning is “cool” because they can use their own devices for learning.
- To improve Cooperative Open Learning mobile devices would be perfect because of the many different tools for communication and collaboration technology provides. Students can call each other, send messages and E-mails or work together on one file at the same time but different locations.
- Mobile learning can today be seen as variation of Computer-supported Open Learning because most smartphones and tablet PCs are very powerful and have similar functionalities like a PC or a notebook. Of course the mobile devices cannot replace PCs but they can be used to support learning by e.g. applying different media from the Internet.

3 IMPLEMENTING MOBILE LEARNING

The introduction of mobile learning in the vocational high school of commerce and tourism in St. Veit was accomplished in three steps and three subjects:

- A mobile learning workshop for students was offered in the voluntary subject “Learning to learn”.
- The use of mobile devices in COOL Spanish and Russian lessons was boosted.
- A creative school project on app programming was accomplished in Applied Informatics. It was funded by a regional program of the Austrian teaching support system IMST: “Teaching Informatics creatively”.

3.1 School and Participants

The Vocational High School of Commerce and Tourism in St. Veit was chosen, because it offers education in subjects that are a good basis for COOL: “Applied information technology” and “Learning to learn”.

The school offers different branches of education, one branch for three years and two branches that lead to the qualification for university entrance (A-levels): Eco-Business (Environmental

Studies) and International Management with three foreign languages (English, French, Italian), some classes with English as working language.

The students (totally about 500) are from 14 to 19 years old and can decide to learn up to six foreign languages. In addition to the obligatory languages they can choose Spanish, Russian and/or Slovenian. Besides that the students get an extensive instruction in economics, "Information and Office Management" as well as Applied Informatics.

Before introducing mobile learning we checked the technical equipment of the students by a preliminary survey (Sabitzer & Bischof, 2012).

About 75 % of the pupils own a smart phone with touchscreen, 40% of them with the operating system Android. The Internet is essential for mobile learning but fewer than 50 % of the students had contracts including more than 1 GB of data transfer and also only 55 % of the smartphones could connect with WI-FI. Before the workshop about 30 % already used it for school, mainly dictionaries.

3.2 The Introductory Workshop

The workshop about "Mobile Learning" was carried out in five groups of the voluntary subject "Lernen lernen" (Learning to learn), with about twelve students (14-16 years) each.

Each workshop lasted 90 minutes and was divided in two parts: The first part gave a short overview of the possibilities of mobile learning and in the second part the students had the possibility to try out the applications they were interested in.

In the overview we presented the following topics:

- General tools and applications, not only for mobile devices;
- Smartphone tools independent from the operating system, and
- Apps (applications) for the operating systems of Android and iOS (iPhone, iPad)

As general tools and applications, Google docs and Dropbox were introduced. These are two webbased file-storing systems for different purposes that allow jointly editing files and sharing them with others. In our school, all students have access to one common Google as well as one Dropbox account. This fosters collaborative learning independent from the classroom. In addition, the saved material can be used for other learning activities, not only on mobile devices.

After this introduction, the following smartphone tools independent from the operating system were presented:

- mp3-player for free audio-files in different languages, internet radio, etc.;
- voice recorder for registering the own learning contents e.g. vocabulary or dialogues;
- memo and sms, for taking notes and sharing them with others;
- video e.g. for presentations of different topics or dialogues for the development of an own language course, and
- websites (dictionaries, language courses like bbc.co.uk/languages etc.).

At the end, we presented some apps especially for the operating systems of Android and iOS (for iPhone) as well as for iPads, like language learning courses or the Leo-dictionary. Furthermore we showed different apps for flashcards, mindmaps and vocabulary trainers, which can certainly be used in all subject matters. The pupils seemed very interested and downloaded some apps immediately after the presentation.

In the second part of the workshop, the students formed small groups and tried out some different apps. All of them worked with their own smartphones and, additionally, each group could use one of the school's iPads.

After the workshop, the second questionnaire was given in order to evaluate the workshop itself and the presented applications. The results (details are described later) reveal that almost all students found the workshop useful and want to get a followup as soon as possible.

3.3 Mobile Language Learning

Besides the general workshop, the Spanish and Russian students had the possibility to put in practice what they had learned and to try out some new apps. Both languages are voluntary subjects of each two lessons per week and are held by the same teacher (one of the authors). These lessons have a special structure because of different reasons.

The first one is: they are bilingual. Spanish and Russian students (some of them learn both languages) study in the same classroom and the teacher permanently switches between the two languages. These groups are heterogeneous because the lessons are open for all students of the school. So language beginners learn together with advanced students, and, in both languages, all levels of the European Language Framework from A1 up to B2/C1 are represented.

These conditions cannot be managed by traditional teaching methods. The lessons require mainly self-organized learning with free work phases on a rotating basis. While Spanish learning students work on their own, supported on the one hand by advanced students and on the other hand by computers or mobile devices, the teacher can work with the Russian learning students and vice versa.

Another difficulty is the very dense timetable of the students. Sometimes they cannot attend the Spanish/Russian lessons because of other parallel events or courses at school (or because they have too many other things to learn), so it is necessary to integrate open and distance learning in both subjects. The use of the school's iPads and the pupils' own mobile phones allowed to implement some new and motivating learning tools that were presented in the workshop described above.

The Spanish/Russian lessons after the workshop were labor-intensive, but also fun. The students were highly motivated to try and use all the new applications they got to know in the workshop.

They worked in small groups, divided according to language and language level and started with free courses on the iPad. They tried the following three courses, available for Spanish as well as for Russian:

- 50languages, a free app for different mobile devices and operating systems, based on the corresponding online-courses with audio (Book2).
- Busuu, a language learning community for different languages, that offers some free lessons for each language level from A1 up to B2 as well as a tourist course (Busuu).
- Babbel, a multimedia language course, available online or via an app, that allows also to record the students' voice and to evaluate their pronunciation. (Babbel)

Based on these courses and using different multilingual dictionaries and verb conjugators on their own smartphones they wrote vocabulary lists and created mind-maps for some topics like animals, food, or time expressions. For the mind-maps they used the free apps Thinking Space (Android smartphones) and Simple Mind+ (iPad).

The vocabulary lists were typed in a Google table for two reasons: First, the school has one Google account where all pupils have the permission to save documents for learning. So they can work together on the same documents, independent from the classroom, and share their own work with others who are interested in.

The second reason is that these Google tables are the basis for two free learning apps for Android smartphones: Flashcards and a vocabulary trainer. Both apps work in the same way: the student selects one of the tables saved in Google (they are all listed in the app) and loads it on the phone. Once downloaded, the apps also work off-line without connection to the web.

Besides the different learning apps, the pupils enjoyed also the work with iPad videos. Some volunteers among the language beginners presented themselves in videos as a part of a digital curriculum vitae.

Observing the students' behavior and activities in these lessons, it seems that mobile learning is worth to be fostered because it increases motivation and offers a lot of possibilities. If it can enhance the learning outcomes, too, will be the question of a further study.

3.4 App-Programming in Informatics

The last step of implementing mobile devices in our school was the project "App-Programming with the App-Inventor" (Stadtman, 2013), carried out in a class of the 11th grade. The students had to create their own Smartphone Apps, which were tested and evaluated by younger pupils from a lower secondary partner-school. As none of the students had any programming knowledge the teachers decided to apply the App-Inventor from the MIT (Massachusetts Institute of Technology) (App-Inventor, 2013). With this software Apps for Android-devices can be created easily and without programming experiences. The code can be built out of predefined parts including some concepts of programming. So the students could get a first view of these concepts and, as preparation, learned how to format pictures so that they could be used in their Apps.

Like for every new tool and also for the App-Inventor an introduction for the students was necessary. This was accomplished by a short teacher presentation as well as some exercises and adequate solutions. After this short introduction phase the main part of the project started during which the students had to fulfill following steps:

- designing an own App,
- planning the working process,
- collecting or creating materials and
- using the App-Inventor to realize the Apps.

For both the students and the teachers it was a challenging situation because of missing previous knowledge. The students had to work a lot on their own and teachers tried to help and to overcome difficulties. At the end of the project each group had a running smartphone App and all of them were presented and evaluated in the "evaluation class". For the younger pupils it was very exciting to test the Apps and they were fascinated that the older students could produce such Apps on their own. The vocational school students got a very positive feedback, which proved that it was worth the effort and they could be proud of their own self-made products. During this project they went through a shortened software engineering process resulting in a mobile Application they could use on their own smartphones (Stadtman, 2013).

4 EVALUATION

4.1 Introductory Workshop

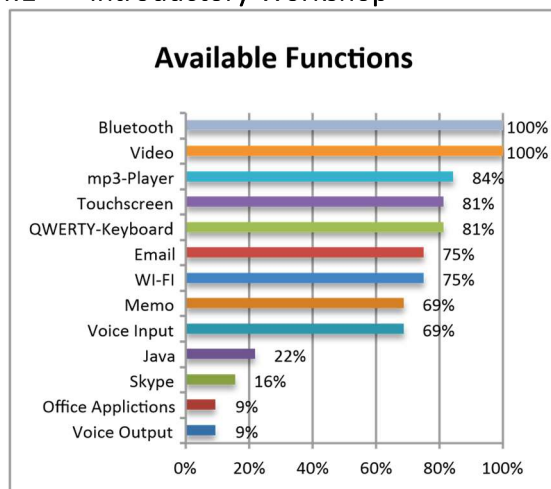


Figure 1: Functions available on mobile phones (n=32)

The described workshop was evaluated by a questionnaire given to the participating students. 32 students completed the questionnaire.

Before the workshop most of the pupils rarely used the smartphones for learning and a third never used it. Another third of them sometimes used their mobile phones for school. Generally, the phones are well featured as shown in Figure 1. All students' smartphones provide Bluetooth and Video and most of them use the mobile phone as mp3-Players (84%). As also voice input is mostly available (69%), the students' devices can perfectly support language lessons in the training of listening comprehension and speaking by following podcasts or creating own videos. E-Mail and Wireless LAN are available on 75% of the students' smartphones, which allows free online learning and/or search in the classroom by using the school WI-FI. The results show, that the implementation of mobile learning in different subjects is easily possible because of the students' equipment. Perhaps the school should provide some further mobile devices for students who don't have their own mobile phone or one providing only few functions.

After the workshop, the students were asked to evaluate how useful the different applications are for learning. They should give marks from very good (1) to insufficient (5).

A relatively clear decision of the students can be seen for the use of dictionaries, mind mapping, Office-Programs on the smartphone, Google docs, memos and notes, vocabulary trainer for Google docs, verbs conjugator and learning with own mp3files. These applications were voted with very good or good by 50% or more students. The other applications are mostly assessed to be satisfactory. Table 1 shows the applications ranked by the rate of satisfaction (evaluated as very good or good).

Table 1: Ranked applications (n=31) and percentage of very good and good evaluation.

Application	%
Verb conjugator	74%
Memo and notes	74%
Dictionary	71%
Google Docs	61%
Mindmapping	58%
Learning with mp3 (own records)	55%
Vocabularytrainer for Google Docs	55%
Learning with SMS	55%
Office Software	52%
Flashcards for Google Docs	48%
Create flashcards for languages	48%
Create flashcards for other subjects	48%
Learning with provided mp3	45%
Encyclopedia, atlas, reference books etc.	45%
Formulary	42%
Dropbox	23%

Another important question was, which applications the students already used before participating in the workshop. Some students used the smartphone-applications for learning already before the workshop. About 50% used memos and notes on the smartphone, but nobody used Office applications or Flashcards. The other functions were already used at least by a few of the students. Summarizing the results of the questionnaire as well as the informal feedback and

the teachers' observation in the classroom it can be said that, among students, the acceptance of mobile learning and the level of contentment are high. Almost all students found the workshop useful and asked for a follow-up as soon as possible.

4.2 App-Programming

The evaluation of the project "App programming with the App Inventor" is still running, hence, at the moment only the feedback of the "programmers" - the students of the vocational school (eight girls) – is available. The most frequently mentioned answers to the three given questions are presented here (translated or summarized by the author):

1.) What did you like most in app programming?

- I liked to try out all the Apps.
- It was great that we could be creative and it was fun to fiddle about with the App Inventor. Further it was interesting to take a look at other Apps and to compare them with our own. It was interesting to see how much work it was to create our small Apps.
- I liked to choose the pictures and sentences by myself, so I could be very creative.
- The work with the App Inventor was difficult but I liked it very much to plan and create Apps self-reliantly.

2.) What didn't you like in app programming?

The students didn't like

- that some errors, e.g. closing an App, could not be fixed.
- that it took much time to adapt the apps and
- it was exhausting and a bit annoying to type in all correct as well as all wrong solutions.
- to put together all the needed parts in the App Inventor.

3.) Did you have problems in programming?

- It was not possible to close the Apps.
- It was easy to generate the Apps but it was complicated to put together all the steps in the Block-Editor because we had to fade out all the English answer-possibilities.
- The buttons did not look like I wanted because they were on the wrong place. I was not able to make pictures appear and disappear at the right time. It was not possible to create a break button and nobody could help me with this problem. Nothing worked as it should.
- It was difficult to program the buttons with the correct form and functioning.
- Our teacher could help me with every difficulty and all problems could be solved.

Further results- the evaluation of the apps by the students of the lower secondary school, interviews and teacher observations – will be presented in a further paper.

5 CONCLUSION AND OUTLOOK

Mobile learning is "cool" in the sense of motivating and fun. This is the core statement of the students' feedback in the questionnaires as well as in informal interviews. The results show, that the implementation of mobile learning in different subjects is easily possible because the students' smartphones are well featured. Perhaps the school should provide some more mobile devices for students who don't have their own phones or one providing only few functions. But generally the students like cooperating (COOL as COoperative Open Learning) and working in pairs, which is very reasonable in language lessons, where communication is essential, as well as in Informatics, where this cooperation can be compared to pair-programming, an effective software engineering method.

The evaluation of the workshop shows that in spite of the well-equipped students, only few know how to use the applications or which applications can help them to learn. The students should be trained to use their phones in a useful way because mobile learning brings dangers with it, too, like viruses, radiation, or distraction (Dabon, Martin & Starner, 2004). As long as mobile

learning is applied only rarely, the positive effect of increased motivation may prevail the risks. But what happens when it is applied in every lesson? Perhaps the novelty effect would disappear and the motivation would decrease. This has to be verified in a further study.

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ESL and EFL Methods for learning or teaching English language

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Summary: The history of language teaching has seen various methods, with ESL (English as a Second Language) and EFL (English as a Foreign Language) being prominent approaches. ESL is for students learning English in English-speaking countries, while EFL is for those in non-English-speaking regions with limited exposure outside the classroom.

Key teaching methods include:

1. **Communicative Language Teaching (CLT):** Focuses on real-life communication, encouraging students to make requests, explain, and express emotions.
2. **Audio-Lingual Method (ALM):** Uses dialogue-based learning to enhance motivation and participation.

In the history of teaching languages, there are many teaching approaches and techniques, with some being more well-known and successful than others.

There are a lot of methods, but the most recognized and commonly used approaches and methods for teaching are ESL /EFL methods.

The difference between these two methods are:

- ESL stands for English as a Second Language. This term serves as a traditional label for students who study the universal language in English-speaking countries such as the USA, Australia, and the UK.
- EFL stands for English as a Foreign Language. EFL students are located in non-English speaking countries. Mostly, they learn English because it's a part of the school curriculum or mainly because it's the language of trade worldwide. The EFL students' exposure to the English language is limited compared to ESL students since most of the time; they are only required to use the language inside their classrooms.

Each method has an articulated theoretical orientation and a collection of strategies and learning activities designed to reach the specified goals and achieve the learning outcomes of the teaching and learning processes.

These are a few of the top ESL/EFL teaching methods used in the classroom today, including communicative language teaching (CLT) and Audio-Lingual Method (ALM).

Both of them are very effective in my class. CLT emphasizes the students' ability to communicate in real-life contexts, and students learn to make requests, accept offers, explain things, and express their feelings and preferences. By asking questions, solving problems, teach new material presented in dialogue is helping students to increase their motivation and participation in tasks and projects (ALM).

I can't say that I prefer one method to another. **Each method has certain benefits and should be applied in some situations.** It all depends on students. How they struggle with studying. After a few lessons I typically know which method works with them, and which does not. A great way to combine or develop teaching methods is to frequently reflect on your teaching style by using a journal where you write down comments, note adjustments, and brainstorm how you can change certain methods or procedures if necessary. Using a variety of methods in the ESL classroom makes you a more effective and engaging teacher.

The modern language teacher doesn't follow one rigid method, but applies the Principled Eclecticism approach – fitting the method to the learner, not vice versa. This means choosing the techniques and activities that are appropriate for each particular task, context and learner, with a focus on motivation and helping learners become independent and inspired to learn more.

Teachers use:

- Group work model
- Constructive method
- Game based learning

These three methods are really effective for students. Group working always gives them opportunity to be involved in tasks. Each student takes turns being active learners, which allows them to share their own experiences and knowledge with the rest of the class. In Constructive method students are given the freedom to explore new material on their own, which helps them better understand it. They are doing the presentations on interesting materials like “Phobias and Irrational fears”, “The most wonderful places in the world”, “Water and air pollution” and etc. This makes for a much more interesting talk, and the creation of such aids can help them to develop confidence.

The third method (Game based learning) is fun to do with A1 students and it is based on vocabulary. Teacher is writing the longest word on a board (Pneumonoultramicroscopicsilicovolcanoconiosis) and students have to write as many words as they can, with using this letters. Or playing a game “Hangman”. Teachers think of a word and draw blanks according to the number of letters. The students will think of some letters, and for every wrong letter, teacher will draw a portion of the hangman. This implements game-like elements into non-gaming activities to enhance motivation.

But the teaching life was a little bit different when we were online. We needed to create digital resources for students. It was the first time when most of us were using online platform and it was not easy. Of course, technology can be a barrier to education too, but as the years go by, this barrier is, fortunately, breaking down.

I use some well-known strategies or activities for effective online teaching:

- Involve students in collaborative activities (use Google docs, Break out rooms, Google Jam board, Edmodo, etc.)
- Use varieties of resources like; Voice of America (VOA), American English Website, etc.
- Use fun games or activities like; Quizzes, PowerPoint Games, Online Round Table, Scavenger Hunt game, etc.
- Interact with students differently to engage them
- Listen interesting stories in English (History of England, Myths and Legends)

So, I think, that with the right teaching methods, educators can create an enjoyable and productive classroom experience for students where they can learn important academic and social skills to last a lifetime. There are many frameworks that a we teachers could use to support students with different interests, abilities and learning styles.

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DIFFERENTIATED LEARNING AND COLLABORATIVE LEARNING AMONG OTHER MODERN PEDAGOGICAL TECHNOLOGIES

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Abstract

This article examines the application of pedagogical technologies, focusing on differentiated learning and collaborative learning methods. In contemporary educational settings, these technologies play a crucial role in fostering holistic development by addressing the diverse needs of students. Pedagogical technologies encompass a combination of techniques, methods, and forms that are essential for promoting personalized learning experiences. The article highlights the properties and criteria of pedagogical technology, including mobility, manageability, efficiency, and the ability to foster student independence. It also delves into various types of learning technologies such as developmental, problem-based, multi-level, and project-based learning, as well as game-based and research-driven approaches. The specific focus is on differentiated learning, which tailors educational content and methods to individual students' abilities, promoting their creative potential and supporting the varied paces of learning. Collaborative learning, including team-based activities and expert meetings, is also explored for its effectiveness in enhancing cooperative interactions among students with different proficiency levels. Through these technologies, the learning process becomes more adaptive and responsive, allowing all students to maximize their potential while fostering collaboration and critical thinking. The paper provides insights into how these methods can be implemented in Russian language lessons and how they contribute to achieving educational goals.

Keywords: Pedagogical technologies, differentiated learning, collaborative learning, educational methods, individualized learning, cognitive development, student-centered learning, problem-based learning, project-based learning, game-based learning, team-based activities, expert meetings, educational strategies, Russian language lessons.

Appealing to Pedagogical Technologies

Turning to pedagogical technologies as a combination of techniques, forms, methods of teaching, and education is highly significant for modern schools. This approach not only assumes targeted and problem-based design of the educational process but also fosters the holistic and creative development of a student's personality. At the core of any technology lies a unified conceptual foundation and a focus on practical implementation of scientific ideas, principles, and theories. Therefore, pedagogical technology occupies an intermediate position between science and practice.

The main properties of pedagogical technology and its key criteria include:

- Conscious activities of teachers and students,
- Mobility,
- Health orientation,
- Integrity,
- Openness,
- Independence of students' activities (60–90%),
- Conceptual basis,
- Systematic nature,
- Manageability,
- Efficiency,
- Reproducibility.

The structure of pedagogical technology comprises an idea (conceptual foundation), the content component of teaching, and the technological process itself. Thus, it can be defined as a set of goals, objectives, content of teaching, its methods, and forms.

The classification of pedagogical technologies is extensive. Alongside traditional teaching, there are technologies based on a personality-oriented pedagogical process (e.g., pedagogy of collaboration), technologies focused on the activation and intensification of students' activities (game-based technologies, problem-based learning); the nature of educational content; the category of learners (advanced level, compensatory education); the duration of application; the organization of educational activities (class-lesson systems, group-based, and differentiated methods); the approach to children (authoritarian, personality-oriented, or collaborative technology); and scientific concepts of knowledge acquisition (e.g., V.F. Shatalov's signal-based learning).

Some technologies are connected with the management and organization of the educational process (differentiated learning); with didactic improvement and restructuring of material; with the system of developmental education (L.V. Zankov's theory); and, finally, subject-specific pedagogical technologies (e.g., N.A. Zaitsev's early and intensive literacy teaching or E.V. Andreeva and I.N. Fomina's methodology for leveling and developmental teaching in informatics).

Thus, the following innovative technologies can be identified:

- Developmental learning,
- Problem-based learning,
- Multi-level learning,
- Collaborative learning systems,
- Technology for solving research tasks,
- Use of research methods in teaching,
- Project-based methods,
- Debates technology,
- Modular and block-modular learning technologies,
- Lecture-seminar-assessment systems,
- Technology for developing "critical thinking,"

- Technologies involving game-based methods in teaching: role-playing, business, and other educational games,
- Collaborative learning (team or group work),
- Information and communication technologies,
- Innovative assessment systems like "portfolios,"
- Distance learning technologies.

This work explores in detail differentiated learning technologies, collaborative learning, and their potential applications in Russian language lessons.

DIFFERENTIATED LEARNING

According to one of the existing definitions, pedagogical technology is a thoroughly designed model of modern pedagogical activity aimed at planning, organizing, and conducting the educational process while ensuring comfortable conditions for both the student and the teacher. From this perspective, a differentiated approach to students is very important because it involves the optimal adaptation of educational material and teaching methods to the individual abilities of each student. It becomes one of the main conditions for the development of a creative personality.

Differentiated learning is necessary because there are differences among students in the pace of mastering educational material and in their ability to independently apply the acquired knowledge and skills. The basis of differentiation lies in the individual psychological characteristics of students, implying varying abilities and varying levels of success in performing specific tasks. When using this technology in the classroom, the teacher has the opportunity to set different tasks for both strong and weak students, helping strong students acquire knowledge more quickly and successfully, while assisting weaker students in solving fundamental academic problems. However, there is also a downside: weaker students lose the opportunity to keep up with stronger ones; the element of competition disappears, and self-esteem may decline.

So, what is differentiation? It is division or distinction. What is divided in the learning process? Groups of students are distinguished, and their education is structured differently.

In the traditional class-lesson system, without differentiation, the learning process is organized identically for all students, and its effectiveness varies among them. Students have different abilities and learn at different rates: some can quickly grasp new material, while others need more time and repetitions to consolidate it. Some students prefer auditory perception of new information, while others benefit more from visual perception. Teaching such a diverse group with a uniform approach cannot yield equally good results.

Differentiation in education allows the organization of the learning process based on individual characteristics, ensuring that all students assimilate the educational content. This content can vary for different students but includes a mandatory invariant part supplemented with material fragments specifically prepared for each group. In this way, each group of students, with similar individual characteristics, follows its own path.

The goals of differentiated learning are as follows:

- **Psychological and pedagogical goal:** Individualization of learning.
- **Social goal:** Purposeful impact on the formation of creative, intellectual, and professional potential.
- **Didactic goal:** Solving certain school problems by creating a new methodological system based on a fundamentally different motivational foundation.

This approach provides opportunities for adapting less successful students. The overall goal is to create conditions for every student to maximize their abilities, talents, cognitive needs, and interests in the learning process.

In understanding differentiation, three main aspects can be highlighted:

1. Considering individual characteristics of students.

2. Grouping students based on these characteristics.
3. Variability of the learning process within groups.

The specific manifestations of differentiation are called forms of differentiated learning, which can be grouped into types and implemented at various levels.

Traditionally, the following types of differentiated learning are distinguished: based on general and specific abilities, interests, inclinations, or projected professions. Placing the student at the center of the educational process has increased the role of psychophysiological characteristics in differentiation, leading to the identification of groups based on strong or weak nervous systems, dominant memory types, levels of attention development, and so on.

The foundations for differentiation, which form the basis of the types of differentiated learning, can be divided into personal and social factors. For example, personal factors are fundamental in differentiation based on general or specific abilities, individual psychophysiological characteristics, and students' interests. Social factors come to the forefront in differentiation based on socioeconomic status, national origin, or religious affiliation.

Differentiation can be implemented at various levels:

- Within the class.
- Within the school, between different classes, profiles, or streams.
- Between schools (creation of different types of schools).

Among the various types of differentiation, we are primarily interested in **intra-class differentiation of students**.

The most common form of intra-class differentiation involves students completing tasks of varying levels of complexity. This complexity may be increased by integrating previously covered material, requiring students to establish connections between different fragments of content. Tasks may also be made more complex by enhancing the type of work required or increasing the level of creativity needed to complete the task.

Teachers can use various methods to include differentiated tasks in the learning process:

1. Assigning specific tasks to each student.
2. Allowing students to choose tasks themselves (students must be trained to make such choices).

Another form of intra-class differentiation is adjusting the level of teacher assistance provided to students, which may include temporary simplification of tasks (e.g., fragmenting text), tasks with written instructions (such as step-by-step guidelines), preparatory exercises (where each exercise represents a step in completing the main task), and working with visual aids like diagrams or drawings.

A form of intra-class differentiation based on students' general abilities is **level differentiation**, where the minimum knowledge that a student must acquire to progress further is clearly defined. Additionally, the content required to be mastered at higher levels is also determined. The only condition is that this level must not fall below the mandatory preparation standard. The teacher explains the material at a level higher than the minimum, while clearly highlighting the content students must learn at each respective level. Before starting a new topic, students are informed of the expected outcomes. If one student wishes to study a particular subject at the level of mandatory requirements and another at an advanced level, they should have the opportunity to do so. Thus, level differentiation takes into account not only the intellectual abilities of the student but also their interests.

Another form of internal differentiation is **group work** based on the model of complete knowledge acquisition. This approach involves the clear definition of educational goals: what students should know and be able to do, and which values should be cultivated during the learning process. There must be a mandatory system for assessing the results achieved.

After studying a specific topic at the level of basic material content and passing a test to determine whether the set goals have been achieved, the class is divided into two groups:

1. The first group consists of students who have mastered the topic. With this group, extended and in-depth study of the material is organized.

2. The second group comprises students who have not fully mastered the topic. Additional work is carried out with them to reinforce the material.

In the first group, activities can include solving more complex problems, performing non-standard and creative tasks, discussing scientific issues, and exploring additional literature. In the second group, knowledge and skills that were insufficiently mastered are reinforced. Students from the first group can also be involved in this process as consultants or teacher assistants.

The following stages of organizing differentiated learning can be distinguished:

1. **Selecting the criterion for dividing students into groups;**
2. **Conducting diagnostics** based on the chosen criterion;
3. **Assigning students to groups;**
4. **Choosing differentiation methods** and developing multi-level assignments for the created groups;
5. **Implementing the differentiated approach** at various stages of the lesson;
6. **Diagnostic monitoring of students' results**, based on which group composition and the nature of differentiated tasks may be adjusted.

Typical Characteristics of Groups and Corresponding Tasks:

Option 1: Consistently high academic performance, strong memory, activity, analytical and generalization skills. No quick fatigue.

Task: Maintain these abilities.

Option 2: Average student capabilities, lack of motivation and activity, absence of independence in work.

Task: Develop activity, increase motivation, and bring them closer to the first group.

Option 3: Low academic performance; teacher assistance is needed at every step.

Task: Create a situation of success.

Technological Scheme:

1. Setting the lesson objectives;
2. Reviewing previous material;
3. Explaining new material;
4. Reinforcing knowledge;
5. Diagnosing work by groups;
6. Diagnosing material comprehension;
7. Assigning homework (all stages are group-specific).

«Cooperative Learning» Technology

The main idea of cooperative learning is interaction and the opportunity to learn not separately, but together, with strong and weak students working side by side.

There are variations of this technology, one of which—**team learning**—was developed at Johns Hopkins University in 1990.

Organizing cooperative learning in small groups involves groups of four students with varying levels of proficiency. The teacher explains new material and then encourages students in their groups to review and consolidate it, ensuring everyone understands the details. This method helps each student establish an individual action framework. Groups are given specific tasks to complete. Tasks can either be divided among the group members (with each student working on a portion) or tackled in a "carousel" approach (where each subsequent task is completed by the next student; starting may be assigned to either the strongest or the weakest student).

When completing tasks, each student explains their work out loud, and the group oversees and ensures understanding. Once all groups have completed the task, the teacher organizes either a general discussion of how each group handled the same task or a presentation of each group's unique tasks.

When the teacher is confident that all students have grasped the material, a control test is administered. The test tasks are completed individually, not in groups, and the teacher differentiates task difficulty for stronger and weaker students. Individual test scores are aggregated within the group, and a collective grade is announced. This way, the competition is not between strong and weak students but within each individual striving to improve upon their prior results. Both strong and weak students can contribute equally to the group's score. This method proves highly effective in helping every student master new material.

A variation of this group activity organization is **team-based game learning**. Here, the teacher explains the new material, organizes group work, and, instead of individual testing, conducts competitive tournaments between teams. For this, «tournament tables» are set up, with three students of comparable skill levels at each table. Tasks are differentiated by difficulty. The winner of each table earns an equal number of points for their team, regardless of the table's "level." This ensures that weaker students, competing against those of similar ability, have equal chances to contribute to their team's success. The team with the highest total score is declared the tournament winner and is appropriately rewarded.

«Jigsaw» Method in Cooperative Learning

Another approach to organizing cooperative learning was developed by Professor Aronson in 1978 and called «**Jigsaw**». Students are divided into groups of six, and the study material is broken into segments. Each group member focuses on one part of the material. Students studying the same question, but from different groups, meet to exchange information and act as experts on that topic—this is called an «**expert meeting**». They then return to their original groups and teach the other members everything they have learned. In turn, the others share their respective parts of the assignment (like the teeth of a jigsaw). The only way to master the entire material is to listen carefully to team members and take notes.

All students are motivated to complete their tasks diligently, as this can affect their final grades. Everyone in the group and the group as a whole is evaluated on the full topic. At the final stage, the teacher may ask any group member to answer any question about the topic.

In 1986, R. Slavin developed a modification of this method, called «**Jigsaw-2**». This method involved students working in smaller groups of 4–5 people. Instead of assigning each group member a separate part of the task, the entire team works on the same material. However, each member focuses on a specific topic, which they study more deeply and become an expert in. Expert meetings are conducted with representatives from other groups. At the end of the cycle, all students take an individual test, which is graded. Results are aggregated, and the team with the highest combined score receives recognition or a reward.

Another variant of this technology is the «**Learning Together**» method, where groups of 3–5 students work on their assigned topics and then present their findings to the entire class.

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Sociological Sciences

Femina Academica, Female Professionals in Sociology

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Abstract

Femina Academica as a concept, a research project idea, and book investigation theme is defined in 2016 (Spano), inside the Higher Educational Female Leadership position, precisely focused on towards female leadership inside Higher University positions. Femina Sociologica, Femina Ecologica, and Femina Xenologica along with Femina Academica, constitute educative tetralogy, dedicated to investigational research practices of Feminine identity in the Contemporary. Spano explains the importance of Female leadership through the notion of basis in legal documents. "The UNESCO (1998) Declaration on Higher Education" includes a statement that Higher Education (HE) 'should promote solidarity and equity', and it also includes equality of access. Femina Academica, and Empowering of Women, in Higher Institutional Education, is complex, historically remarkable, and especially developed inside the contemporary professional female Sociology and, in American Sociology due to, because of distinguished the Sociologists for Women in Society organisation, while found as in Europe there are still in Europe we find less dominant female professional positions , and perplexities of selections of Females in Academia.

Key terms: Femina Academica, Black Feminist Sociology, Female Centred Sociology

Academic Conviviality, Feminist Eco criticism

Introduction As a sub-discipline of Sociology, Professional Female Sociologists are a very significant theme inside the sub discipline of Sociology, that is extraordinarily multidisciplinary, based on a plural perspective , and important for to professional organisations as well. Theme Sister founders in Sociology is, a concept defined by Mary Jo Deegan, professor Emerita from Nebraska Lincoln University (y, USA). This concept , that is connected with to the demarcation, and reconstruction of female establishment in Sociology. Museum of famous today, Sister founders in Sociology, involve include Ida Wells Barnett's Museum, Jane Addams's Museum , and Caroline Bartlett Crane's Museum. Well known for Very famous for black feminism, and Sociology of Empowerment, and Black Female Emancipation, W.E.B. Dubois, inside incorporated into his very celebrated Museum exhibits include the multimedia representations inherited inside the freedom of Speech, Vote, and debates around the discrimination of Black Females.

"Du Bois's limited views of black women inhibit his ability to imagine African American women as race leaders.)Du Bois's descriptions of black women unintentionally re-inscribed patriarchal ideals as he sought racial equality. To Du Bois, black women held moral power over men and thrived in the domestic sphere" (24).

"The Damnation of Women," similarly to this letter, DuBois finds that black women's damnation lies in their inability to be deemed respectable, delicate, and worthy of the same admiration as white women. Yet unlike his 1920 essay, the letter demonstrates that as of 1906, Du Bois had not

yet articulated how racism affected black women's political or economic standing. His analyses of race and gender were limited to black women's representation and their need for protection. The founders action of Black feminist sociology, Ida Wells-Barnett, and Anna Julia Cooper, made Radical social change in biographies, history, and Sociology. They envisioned the African-American female life as what?'s, and as a contemporaries, they founded the sociology of African-American Women, which concentrated on were the special focus towards their real, and practical experiences.(Madoo, Lengermann, Niebrugge (1998:149-184).

Marianne Weber, as a wife of Max Weber's wife, founded the idea of Women- centred sociology. Women centred Sociology is , organised around the female standpoint, especially in relation to importance on gender based ideology! She critiques the family structure, and especially working sphere, and domestic life, and " that societal harmony is made on the account of female autonomy"

(Madoo, Lengermann, Niebrugge, Brantley, 1998:204).

Weber argues: "That Women are framed in male-dominated society, with male dominated institutions of law, religion and history of series of male-made events, and by male-dominated analysis of the relations in between this institutions and this events."(1998:204). In her text, "The soil and air of the Academic life ," she writes about the concept of academic conviviality, explaining describing the gatherings in Heidelberg of intellectuals at Weber's family saloon, around the academic themes, in Heidelberg, decades after Weber died.

She organised Sunday lectures that looked like this: "the first hour was spent in unguided conversations in small groups, with tea, and cakes. Then the guests settled down, to the talk and discussion that followed, they views them as vital elements of the intellectual Heidelberg. The scholars who participated with their wives, were from all the faculties of the University, but most of them came from the Humanities, and Social Sciences(1977:4-5). Feminist Eco criticism, according to Vakoch's (2012)theory, represents the plural perspectives that involves pleads of different, and even contradictory positions, since it is not subject of generalisations. Feminist Eco criticism pinions forces Feminism, and Eco critics (feminist literature relation to the environment) into a creative, innovative, enhancing project of multiple perspectives in understanding the feminist , and Ecological structure in different-varying, and even opposed perceptions (Vakoch 2012).

"The origin of female exclusion in theory, in the work of the eco feminist Eislar Rian Eco feminist manifesto (1987) can be traced in following notions that the social system of Minoan period of rule on Greek island Crete, was the only true democracy. The Athenian democracy was the rule of free aristocratic males. Women and slaves (man and women of other colour) were marginalised and excluded from public sphere. Only free males were subject to obligation of public speeches as a mark of true citizen. Patricia Shipley holds that Aristotle's scripts on social system represent the origin of misogyny and subordination of women, especially binary divisions:

Femininity / masculinity, Nature / Culture, Emotion / Ratio, Subordination / Dominance, Logic of care/Logic of dominance, Pain /Pleasure. Small Albion advocates the doctrine of separate spheres believing that men and women are different distinctly, "separate but equal", comparing this difference to difference between two musical instruments having the same relation to the notes in scale, but could not be replaced or supply place in their own separate series (Deegan, 1981: 15).
Methodology

This analyses employs Comparative and historical methods as well as, the content analyses of textbooks , and materials in order to compare the female stream and a male stream in sociological approaches. Some of the methodological goals of this chapter include: the gender equal education, as a significant tool of postmodern education processes, and female stream textbooks involvement, inside the curriculum. During this process the interviews, with the eminent

authors of the books, and writers of female sociologists biographies will be preformed (Mary Jo Deegan, prof.emerita

Nebraska Lincoln University). The library and archival researches will be used are undertaken to analyses the accessibility of the literature on Female sociologists. Mary Jo Deegan, in 1990, wrote her significant study- source book on Women founders in sociology, in through which she mentioned describes 53 women founders in sociology. In the appendix of this work refers to another even plus 66 women sociologists who should be subject of are mentioned for further investigations. These women are rarely mentioned in male stream sociology. Only pro feminist masculine authors

mention works of women in sociology. Peter Scot has written a study on 50 key sociologists, but he only mentions three women. In comparison to Mary Jo Deegan's work on 118 female sociologists, this previously mentioned work is male stream and even discriminating.

Discussion:FEMALE SOCIOLOGY AS AN ACADEMIC DISCIPLINE

The importance of this project includes involves, being introduced into the introduction to the significant large amount of the literature written in America about, on female sociologists.

First female professional sociologists speakers at ASA conferences Ward supported the authorship and academic activities of Charlotte Perkins Gilman and supported the inclusion of women. Charlotte Perkins Gilman, as a respectful female sociologists and economist, was even served three times involved as discussant during , inside the American Sociological Association (ASA) meetings. The first women included in first ASA meeting was Mrs J. Oldenwalrd-Unger. Small invited Jane Addams to speak as major a prominent speaker during 1911, 1912, and 1913 , at the ASA conferences, in years 1911, 1912, 1913. The other speakers were Lucy Salmon from Vassar College (1913), and Emily Greene Balch, from Wellesley College, in 1914 (Deegan , 198:16). But in some years , no women were included, because they did not get more did not hold important roles in meetings. Ross invited s Jane Addams to speak on sociological aspects of War and Militarism , in their sociological aspects, in 1915, but Emily Green Balch came instead of her, and spoke on Addams' behalf. , and the 1915 meeting become was a controversial meeting. Why was the meeting controversial? Addams and Balch were against war,, and supported pacifism, and also were both Nobel Prize Winners. Jane Addams won the award in 1931, and Emily Green Balch in 1946. None of the men from Chicago school wanted to discuss Addams' work. Consequently, after contacting fifteen male sociologists, her papers, and Ross founded two women, after calling fifteen male sociologists: Lillian Wald (Head, residents of Henry Settlement, NYC) and Anna G. Spencer (Meadville Theological Seminar, Ohio), who would read Addams' papers.. The fundamental sociological text, Hull House maps and papers, is published by Hull House residents in 1893, as a fundamental sociology paper:

"Focused on social change, they articulated the American dream, especially adapted to smart, educated anglo-women, who wanted a new role in life and society. Addams surrounded herself with brilliant, and dedicated people, especially women. These women formed a key group living in the countryside, writing together, collecting statistics, examining factories and industries,

examining health conditions, examining sanitary conditions, lobbying for legislative and political reforms, and organising social improvement in their overpopulated, immigrant district working class. Outside this vast and poorly organised space of activity, Addams was a charismatic leader who translated "facts" into everyday language, articulating the problems and needs of the

community and forming American ideals and social thoughts. An author of eleven books, and hundreds of articles, Addams continued her efforts in lectures and education through lectures across the country, and at Hull House. She became a spokeswoman for her era, especially for women and immigrants of the working class. "(Deegan, 1990: 39). The origin of these houses

became popular in America, and one such was founded by Lillian Wald, Lynn Wald, Henry Settlement in New York, and a sociologist of neoadamsian Orientation, Caroline Bartlett Crane in Kalamazoo, Michigan. In the time before the beginning of the First World War, the Pacifist, Addams, was considered a good and noble woman to become a target of various animosities and personal attacks until the American accession to the war in 1913, when she became socially and publicly marginalised, and after public celebration as a saint, she becomes publicly abused as a violent one.

"Intimidated by the excitement of speaker platforms and abandoned by colleagues, and the most prominent, other sociologists / gypsies, Addams has socially become a rogue band. That time was the agony's time for her. Dedicated to her values, basic, feminine ideals, she continued to advocate her pacifist position. The culmination of her politically unbreakable status occurred in 1919, when the US government labeled it the most dangerous woman in America. At that time, her role as a sociologist, which was the main one, was erased. "(Deegan, 1990: 40). After women gained the right to vote, in 1920, Adams and many Suffrages celebrated as the main victory, in the years to come after 1931, Addams again becomes the spokeswoman of the establishment of social security, and as a dying 1935, was again mournful around the world, as a great leader and analyst of American social reality (Deegan, 1990: 40).

Jane Addams, Charlotte Perkins Gilman (Deegan, Podeschi, 2001), Caroline Bartlett Crane (Deegan, Rynbrandt, 2002). Sisters founders in sociology, advocated cultural feminism and ecofeminist pragmatism. The inclusive momentum of all disputes in her studies was a disagreement between cultural feminism, and critical pragmatism.

Conclusion

Femina Academica, Women centred sociology, Academic conviviality, Black feminist sociology, Black male feminism, and Feminist eco criticism offer academic analysis, that is global, embrative, inclusive, wide ranging, and far reaching in its their academically distinguished results. Sociology of gender uses all of thesis approaches in distinguished, subversive, and always challenging approach.

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Crocodile/ Frog motif dichotomy in Princess and the Frog vs. Meeting the Predator in the Theory of Val Plumwood

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Abstract

Plumwood as a famous eco feminist, Delveaux (2001) had influenced the analyses inside the ecological ethic and deep ecology, and formed specific approach in ecological disputes, defined as ecosophy (Warren, 1996), involving ecological approach as inherent to human, especially female nature. Female attributes are celebrated, since they can influence the development of feminist ethic, as care ethic, global care ethic (Adam, 2004). This form of ethic influenced development of animal ethic, or Xeno Ethic in her works. Disputes around the position of female identity, (especially inherent to an educated professor such as herself), are caused by her encounter with the crocodile in Kakadu national park; after she was assured that she can use canoe in that area, safely. Val Plumwood, with her book Meeting the predator, had influenced the changes in discussions about animal ethics, transpecism, and the importance of human body and environment, that involves different forms of organisms, from predators to dangerous and exotic plants, that can also be seen as xeno organism threatening the life. New Black Princess in Disney's Princess and the Frog, in crocodile vs.frog representation inscribes similar juxtaposition in Blacks identified with Frog, in comparison to Crocodile as predator. Multi-perspective approach to racial discrimination, depicts the position of white university professor and feminist, and new Black Heroine(Tiana) in meeting the predator, in the same way, regardless the colour of their skin.

Keywords

Xenosociology, Xeno Ethic, ecosophy, predator, transpecism, Frog/ Crocodile dichotomy in Princess and Frog, Blackness vs. Frog, trans special

1. Introduction

Xenosociology, as a sub discipline of sociology investigates the xeno organisms, trans species, trans terrestrial, and their environment. Plumwood's essay Meeting the predator, develops this questions as Jacobean metaphor, as it follows: "Of course, in some very remote and abstract way, I knew it happened knew that humans were animals and were sometimes—very rarely—eaten like other animals. I knew I was food for crocodiles that my body, like theirs, was made of meat. But then again in some very important way, I did not know it, absolutely rejected it. Somehow, the fact of being food for others ad not seemed real, not in the way it did now, as I stood in my canoe in the beating rain staring down into the beautiful, gold-flecked eyes of the crocodile. This encounter emphasised the importance of adequate situation of human inside the environment, or the hierarchy inside the "great" chain of beings.

Her encounter with a crocodile, happened in tropical Australian, Kakadu national park, where she was canoeing. This experience influenced the following insight:

"How had I come to make this terrible mistake about myself, my place, my body? I asked myself, with that sinking sense of serious stupidity that mars many a final moment. Was it a philosophical mistake about identity, the self as disembodied consciousness dissociated from the food-providing self as material body? Or the idea that humans are special, above and apart from other animals?"

I had no real opportunity to ponder the cultural genesis of my false consciousness, for at that moment the crocodile made its move, leaping from the water so fast I saw only a flash, and grabbing me painfully between the legs before pulling me down into the water. Nor did I pursue the issue later that day as I lay, terribly injured, in the path of the oncoming flood. But I have had many years since in which to think about these disastrous illusions, and to try to track them down” (Plumwood, 2012). Until that moment, I knew that I was food in the same remote, abstract way that I knew I was animal, was mortal. In the moment of truth, abstract knowledge becomes concrete. You gaze with dumb astonishment as your own death, known only as a shadowy, distant stranger, suddenly rises up right before you in terrifying, techno-coloured detail and gasp in disbelief that some powerful creature can ignore your special status and try to eat you”. (Plumwood, 2012)

In the Princess and the Frog(Walt Disney Company 2009), there are several animals, depicted, but crocodile Louis with trumpet, dreaming to become a human and jazz player , is the largest, and the most interesting. After the attack by group of the crocodiles, Tiana and Naveen, transformed into frogs before the attack, during the Mardi Gras carnival, now meet Crocodile Louis, in this animated movie, who is then helping them to find old women, Madam Odie, to help them in returning into their human forms, that they had lost by an accident! They sing along together, that if all three of them were human, they would do human, and royal things, and Louis would imitate a the best known human jazz player.

In the Princess and the Frog(Walt Disney Company 2009), there are several animals, depicted, but crocodile Louis with trumpet, dreaming to become a human and jazz player , is the largest, and the most interesting. After the attack by group of the crocodiles, Tiana and Naveen, transformed into frogs before the attack, during the Mardi Gras carnival, now meet Crocodile Louis, in this animated movie, who is then helping them to find old women, Madam Odie, to help them in returning into their human forms, that they had lost by an accident! They sing along together, that if all three of them were human, they would do human, and royal things, and Louis would imitate a the best known human jazz player.

Some authors discuss that in identification of dark people with frogs, the discrimination against black, is practised, and that whites in the animated movie, are dominating(Enoch, 2023:33), especially in the princess being a waitress. But success of Tiana’s Palace, as an owner , depicts the successful dark business women, that after being left out in a swamp, on the streets, decides to succeed.

After the survival of the swamp crocodile attack, Tiana and Naveen, got married, and made their own , as Naveen promised her, during the swamp crocodiles attacking them, if they survive.

The entire analysis of what they want to be, in this situation, becomes, similar to the one presented by famous white feminist, Plumwood, being attacked by swamp crocodile.

Question of being anthropocentric and ignoring the laws on natural division, in relation to xeno organisms, such as animal organisms, in entering their own space, as dominant human being, becomes more important after the encounter with the deathly jaws of the crocodile. Human disrespect for the xeno organisms, and their environment, as the one that is not subject of dispute in who it belong to, and how we should approach it, has left significant impact in the contemporary, in the necessary education and sensibilization of especially youth, in Aquatic parks and Museums, all around the world. Anthropocentric and dominant human nature, has to be educated about all sorts of different species, that exist in different natural surroundings, since those surroundings are their only home. Entering into their home, can result in fatal consequences, as risk of becoming the living meet, or food for the predator. Plumwood had encountered crocodile, driving a canoe in 1985-ties, and the education on xeno organisms and

trans species, and predator animals, has evolved in formation of different centres, where the visitors can see different species, and learn the basics of their way of life, through the gathering for feed large animals, at exact times, to walking through the area with basins filled with different species. Necessity to warn the humans, on their difference to larger animals, in recent times, is existent in different form of tv series, emitted on National Geographic, Animal Planet, with plethora and plaids of metaphorical titles such as Being Prey, I am alive, The Monster inside me. Therefore, the importance of knowing Your place inside the Universe of being, is still important as it was in Val Plumwoods text, but this popular tv shows, make it easier to understand the Jacobean metaphor felt by Plumwood, after the encounter with the crocodile:

“This was a strong sense, at the moment of being grabbed by those powerful jaws, that there was something profoundly and incredibly wrong in what was happening, some sort of mistaken identity. My disbelief was not just existential but ethical—this wasn’t happening, couldn’t be happening. The world was not like that! The creature was breaking the rules, was totally mistaken, utterly wrong to think I could be reduced to food. As a human being, I was so much more than food. It was a denial of, an insult to all I was to reduce me to food. Were all the other facets of my being to be sacrificed to this utterly indiscriminating use, was my complex organisation to be destroyed so I could be reassembled as part of this other being? With indignation as well as disbelief, I rejected this event. It was an illusion! It was not only unjust but unreal! It couldn’t be happening” (Plumwood, 2012).

2. Animal Ethics: Meeting the Predator

Animal ethics, as a sub discipline of ethics, questions the moral dimension of encountering with the living life, besides human. There are different life forms, from plants, humans, small animals, to large predators that can eat human alive. The strong feeling of being self-confident human professor and lecturer, and being wrongly promised that that area was a safe area for canoeing, which resulted in famous Val Plumwood becoming the prey, later on produced different thoughts on position of female identity in the environment:

“After much later reflection, I came to see that there was another way to look at it. There was illusion alright, but it was the other way around. It was the world of ‘normal experience’ that was the illusion, and the newly disclosed brute world in which I was prey was, in fact, the unsuspected reality, or at least a crucial part of it. But all I saw then was the lack of fit between the experience of being prey and the framework of belief and life I took to be normality. If the framework of normality was true, the lack of fit could only be explained if this experience of being prey was an illusion was a dream or nightmare. But if it wasn’t, I had to face the possibility that the lack of fit was there because both I and the culture that shaped my consciousness were wrong, profoundly wrong—about many things, but especially about human embodiment, animality and the meaning of human life (Plumwood, 2012).

This encounter with the predator, and meditation on the actuality of being prey, for some large jaws that grabbed her, influenced reopening of philosophical questions on the importance of human life on earth, and the corresponding in between the different forms of life that surround us. Arctic circle as the outer point of earth surface, and museums dedicated to investigation of indigenous species in this area, already presuppose that humans will have to resign and give back those areas, to the animals, since they had borrowed it only for finite period in the time. This vast area, covered with ice, is not fitted for human to live. Many sorts of different large predators, had influenced the disappearance of people, in great number, involving the different age group, involving even small children:

“The illusion revealed by the crocodile encounter was of a different, more philosophical kind, about the meaning of everyday experience. But in the same way it revealed that it was possible for people—as individuals, groups, perhaps whole cultures that subscribe to a particular dominant

story—to be completely and systematically wrong about quite simple and basic things—our relationship to food, to one another, the intertwining of life and death, the fleshly, embodied character of human existence—and be quite unaware of it. A few people may come to see the illusion for what it is because they stumble across certain clues, experiences that do not fit the dominant story. Suppose that in the same way as the illusion that the land was on the level, the fact of being always on the ‘winning side’ of the predation relationship tricks us, conceals from us the real slant of things, the real measure of our animality and embodiment.” (Plumwood, 2012)

This question falls into binary division section, when we compare humans to non-humans, male to female, pleasure to pain. Nature is observed as place of spiritualistic embodiment, while Western culture teaches us that nature is divided from spirituality that simultaneously represents the origin of human parting with nature, moreover devaluation and objectification of nature. Eisler’s Ecofeminist Manifesto (Eisler, 1987) states that the only reason for contemporary era ecological problems is creation of dichotomies male spiritual principal vs. female natural principle, in addition supported by transition from religious to secular worldview. Technology as such is not a problem, thinks Eisler (Eisler, 1987), problem represents the anthropocentric masculine culture of violence that uses the technology for the same purposes. Demands of ecofeminism, contained in Ecofeminist domination. Shared cooperation (2004) between male and Manifesto are oriented towards the returning to egalitarianism and cooperation in order to overcome the system of female, negation of dichotomies is the only way to annulated mentioned system. Return to nature is the only presupposition for desalination.

Table 1. Binary oppositions (Eisler, 1987; Aristotle, 1988; Bek, 2001; Jo Deegan & Mary Jo.,1990; Malory, 2008; Salleh, 1995; Shipley, 2000)

Male	Female
Culture	Nature
Ratio	Emotion
Father	Mother
Sun	Moon
Form	Matter
Active principle	Passive principle
Rational substance	Material substance
Contract	Nature
Free Will	Natural Law
Mind	Body
Artificial	Natural
Civilised	Primitive
Spirituality	Materiality
War	Peace
Public	Private
Master	Slave
Ethic of dominance	Care Ethic
Logic of dominance	Logic of care
Artistic work	Kitsch

Male stream, having the male in centre vs. female-stream, having the female in centre is binary that represents modern period (Giddens & Sutton, 2010), unlike the postmodern where the mentioned differences are annulated for academic marginalisation of women to be based on extremely rigidly formed differences between terms or dichotomies. The basic problem is identification of women with non-rationality, mindlessness, emotionalism, by which their exclusion from public and academic sphere is justified. Ecological consciousness of deep ecology (Dunlop, 2010) is considered to be deeper, because it involves the laws that caused certain phenomena. Ecofeminism with its powerful activism since Chupko movement in India, through the development of agricultural unions supported by Vandana Shiva, until the formation of Institute for Social ecology where the first ecofeminist Conferences were organised (Salleh, 2001), under the influences of ecofeminists Ynestra King, Val Plumwood until public demonstration against the oppression of feminine identity and nature, accomplishes the active fight with risk as mark of postmodern reality. Tom Regan in that period, in his speech, raises certain questions in USA, in relation to survival and destruction of animals. This binary logic, in the theory of Val Plumwood (Plumwood, 1991), involves another, different paradigm to consider, predator as the one who wins, and human being as the ones who can possibly lose, or can lose in fight with the higher forms of natural predator beings.

“That I think is what has happened to Western culture under the influence of the dominant story about our animality. For a modern human being from the first, or over-privileged world, the humbling experience of becoming food for another animal is now utterly foreign, almost unthinkable. And our dominant story, which holds that humans are different from and higher than other creatures, are made out of mind-stuff, has encouraged us to eliminate from our lives any animals that are disagreeable, inconvenient or dangerous to humans. This means, especially, animals that can prey on humans. In the absence of a more rounded form of the predation experience, we come to see predation as something we do to others, the inferior ones, but which is never done to us. We are victors and never victims, experiencing triumph but never tragedy, our true identity as minds, not as bodies.” (Plumwood, 2012)

Strong belief in the strengths of human ratio (Novalić, 2009), has been challenged by the ratio of predator. Western culture is based on this belief in human progress (Cochrane, 2012), that still ends in femicides, genocides, and concentration camps, refugees, internationally, and globally. That unlimited belief in being the ones who cannot do wrong, ended up in the Holocaust and Srebrenica (Dimitrijević, 2011). Therefore, the question of being wright must involve the limits of the integrity of other person, or in this particular case, other animal. Therefore, the Spengler did not foreseen the fall of Western cultures, for no reason. That is the Plumwood’s idea as well:

“For thousands of years, Western religions and philosophies taught that the human was set apart from the animals and the rest of nature, made, unlike them, in the image of God. It was heresy to believe that any species other than humans could be saved or go to heaven, a place of sacredness and perfection reserved exclusively for human beings. God is transcendent, not material, apart from nature, and is for our species alone.” (Plumwood, 2012)

Question of God, is never less important. In contemporary, the show with Morgan Freeman, investigates the perception of God, and God related concepts in different parts of the world. It is precisely and clearly emphasised that the question of God is the crucial to understanding of different race, nations and identities. She gives an example from Catholic perspective, and enforces the mistake in identifying the humans with God.

“For example, Papal doctrine until recently, instructed us that our bodies may have evolved from other animals, but that the real basis of our humanity, our minds have not—they are God-given, and in no way comparable to those of animals. We remain special, as the real owners of the world,

the pinnacle of evolution, the ultimate species for whom it was all designed and to whom it all leads.” (Plumwood, 2012)

How did Human beings evolve, what are different perspectives in relation to the creation. There are feminist perspective inside the evolution theory. This perspective state that there is the egalitarian perspective in creation, inside the Genesis, why not focus onto that one. The Catholic tradition involves, the idea of the embodiment and blood inside the religious practice. The notion of being inside the flesh, onto which Plumwood alerts is felt only after the animal attack, or the meeting with the animal in it’s own house.

“This way of viewing the world makes it very painful to come to terms with features of conscious animality, insofar as our culture has made of it a painful contradiction—a sidereal identity in a fleshly, decaying body, thinking flesh, knowing flesh, singing flesh, flesh that knows of its own vulnerability. Being food confronts one very starkly with the realities of embodiment, with our inclusion in the animal order as food, as flesh, our kinship with those we-eat, with being part of the feast and not just some sort of spectator of it, like a disembodied eye filming somebody else’s feast.

We are the feast. This is a humbling and very disruptive experience.” (Plumwood, 2012)

Plumwood notices different position of Human in Great chain of Beings, as the ones who can not only eat meat and be predators, but are the ones that can become the food for the predators. Humans can eat animals, use their skin, bones, and meat in different consumer cultures such as branded stores, industry of meat, or even for the cure. But this still, even though it gives the human culture the godlike position, does not represent the reality of the position of human femininity, in the environment. Therefore, *femina xenologica* investigates the encounters with feminine and xeno organisms.

“But humans are food, food for sharks, lions, tigers, bears and crocodiles, food for crows, snakes, vultures, pigs, rats and goannas, and for a huge variety of smaller creatures and microorganisms. An ecological animalism would acknowledge this and affirm principles emphasising human–animal mutuality, equality and reciprocity in the food web.” (Plumwood, 2012)

3. Conclusion

Plumwood as an ecologist, thinks how to solve the puzzle, of being the democratic in ecological terms. She envisions the dichotomy of being live/becoming prey in her own terms, and proposes following:

“My proposal is that the food/death imaginary we have lost touch with is a key to re-imagining ourselves ecologically, as members a larger earth community of radical equality, mutual nurturance and support. Our loss of this perspective has meant the loss of humbling but important forms of knowledge, of ourselves and of our world. We can learn to look for comfort and continuity, meaning and hope in the context of the earth community, and work in this key place to displace the hierarchical and exception. My proposal is that the food/death imaginary we have lost touch with is a key to re-imagining ourselves ecologically, as members a larger earth community of radical equality, mutual nurturance and support. Our lost of this perspective has meant the loss of humbling but important forms of knowledge, of ourselves and of our world. We can learn to look for comfort and continuity, meaning and hope in the context of the earth community, and work in this key place to displace the hierarchical and exceptional cultural framework that so often defeats our efforts to adapt to the planet. This involves reimagining ourselves through concrete practices of restraint and humility, not just in vague airy–fairy concepts of unity, cultural framework that so often defeats our efforts to adapt to the planet. This involves re-imagining ourselves through concrete practices of restraint and humility, not just in vague airy–fairy concepts of unity”.

Democratic approach in the theory of Val Plumwood, involves, therefore, necessity to always remember that we are only a part of environment. She, herself, has to remember that sometimes, since living in those area she has to meet the great predator herself, in hope that the time of the encounter will be postponed. But, as the theme, is very popular inside the animated movie, that involves attacks of the group of the crocodiles, and involves the question of the absurdity of the racial problems, in the situation of COVID 19th, or wider predator attacks, that influences all humans, in the same way, regardless the colour of their skin.

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Historical Sciences

Декабрьские события 1986 года глазами очевидцев

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Обретение Казахстаном независимости поставило перед ним трудные и ответственные задачи возрождения политической, социально-экономической, правовой и культурной основы государственности. Следствием всех преобразований явилось стремление казахстанских исследователей заново переосмыслить наиболее важные исторические рубежи и периоды истории казахского народа. Распад бывшего Советского Союза привел практически полному разрушению научных и культурных связей между республиками, породил вакуум в изучении отдельных аспектов их истории. В своей программной статье «Взгляд в будущее: Модернизация общественного сознания» Глава государства Н.А.Назарбаев акцентирует свое пристальное внимание на вопросы обновления и совершенствования исторического сознания казахстанского общества на основе прагматизма.

История выступает в качестве важного элемента для духовного возрождения личностей и всего общества в целом. К сожалению, в условиях господства жесткой советской тоталитарной системы историческое сознание народов Центральной Азии подверглось деформации. Отдельные попытки восстановления правдивой истории и его ярких представителей по политико-идеологическим соображениям пресекались и надежно стирались из памяти народа.

В настоящее время казахстанское общество оказалось перед сложным процессом социальной и политической самоидентификации. При этом важнейшим инструментом этого процесса стало познание своей глубинной истории, прошлого, корней, возрождению в народной памяти забытых имен национальных героев нашего Отечества в тот или иной период времени.

24 ноября 2020 года по распоряжению Президента Республики Казахстан Касым Жомарта Кемеловича Токаева была создана специальная комиссия, которая приступила к широкомасштабной работе по выявлению и реабилитации жертв массовых политических репрессий XX столетия. К категории жертв той сложной и противоречивой эпохи можно по праву отнести и национальных героев казахского народа активных участников трагических декабрьских событий 1986 года в Алма – Ате.

В своей взвешенной и научно-аргументированной статье «Независимость превыше всего» Президент Республики Казахстан Касым Жомарт Кемелович Токаев, обращаясь к сложному и противоречивому периоду конца 1980-х годов XX столетия, пишет: « В этом году исполняется 35 лет со времени известных декабрьских событий. В 1986 году сыновья и дочери казахского народа, не побоявшись гнева советской власти, вышли на улицы, чтобы защитить честь нации. Символично, что ровно 5 лет спустя была провозглашена наша Независимость. Нам необходимо по достоинству оценить и всячески популяризовать мужество и подвиг героев Желтоксана»[1].

Мы полностью разделяем точку зрения Президента страны Касым Жомарта Кемеловича Токаева и считаем, что сегодня важно раскрыть роль и место в мировой истории легендарных защитников нашего Отечества участников декабрьских событий 1986 года в

Алма-Ате. Безусловно, это событие окажет позитивное воздействие для решения задач модернизации общественного сознания, который в свою очередь даст положительный импульс в популяризации и изучения богатейшего историко-культурного наследия выдающихся исторических личностей Казахстана.

К сожалению, долгие годы в условиях нарастания политического и духовно-идеологического давления, прессинга и нажима со стороны партийных властей имена доблестных национальных героев участников трагических декабрьских событий 1986 года в Алма-Ате практически не упоминались на страницах средств массовой информации. Более того, партийные идеологи наложили «вето» то есть запрет на упоминании их имен. И только в условиях суверенного развития Республики Казахстан, с ростом и возрождением духовного и национального самосознания народов Центральной Азии историческая справедливость восторжествовала, и благородные потомки Желтоксановцев смогли по достоинству оценить их патриотический подвиг и мужество во благо процветания и свободы нашей независимой Республики.

В этой научной публикации мы попытаемся проследить жизненный путь и деятельность тех легендарных героев участников трагических декабрьских событий 1986 года в Алма-Ате, которые смело смогли выразить свое негодование, несогласие и возмущение вышестоящим инстанциям в связи с заменой Первого секретаря ЦК Казахстана Н.А.Назарбаева.

В государственном архиве общественно-политической истории Туркестанской области хранятся архивные документы и материалы, участников тех драматических и трагических событий 1986 года. В частности в их личных делах содержатся протоколы допроса, семейные фотографии, газетные публикации, посвященные вышеуказанной теме, правительственные награды от имени Первого Президента Республики Казахстан Н.А.Назарбаева, справки о реабилитации жертв участников декабрьских событий 1986 года и т.д.

Одним из активных участников декабрьских событий 1986 года в Алма-Ате был уроженец г.Кентау Южно-Казахстанской области, ныне проживающий в поселке Джекказган Джекказганской области Шекербеков Муратбек 1963 года рождения. Он был осужден по статье 60 УК КазССР к двум годам 6 месяцам лишения свободы с отбыванием наказания в исправительно-трудовой колонии общего режима. Он был признан виновным в том, что находясь в состоянии алкогольного опьянения в поселке Джекказган 2 января 1987 года между 2-3 часами ночи, будучи осведомленными из сообщений газет, из разговоров с друзьями о том, что 17-18 декабря 1986 года в Алма-Ате группа молодежи, подстрекаемая националистическими элементами, вышла на улицу города, высказывали неодобрение решению состоявшегося 16 декабря 1986 года в Алма-Ате пятого Пленума ЦК Компартии Казахстана, умышленно, с целью пробуждения национальной вражды, розни к русскому народу. Используя половую краску и малярную кисть, написал на стенах общественных зданий пропагандистско-агитационного характера слова призывы по своей сущности являющиеся проявлением национализма, национальной ограниченности и направленные на распространение взглядов, идей подрывающих доверие и уважение к другой национальности, возбуждающих чувство неприязни к ним. Надписи произведены на фасадной стороне продовольственного магазина №64 по улице Калинина, на фасадной части магазина «1000 мелочей» по улице Джамбула, на фасадной стороне магазина №146 «Трикотаж» по улице Джамбула, на фасадной стороне кинотеатра «Космос» по улице Ауэзова, на тыльной стороне этого же кинотеатра, на лицевой части 4 автоматов газированной воды расположенных перед кинотеатром «Космос», на стене жилого дома №24 по улице Ауэзова, на фасадной стороне продовольственного магазина № 71 по улице Ауэзова № 29. Допрошенный в суде в качестве подсудимого Шекербаев вину в

предъявленном обвинении признал частично и пояснил, что действий в ночь на 2 января 1987 года будучи недовольным тем, что первым секретарем ЦК Компартии Казахстана избрали Г.В.Колбина по национальности русского, а не казаха, он решил выразить свое несогласие» [2].

Таким образом, из выше приведенного вытекает следующий вывод, что Шекербаев Муратбек как настоящий патриот своей Родины открыто выразил свое несогласие с избранием нового секретаря ЦК Компартии Казахстана Г.В.Колбина. Безусловно назначение незнакомого для нашей страны нового руководителя задевала национальные интересы местных коренных жителей нашей Южной столицы.

Другим ярким представителем той противоречивой и сложной эпохи, выразивший своей аполегет вышестоящим инстанциям был Аймаханов Куттыбек Ауелбекович уроженца Джамбула Алгабасского района Чимкентской области, ныне проживающегося в г.Алматы, ул. Айнабулак 3 дом 170, кв 8. Он был осужден по статье 60 УК КазССР к 5 годам лишения свободы. С учетом изменений, внесенных в приговор постановлением Президиума Верховного суда КазССР, Аймаханов признан виновным в том, что он 18 декабря 1986 года в большой группе лиц прибыл на площадь им. Брежнева в городе Алма-Ате, где имели место массовые беспорядки, размахивал палкой, на требования работников милиции разойтись не реагировал, продолжительное время с толпой перемещался по улицам. Аймаханов Куттыбек Ауелбекович на предварительном следствии и в суде не отрицал, что участвовал 18 декабря 1986 года в уличном шествии, но утверждал, что никаких действий, нарушающих общественный порядок не совершал. Более того его обвиняли в том, что он разжигал национальную рознь и вражду» [3].

Таким образом, следует отметить, что Аймаханов Куттыбек Ауелбекович как настоящий гражданин и любящий свою Родину открыто не взирая на политическое давление, прессинг партийных структур выразил свое несогласие и протест в связи с избранием Первого секретаря ЦК Компартии Казахстана Г.В.Колбина. По существу были проигнорированы национальные интересы и позиции жителей многонационального Казахстана. Более того, ни один из собравшихся на центральной площади им. Л.И.Брежнева участников мирной политической демонстрации не выступал в роли разжигателя национальной розни и вражды между нациями и народностями, проживающими здесь вместе с великим и могучим казахским народом.

Еще одним из ярких участников тех трагических и драматических декабрьских событий 1986 года был Есжанов Тынышбек Карлыбаевич 1964 года рождения, уроженца села Жузумдук Келесского района Чимкентской области. 19 марта 1987 года приговором Алматинского городского суда он был осужден 3 годами лишения свободы по статье 65 УК КазССР. Его обвинили в том, что он выражал свое недовольство избранием нового секретаря ЦК Компартии Казахстана Г.В.Колбина и якобы намеренно разжигал национальную рознь и вражду между казахами и русскими народами. Приговор суда и последующие судебные постановления в отношении Есжанова Тынышбека Карлыбаевича, как и других активных участников тех событий, Постановлением пленума Верховного Суда Республики Казахстан от 24 декабря 1994 года были признаны необоснованными, в соответствии с Указом Президента Республики Казахстан Н.А.Назарбаева от 12.12.1991 года «О реабилитации граждан, привлеченных к ответственности за участие в событиях 17 – 18 декабря 1986 года в Казахстане он был реабилитирован» [4].

Таким образом, историческая справедливость восторжествовала, и благородные потомки очевидцев тех событий смогли по достоинству оценить их заслугу и долг перед своим Отечеством. Мы вполне убеждены в том, что их патриотические деяния и вклад достойно вписались в историческую летопись Независимого Казахстана. Будущее молодое поколение казахстанцев должны всегда помнить и не забывать тех национальных героев

своего Отечества, которые пожертвовали своей жизнью ради достижения свободы и Независимости казахского народа. Необходимо навеки увековечить память наших легендарных героев Желтоксановцев, которые как отмечает Президент страны Касым Жомарт Кемелович Токаев не боясь преследований со стороны партийных и местных органов выразили свое негодование и возмущение в связи с избранием на должность Первого секретаря ЦК Компартии Казахстана неизвестного казахстанской научной общественности Г.В.Колбина.

В условиях 30 – летнего независимого развития нашей многонациональной страны историческая ретроспектива борьбы за суверенитет и свободу народов Центральной Азии становится главным фундаментом построения нового демократического общества и государства в целом.

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THE GOALS AND OBJECTIVES OF SUSTAINABLE DEVELOPMENT IN AZERBAIJAN

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Human well-being is closely related to the environment formed in the society in which a person lives, while the development of society depends on the economic, social, and environmental opportunities available to it. However, problems such as the limited availability of natural resources, globalization, population growth, environmental pollution, global warming, erosion, landslides, natural disasters, and others pose a threat to the sustainability of the current ecosystem and restrict the development of future generations. To prevent this process, it is not enough to develop only ecosystem and human development management programs. In this regard, various scientific approaches, models, and concepts have been put forward for studying, measuring, and evaluating sustainable development both globally and regionally, as well as within national frameworks.

Cities are centers for ideas, trade, culture, science, productivity, social development, and so on. At best, cities allow people to develop socially and economically. However, there are many challenges in preserving cities by continuing to create new job opportunities and welfare without putting pressure on the land. The most common problems in cities include population density, insufficient funds for providing basic services, inadequate housing provision, and declining infrastructure. To address the challenges faced by cities, the improvement of resource utilization, reduction of pollution and poverty, and the use of methods that allow for their development and growth can be applied. Cities that create opportunities for all, including access to basic services, energy, housing, transportation, and other opportunities, are part of the future we desire.

The actions taken to achieve the SDGs (Sustainable Development Goals) are part of the Agenda for People, Planet, and Progress, which was adopted by 193 UN member states. It is also aimed at strengthening general peace in a broader sense of freedom. The Agenda emphasizes that the eradication of poverty in all its forms, including extreme poverty, is the greatest global problem and a necessary condition for sustainable development. All countries and stakeholders, working in a spirit of global partnership, are interested in implementing this plan. The declaration adopted by the states particularly stresses that "We are determined to free humanity from the shackles of poverty and need and make our planet a healthy and safe place." The adoption of 17 Sustainable Development Goals and 169 targets demonstrates the scale and focus of the new Agenda. Built on the Millennium Development Goals, this new agenda aims to complete the unfinished work of previous initiatives. The SDG Declaration, which came into effect in January 2016, sets out the targets to be achieved over the next 15 years, with the overall aim of achieving global economic prosperity, social development, and environmental protection by 2030. Drawing on its experience in achieving the MDGs, the Republic of Azerbaijan plans to be at the forefront of achieving the SDGs as well. This is reflected in the creation of the necessary regulatory and legal framework, institutional and economic mechanisms, complex goal-oriented work, including the promotion of a peaceful and inclusive society, and the realization of new initiatives (e.g., "ASAN service", tolerance, multiculturalism, Strategic Road Maps).

In the last five years, Azerbaijan has demonstrated its commitment to achieving the 2030 Agenda. In 2016, the President of Azerbaijan signed a decree establishing the National

Coordination Council for Sustainable Development, which serves as the main partner in coordinating the UN's support for the Azerbaijani government. Azerbaijan was also one of the first countries to implement the MAPS (Mainstreaming, Acceleration, and Policy Support) mission to accelerate the achievement of the SDGs at the national level, and it presented its national experience at the 2018 Sustainable Development Forum in Baku. Among other things, the regional forum concluded with the adoption of the Baku Principles, which define activities to integrate and accelerate the implementation of the SDGs.

The UN and its partners are working in Azerbaijan to achieve the Sustainable Development Goals (SDGs). As a result of this partnership, Azerbaijan has prioritized the 17 SDGs, 88 targets, and 119 indicators that cover the economic, social, and environmental aspects of sustainable development. By presenting two Voluntary National Reviews (VNRs) in 2017 and 2019, Azerbaijan became the first country in the CIS region to present two VNRs by 2019.

The UN Resident Coordinator in Azerbaijan, Ghulam Isakzai, noted that gender equality is given special attention in Azerbaijan, where women are more active in social spheres. In several countries, women are represented in parliament and other state affairs. However, unfortunately, there are still countries where discrimination against women exists. In Azerbaijan, gender equality is progressing, and women's participation in public life is increasing. Azerbaijan has joined several conventions related to gender equality.

UN Resident Coordinator Vladanka Andreyeva stated that the 4th SDG Dialogue provides a platform for cooperation between the UN and Azerbaijan's National Coordination Council for Sustainable Development, as well as consultations on the Voluntary National Review to be presented in July. It also provides a good opportunity to discuss progress on SDG 5 through knowledge exchange and the economic empowerment of women. The UN official noted that this meeting will contribute to accelerating progress on the SDGs and fulfilling the 2030 Agenda, as well as delivering on climate pledges.

Azerbaijan became a signatory to the Sustainable Development Goals adopted at the UN Summit on Sustainable Development in September 2015. To achieve the set goals, a decree was approved on October 6, 2016, on the establishment of the National Coordination Council for Sustainable Development. Various meetings and events related to the issues arising from the Sustainable Development Goals have been held at different levels.

The country's economic priorities include addressing key issues such as sustainable development, macroeconomic regulation, sectoral, social, and regional economic management, and evaluating global economic trends. Additionally, national and global economic forecasts, the concept of social and economic development, social research, labor market studies, the organization of expert and consulting services, and the preparation of economic analyses are emphasized.

The strategic plan for the education sector, developed for the 2022-2025 period, outlines the goal of forming independent and creative citizens, training highly qualified personnel, and aligning educational goals with labor market demands. It includes 27 strategic objectives, such as enhancing knowledge, preparing specialists to meet the needs of the labor market, and promoting innovation in education. In the 2022 state budget, a total of 3.88 billion manat was allocated for the implementation of 17 programs, 23 sub-programs, and 112 activities to achieve these objectives, aligning with SDG 4 and SDG 8.

In February 2018, the Regional Forum of National Coordinators for the Implementation of the Sustainable Development Goals from Europe and CIS countries took place in Minsk, Belarus. During the forum, the features and implementation mechanisms of the 17 SDGs and 169 targets, approved for the 2015-2030 period, were discussed. The Azerbaijani delegation shared information on the country's achievements in sustainable development, reducing unemployment, promoting gender equality, and expanding social education in all regions of the country. Notably,

Azerbaijan is one of the countries that most successfully implemented the UN's "Millennium Development Goals" Declaration.

In recent years, Azerbaijan has achieved significant progress in social and economic development, which is reflected in national and international documents. The sustainability of these achievements has been accepted as a priority by the country. The national environmental strategy focuses on enhancing coordination in environmental protection, safeguarding natural resources at national, international, and regional levels, applying science-based development principles, and ensuring sustainability in the use of the country's economic and human resources for the benefit of present and future generations. The importance of ecological functions in economic processes and the demand for measuring the interrelation of economic and ecological factors are essential for measuring the results of such processes.

The Azerbaijani government is fully committed to its obligations related to the SDGs, mobilizing all efforts to meet these obligations in a timely and appropriate manner. As a result, the work toward achieving the SDGs in Azerbaijan is expanding and intensifying. This period has been marked by successful and significant events, with the country achieving notable results in various political, economic, social, humanitarian, cultural, sports, and other fields. In line with its social-oriented policies, Azerbaijan has also taken targeted steps to strengthen the social protection of vulnerable groups and improve their living conditions. These efforts have been positively assessed in the reports prepared by prestigious international organizations.

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THE ROLE OF FOREIGN RELATIONS IN THE SUSTAINABLE ECONOMIC DEVELOPMENT OF AZERBAIJAN

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Keywords: Azerbaijan, sustainable development, foreign relations, economy, energy

Abstract

The role of foreign relations in Azerbaijan's sustainable economic development is of great importance in the modern era. The dynamics of the global economy, international trade relations, and foreign investments are key factors ensuring the development and economic stability of countries. Azerbaijan plays a significant role in the world economy due to its strategic location and natural resources. Moreover, the country aims to diversify its economy, improve the business environment, and make progress in the application of new technologies by developing foreign relations. The impact of foreign relations on Azerbaijan's sustainable economic development manifests in several directions. First, the country gains access to foreign markets through international trade and investment relations. Second, the important role of the energy sector in Azerbaijan's foreign policy, particularly the significance of energy exports and its role as a transit hub, is crucial. Third, regional and global cooperation enables access to new markets, technologies, and financial resources. Finally, the development of foreign relations enhances Azerbaijan's international reputation and accelerates its integration into the global economy. For these reasons, the role of foreign relations in ensuring Azerbaijan's sustainable economic development is of exceptional importance.

Introduction

Each country's development is conditioned by its unique parameters. In other words, it is impossible to establish a universal development model that ensures the public development of all countries. When selecting a development model or concept, it is necessary to consider the country's geographical and climatic conditions, territory, social-ethnic composition, natural resources, and demographic situation. The key feature of the concept of sustainable development is that it is of a universal nature and global projects are proposed for its realization. This project is not directly related to development itself but aims to eliminate the difficulties that arise as a result of development that may hinder further progress. Since the factors influencing each country's development differ, the transition to sustainable development has specific reasons for each country. Azerbaijan also has its own factors that condition the transition to a sustainable development concept. One of these factors is ecological problems. Azerbaijan's economic development has rapidly advanced in recent decades, achieving significant progress in various fields. One of the key components of this development is foreign relations. Foreign relations, particularly through international trade, investment, energy resource exports, and regional cooperation, play an important role in ensuring Azerbaijan's sustainable economic development.

The importance of foreign investments in Azerbaijan's economic development is undeniable. Particularly, investments from foreign companies in the energy sector have had a significant impact on the country's growth. The discovery and exploitation of oil and gas reserves,

as well as contracts signed with foreign companies, are among the main factors strengthening Azerbaijan's economy. These investments also stimulate the creation of new jobs, the application of technological innovations, and the diversification of the country's economy. The influx of foreign investments into Azerbaijan's economy has led to an improved quality of life for the population. Moreover, capital inflows have been directed not only to the oil industry but also to the non-oil sector, creating conditions for higher economic development in the regions.

At the same time, foreign trade relations play a vital role in Azerbaijan's economic development. Azerbaijan is primarily known for its oil and gas exports; however, in recent years, diversifying foreign trade relations has become a priority for the development of the non-oil sector. Expanding access to foreign markets has increased the competitiveness of local producers in international markets. Azerbaijan's geographical location provides favorable conditions for regional cooperation. In particular, the development of the East-West and North-South corridors has made Azerbaijan a key participant in international trade routes. This not only accelerates economic development but also strengthens the country's strategic position. Azerbaijan also actively participates in regional economic organizations. For example, Azerbaijan plays a key role in cooperation with the Turkic Council, the Asian Development Bank, and the European Union. These collaborations strengthen Azerbaijan's international economic and trade relations and ensure the country's integration into the global economy.

Azerbaijan's energy sector, particularly oil and natural gas exports, plays a major role in international markets. The rich energy reserves in the Caspian Sea and the international pipelines constructed for the transportation of these resources are key pillars of Azerbaijan's foreign relations. The "Southern Gas Corridor" and the "Baku-Tbilisi-Ceyhan" pipelines strengthen Azerbaijan's strategic position in providing energy to Europe. At the same time, cooperation with foreign investors in the energy sector ensures additional capital inflows into Azerbaijan's economy. The future development of this sector and the achievement of energy independence are important components of Azerbaijan's sustainable economic development. Azerbaijan seeks to build its foreign relations based on sustainable development principles. In the framework of cooperation with international organizations, the country places particular emphasis on environmental protection, energy efficiency, and the development of renewable energy sources. Drawing on global experiences in these areas, Azerbaijan's economic development is directed towards both environmental protection and efficient energy use.

Collaboration with the European Union and other international organizations contributes to the development of Azerbaijan's green economy. This, in turn, helps achieve sustainable development goals. Foreign relations also positively impact Azerbaijan's economic development in the fields of education and technological progress. Through international education programs and scientific research, highly qualified specialists are trained in Azerbaijan. These specialists help make the country's economy more competitive and ensure the development of new technological fields. Moreover, the introduction of foreign technologies and innovations plays an important role in the development of Azerbaijan's non-oil sector. The application of foreign technologies in agriculture, information technologies, and manufacturing sectors enhances the country's economic potential.

Conclusion

The development of foreign relations offers Azerbaijan various advantages, such as the transfer of knowledge and technology, access to modern management practices, market expansion, and the emergence of new collaboration opportunities. However, the development of these relations also requires a careful approach to foreign influences and the protection of the country's national interests. Azerbaijan's sustainable economic development is closely tied to the expansion and strengthening of foreign relations. Economic diversification, integration into

regional and global markets, and international cooperation are key components of Azerbaijan's economic development model. If consistent policies and strategic steps are taken in this direction, the country will have the opportunity to secure a stronger position in the global economy.

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Pharmaceutical Sciences

Hypoglycemic activity of the total of phytoecdysteroids isolated from *Silene tomentella*

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Abstract

Phytoecdysteroids tomentesterone A(1), tomentesterone B(2), viticosterone E(3), 2-deoxy- α -ecdysone(4), polypodine B(5), 20-hydroxyecdysone(6), integristerone A(7), sileneoside D(8), 2,3,20,22-diacetonide 20-hydroxyecdysone(9), and cyasterone(10) were isolated from *Silene tomentella*. Experiments on intact rats showed their hypoglycemic activity. The experiments showed that the SPE leads to a certain reliable hypoglycemic effect expressed in relation to the initial level in 3 hours after introduction ($p < 0.05$). Blood sugar decreased by 17.6% (baseline - 5.1 ± 0.33 , in 3 hours 4.2 ± 0.20 mM/L). In animals with hyperglycemia caused by the administration of glucose and alloxan the SPE also exerted a pronounced sugar-lowering effect. At that, in the group of animals with the blood sugar level of 8.0 mM/L the hypoglycemic activity of the tested sum was less pronounced than in glibenclamide, but in animals with blood sugar levels up to 14 mM/L there were no reliable differences in hypoglycemic activity between both groups. In rats of alloxan group with blood sugar level up to 20 mM/L after the introduction of the SPE there was even a slight advantage over glibenclamide in the hypoglycemic activity in 60 and 120 minutes after introduction, and in 180 minutes this difference generally acquired a reliable character.

Key words: phytoecdysteroids, *Silene tomentella*, hypoglycemic activity, alloxan, glibenclamide.

Introduction

Plants are used worldwide in medicine and agriculture. Novel drugs are developed through research of plants (Usmanov et al., 2019a, 2019b). *Silene*, a genus of *Caryophyllaceae* family, contains more than 700 species of annuals, biennials, and perennials, which are mainly distributed in temperate zones of the Northern Hemisphere of Eurasia, America, and Africa. Nowadays, more than 450 compounds have been isolated, mainly phytoecdysteroids (PE). *Caryophyllaceae* revealed the largest number of ecdysteroid-containing species belonging to the genera *Silene* (Mamadaliyeva et al., 2014). The distribution of polypodine B, 20-hydroxyecdysone, integristerone A, rubrosterone, subdecydysone C, 20-hydroxyecdysone 22-acetate, 2-deoxy- α -ecdysone, poststerone, sidisterone, tachisterone, viticosterone in the aerial organs of the representatives of the *Silene* genus (*Caryophyllaceae*) was investigated (Girault et al., 1990).

Phytoecdysteroids are currently considered as effective stimulants of protein synthesis in the body of higher animals and humans, some of which are only slightly inferior to steroid drugs in their anabolic effects (Syrov 2000, 2001).

It has been found that ecdysteroids exhibit various types of biological activity. They have a tonic, anabolic, hypoglycemic, hepatoprotective, adaptogenic effects, increase appetite, and stimulate central nervous system function (Slama and Lafont, 1995). *Caryophyllaceae* revealed the

largest number of ecdysteroid-containing species belonging to the *Silene* genera (Mamadaliyeva et al., 2014).

Earlier, several ecdysteroids were isolated from the aerial part of *S. tomentella*: tomentesterone A, tomentesterone B, integristerone A (Ramazanov et al., 1995, 1996; Saatov et al., 1993). Considering the available data on the positive effect of PE on carbohydrate metabolism (Kutepova et al., 2001, Syrov et al., 1994), in the present work the possible hypoglycemic activities of the sum of phytoecdysteroids from *S. tomentella* were first analyzed. Besides, the chemical compound of butanol extract was studied.

Materials and Methods

Plant material

Silene tomentella plant was collected in 2018 in the mountains of Kulzhuktau, Bukhara region of the Republic of Uzbekistan during the growing season under the supervision of Dr. A.M. Nigmatullaev. An authenticated voucher sample (Speech No. 1812) of this plant species is stored in a herbarium (Institute of the Chemistry of Plants substances).

Experimental animals

This study was performed using male rats with body weight of 170-190 g. Rats were kept in one polyacrylic cage and all the rats were quarantined for 1 week before the experiments. All animals housed under standard controlled conditions with temperature at $24 \pm 2^\circ\text{C}$, humidity of $50\% \pm 5\%$ and 12 h light/dark cycle with free access to food (standard commercial rat chow) and water, and received care according to European Convention for the Protection of Vertebrate Animals used for Experimental and Other Scientific Purposes (Strasbourg, 1986).

Extraction and isolation

The dried and ground aerial part of *S. tomentella* (1.0 kg) was extracted four times with methanol (MeOH) (4 x 6 L) at room temperature exhaustion (no considerable yield was further obtained), i.e. the extraction was carried out four times, using 6 L of neat methanol each. The solvent was evaporated at 40°C using a rotary vacuum evaporator (Heidolph Instruments GmbH & CO. KG, Germany). The extract was concentrated and diluted with an equal volume of water. The aqueous portion was sequentially extracted with chloroform and ethyl acetate. After evaporation of the solvents in vacuum, an ethyl acetate fraction was obtained.

The ethyl acetate fraction was evaporated on a rotary evaporator. The residue was obtained as a thick gummy mass (20 g). Ethyl acetate mass separation on individual components by chromatography on a silica gel column (12: 1) eluted with chloroform-methanol systems (100: 1, 50: 1, 30: 1, 20: 1, 15: 1, 9: 1, 4: 1) gave polypodine B(**5**) (18mg), 2,3,20,22-diacetonide 20-hydroxyecdysone(**9**) (8.8mg), and cyasterone(**10**) (7.4mg).

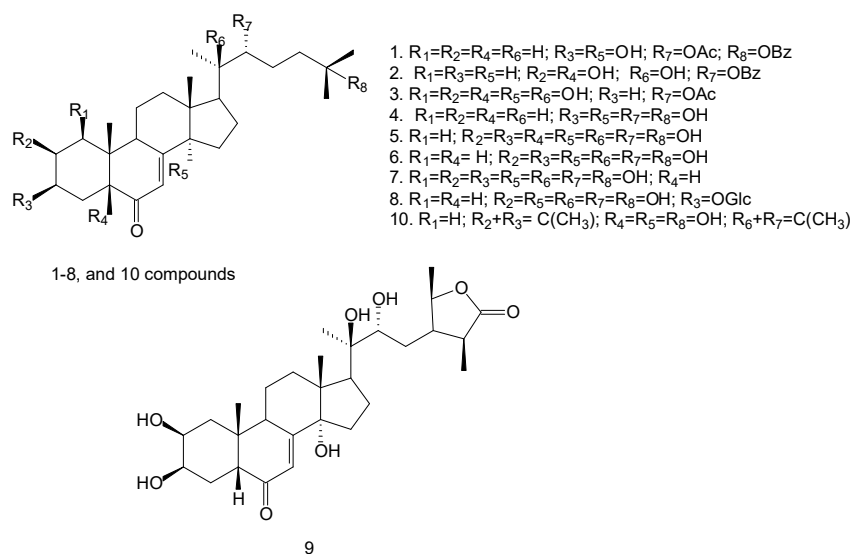
Re-chromatography of a fraction representing a mixture of four ecdysteroids on a silica gel column eluting with the chloroform-methanol system (20: 1, 15: 1, 10: 1, 9: 1, 4: 1) gave tomentesterone A(**1**) (8mg) and tomentesterone B(**2**) (6.2mg), viticosterone E(**3**) (4.5mg), 2-deoxy- α -ecdysone (**4**) (6.5mg), 20-hydroxyecdysone (**6**) (20mg), integristerone A(**7**) (5.3mg), and sileneoside D(**8**) (7.1mg).

Results and discussion

Chemical composition of butanol extracts

Investigation of *S. tomentella* plant allowed to isolate and identify its main ecdysteroids, such as tomentesterone A(**1**) (8mg), tomentesterone B(**2**) (6.2mg), viticosterone E(**3**) (4.5mg), 2-deoxy- α -ecdysone(**4**) (6.5mg), 20-hydroxyecdysone(**5**) (20mg), integristerone A(**6**) (5.3mg), sileneoside D(**7**) (7.1mg) (Ramazanov et al., 1995, 1996), cyasterone(**8**) (7.4mg), polypodine B(**9**) (18mg), and 2,3,20,22-diacetonide 20-hydroxyecdysone(**10**) (8.8mg) (Yusupova et al., 2019). The structures of phytoecdysteroids are shown below, i.e., their names (**Figure 1**).

Figure 1
Chemical structures of phytoecdysteroids isolated from *S. tomentella*



The isolated individual compounds have been identified on the basis of the 1H , ^{13}C NMR and TLC, as well as by comparison with reference compounds (see supplementary information). Table 1 provides the physicochemical data for the individual substances and yield from *S. tomentella*. The NMR 1H and ^{13}C spectra

were recorded by VN MRS-400 (Varian) NMR-spectrometer with an operating frequency of 400 MHz.

Table 1
Physical and chemical properties of phytoecdysteroids isolated from *S. tomentella*

Compound No.	Compound name	Composition	M.P., °C.	Yield,% of plant's mass
1	TomentesteroneA	$C_{36}H_{50}O_7$	139-140	0,0008
2	TomentesteroneB	$C_{34}H_{48}O_6$	145-147	0,00062
3	Viticosterone E	$C_{29}H_{46}O_8$	195-196	0,00045
4	2-Deoxy- α -ecdysone	$C_{27}H_{44}O_5$	234-235	0,00065
5	Polypodine B	$C_{27}H_{44}O_8$	252-254	0,0018
6	20-Hydroxyecdysone	$C_{27}H_{44}O_7$	241-242	0,0020
7	Integristerone A	$C_{27}H_{44}O_8$	246-248	0,00053
8	SileneosideD	$C_{33}H_{54}O_{12}$	240-242	0,00071
9	20-hydroxyecdysone 2,3,20,22-diacetonide	$C_{33}H_{52}O_7$	220-221	0.0088
10	Cyasterone	$C_{29}H_{44}O_8$	162-163	0.0074

Biological activity

The ecdysteroid-containing preparation from *S. tomentella* was used in several biological experiments where the hypoglycemic activity of investigated compounds was estimated. The experiments showed that the SPE leads to a certain reliable hypoglycemic effect expressed in relation to the initial level in 3 hours after introduction ($p < 0.05$). By this time, blood sugar decreased by 17.6% (initial - 5.1 ± 0.33 , in 3 hours 4.2 ± 0.20 mmol / L). In this case, glibenclamide had a noticeably more pronounced effect (the hypoglycemic activity was 26.9%, $p < 0.01$). The average initial blood sugar level in this group was 5.2 ± 0.21 , in 3 hours 3.8 ± 0.4 mM / L. In intact rats, SPE from *S. tomentella* significantly reduced blood sugar level (in the control group the blood sugar level did not change significantly). Glibenclamide, however, had a more significant decrease in blood sugar than the SPE on 3rd and 7th days (moreover, the differences were significant), then it begins to have a weaker effect and on 14th and 2th1 days, their effect did not differ significantly. The revealed differences in the manifestation by the SPE and glibenclamide of the hypoglycemic

activity can be explained by primarily increasing of tissue glucose consumption under the influence of phytoecdysteroids (Table 2).

Table 2
The effect of repeated administration of the SPE from *S.tomentella* and glibenclamide on blood sugar level in intact rats (M ± m, n = 6)

Experiment Conditions	The sugar content in the blood, mM/L				
	Initial level	In 3 days	In 7 days	In 14 days	In 21 days
Intact animals	4.9±0.22	<u>5.0 ± 0.22</u> +0.2	<u>5.1 ± 0.19</u> +4.1	<u>5.0 ± 0.17</u> +0.2	4.9 ± 0.21
SPE	4.9±0.28	<u>4.0 ± 0.18 *</u> -18.4	<u>3.8 ± 0.17 **, **</u> -22.5	<u>3.7 ± 0.13 *</u> -24.5	<u>3.6 ± 0.13 **, **</u> -26.5
Glibenclamide	4.8±0.28	<u>3.4 ± 0.17 *</u> -29.2	<u>3.1 ± 0.10 **, **¹</u> -35.4	<u>3.3 ± 0.15 *</u> -31.3	<u>3.9 ± 0.22 **, **</u> -18.8

So, the introduction of SPE in 2.5 hours before the intraperitoneal administration of glucose significantly impeded the increase in blood sugar. In this experiment, glibenclamide also exerted a more pronounced effect, however, the significant difference between the two experimental groups was only at the peak of the hyperglycemic effect of glucose (30 minutes after its administration) (Table 3).

Table 3
The effect of the SPE from *S.tomentella* and glibenclamide on the blood sugar level under glucose load (M ± m, n = 6)

Experiment conditions	Blood sugar level, mM/L								
	initial	In 15 min	Ef fect in %	in 30 min	Ef fect in %	in 45 min	Ef fect in %	in 60 min	Ef fect in %
Control	5.1±0.2 2	6.9±0.24*	+35.3	8.4±0.30*	+64.7	6.8±0.19*	+33.3	5.9±0.1*	+15.7
SPE	5.1±0.1 9	6.1±0.24*,* *	+19.6	7.1±0.23*,* *	+39.2	5.9±0.20*,* *	+15.6	5.2±0.1**	+1.9
Glibenclamide	4.9±0.2 3	5.6±0.20**	+14.3	6.4±0.21*,* *,1	+3.6	5.5±0.18**	+12.2	4.9±0.2**	0

The hypoglycemic activity of the SPE from *S. tomentella* was also quite pronounced also in alloxan hyperglycemia. At that, in the group of animals with the blood sugar level level of 8.0 mM/L the hypoglycemic activity of the tested sum was less pronounced than in glibenclamide, but in animals with blood sugar levels up to 14 mM/L there were no reliable differences in hypoglycemic activity between both groups. In rats of alloxan group with blood sugar level up to 20 mM/L after the introduction of the SPE there was even a slight advantage over glibenclamide in the hypoglycemic activity in 60 and 120 minutes after introduction, and in 180 minutes this difference generally acquired a reliable character (Table 4).

Table 4

The effect of the SPE from *S.tomentella* and glibenclamide on blood sugar in rats with alloxan hyperglycemia of varying degrees severity (M ± m, n = 6)

Experiment Conditions	The sugar content in the blood, mM/L			
	Initial level	In 60min	In 120min	In 180min
Blood sugar in the range of 8 mM/L				
Control	7.9±0.19	<u>7.8 ± 0.18</u> -1.3	<u>7.7 ± 0.16</u> -2.5	<u>7.6 ± 0.18</u> -3.8
SPE	7.9±0.18	<u>6.8 ± 0.22 **, **</u> -13.9	<u>5.9 ± 0.23 **, **</u> -25.3	<u>5.2 ± 0.18 **, **</u> -34.2
Glibenclamide	8.1±0.15	<u>6.2 ± 0.20 **, **</u> -23.5	<u>5.1 ± 0.19 **, **, ¹</u> -37.1	<u>4.5 ± 0.19 **, **, ¹</u> -44.5
Blood sugar in the range of 14 mM/L				
Control	12.3±0.56	<u>12.3 ± 0.63</u> -	<u>12.1 ± 0.42</u> -1.6	<u>12.0 ± 0.17</u> -2.4
SPE	12.2±0.31	<u>10.2 ± 0.53 **, **</u> -16.4	<u>9.2 ± 0.39 **, **</u> -24.6	<u>8.7 ± 0.38 **, **</u> -28.7
Glibenclamide	12.1±0.53	<u>10.1 ± 0.42 **, **</u> -16.5	<u>9.0 ± 0.37 **, **</u> -25.6	<u>8.6 ± 0.42 **, **</u> -28.9
Blood sugar in the range of 20 mM/L				
Control	19.2±1.1	<u>19.2 ± 0.61</u> -	<u>19.0 ± 0.64</u> -1.1	<u>18.9 ± 0.84</u> -1.6
SPE	19.3±0.75	<u>16.3 ± 0.70 **, **</u> -15.6	<u>14.8 ± 0.49 **, **</u> -23.3	<u>13.6 ± 0.67 **, **</u> -29.5
Glibenclamide	19.5±0.92	<u>17.2 ± 0.63 **, **</u> -11.8	<u>16.3 ± 0.73 **, **</u> -16.4	<u>16.0 ± 0.69 **, **, ¹</u> -18.0

Note. Here and in tables 2 and 3, one asterisk is reliable in relation to the initial level in each group, two are in relation to the corresponding control, 1 is reliably between the two experimental groups (the confidence level is accepted at p < 0.05).

In tables 1 and 3, the numerators show the true values of the indicated values, the denominator shows the effect in% relative to the initial blood sugar level.

The SPE from *S. tomentella* having a certain hypoglycemic activity that is inferior to those of glibenclamide at a relatively low level of glycemia and short-term administration.

Conclusion

In summary, the phytoecdysteroids of *S. tomentella* growing in Uzbekistan were investigated. Phytoecdysteroids cyasterone and 2,3,20,22-diacetonide 20-hydroxyecdysone were isolated for the first time from the *S. tomentella*. Biological activity of the SPE isolated from *S. tomentella* was tested on rats for hypoglycemic activity in compared to known drug Glibenclamide. The SPE from *S. tomentella* makes possible to manipulate hypoglycemic effect at a relatively low level of glycemia and short-term administration. In prolonged administration and high blood sugar levels, when the effect of glibenclamide weakens, the hypoglycemic effect of the SPE is more pronounced.

Disclosure Statement

No potential conflict of interest was reported by the authors.

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Psychological Sciences

Analyzing the main contradictions of gender identity theories

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Keywords: gender identity, interpersonal relationship, gender identity theories, socialization

The modern world, characterized by great dynamism and variability of socio-cultural patterns and norms, creates certain difficulties for the individual, provoking identity crises and intrapersonal gender conflicts. What was an accepted norm for the individual yesterday may no longer be in demand today, as a result of which the individual loses the sense of consistency and integrity in his or her life (as if the person I am today is not the same as I was yesterday). Intrapersonal gender conflict is the experience of inconsistency in changes to oneself as a man or a woman, discrepancy between internal values, images, and ideals of masculinity/femininity, non-acceptance of oneself or individual aspects of one's personality as a man or a woman.

One of the most authoritative sociologists of our time, E. Giddens, explains that it is not biological sex, but sociocultural norms that ultimately determine the psychological qualities, behavior patterns, types of activities, and professions of women and men. The image of masculinity and femininity that dominates the public consciousness turns out to be just a characteristic of men or women in the current culture. Models of socially approved gender behavior are introduced into everyday practices in many ways, the most effective of which are the mass media. People reinforce the broadcast images of masculinity and femininity as standards and focus on them in order to evaluate their "beauty" and "success." (2,3)

Unlike socialization theory and socio-structural theory, which focus on how culture and ideology transform male and female into masculine and feminine, psychoanalytic theories attach primary importance to psychological identification. Identity is perceived as something that people build themselves, and not at the request of others in the process of cultural socialization according to status and social structure and even as a result of mental conflicts and crises. Scientists increasingly view masculinity and femininity as the result of a personal and conscious preference given by an individual to a separate aspect of his or her "I". Turning to the category of identity makes it possible to see the mechanisms of the connection between the intrapersonal and socio-cultural determinacy of actions in situations of social interaction, social choice, and to understand the contradictory nature of group and personal principles in a person. It is no coincidence that the concept of identity is increasingly replacing the more traditional concepts of the self-concept, the image of the "I", self, selfhood. According to E. Erikson, identity is based on the awareness of the temporal extent of one's own existence, presupposes the perception of one's own integrity, and allows a person to determine the degree of their similarity with different people while simultaneously seeing their uniqueness and inimitability. In other words, identity is understood as the process of organizing life experience into an individual "I" (4).

There are social and personal substructures of identity. Personal identity is understood as a set of characteristics that makes a person similar to himself and different from others. Social identity is interpreted in terms of group membership, belonging to a group, inclusion in a social category. There are contradictions between the personal and social substructures of identity. Achieving a balance between these substructures indicates a successful development of the

personality, unresolved contradictions and conflicts contribute to the emergence of an identity crisis. In line with the theory of social identity of H. Tajfel and J. Turner, gender identity, along with ethnic, professional, religious, is considered one of the components of social identity (10,11).

Gender identity is one of the most important and, along with ethnic, the most stable among all forms of human social identity. The main functions of gender identity as a component of self-awareness of the individual are:

- ensuring internal consistency;
- interpretation of social experience;
- proportioning one's abilities with the social opportunities provided by society; - regulation of behavior and activity.

All this ensures adaptation to socio-cultural conditions and the possibility of self-actualization of the individual. In modern scientific literature, the question is raised about the need to distinguish between sexual and gender identity. Psychologists prefer to use the term "gender", thereby emphasizing that many differences between men and women are created by culture, while the word "sex" implies that all differences are a direct consequence of biological sex" (9).

In the phenomenon of gender identity, the somatic features are primarily emphasized, on the basis of which a person's identity as a representative of a certain gender is formed. In gender identity, the socio-cultural parameters of the categories "male" and "female" come to the fore, in accordance with which a person identifies himself with a specific gender group, constructing his identity as a representative of any gender. The ideas about gender identity developed in the 80s of the twentieth century were based on the biological-evolutionary paradigm and the gender-role approach. Modern conceptualizations of gender identity are based on the social-constructivist paradigm

Today, gender stereotypes are changing, but in different ways among different social classes. Thus, the established stereotype of femininity remains popular to this day, but mainly among men: a woman should be gentle, beautiful, soft, affectionate and at the same time passive and dependent. But according to the ideas of modern women themselves, they should be smart, energetic, enterprising. The stereotype of masculinity has also changed. Traditionally, it included physical strength, suppression of tenderness, a functional attitude towards women, lack of restraint in expressing anger and passion. The modern portrait is different: intelligence is valued higher than physical strength, the manifestation of tenderness and spiritual subtlety is allowed, and the curbing of rough feelings is required.

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Biological Sciences

GREEN ENERGY AND AN ECOLOGICALLY SUSTAINABLE FUTURE

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Summary. In the modern world, increasing energy demand, climate change and environmental pollution are among the most important problems of humanity. The concepts of green energy and environmental sustainability play an important role in solving these problems. Against the background of the depletion of natural resources and damage to ecosystems, the use of renewable energy sources has become a key element of both economic development and environmental protection.

Green energy - a type of energy obtained through solar, wind, hydropower, bioenergy and other renewable sources - contributes to sustainable development by causing minimal damage to nature. These energy sources, in addition to playing a decisive role in the fight against climate change, also ensure the efficient use of energy. Environmental sustainability includes the protection of natural resources, waste management and the creation of a healthy environment for future generations.

This topic requires the joint efforts of society, states and international organizations. Studies show that green energy and environmental sustainability are a prerequisite not only for ensuring the environment, but also for social and economic well-being. In this regard, the presented topic is of particular relevance both in terms of analyzing the current situation at the global level and determining prospects for the future.

I hope that the information presented on this topic will be useful for readers, encouraging them to make more informed and responsible decisions on issues of green energy and environmental sustainability. Environmental sustainability should become an integral part of each of our lives, and everyone should contribute to a greener future.

Keywords: Green energy, green energy sources, environmental sustainability, use of natural resources

YAŞIL ENERJİ VƏ EKOLOJİ DAVAMLI GƏLƏCƏK

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Xülasə. Müasir dünyada artan enerji tələbatı, iqlim dəyişikliyi və ətraf mühitin çirklənməsi bəşəriyyətin ən vacib problemləri sırasındadır. Bu problemlərin həlli istiqamətində yaşıl enerji və ekoloji davamlılıq konsepsiyaları mühüm rol oynayır. Təbii ehtiyatların azalması və ekosistemlərin zərər görməsi fonunda bərpa olunan enerji mənbələrindən istifadə həm iqtisadi inkişafın, həm də ətraf mühitin qorunmasının əsas elementinə çevrilmişdir.

Yaşıl enerji – günəş, külək, hidroenerji, bioenerji və digər bərpa olunan mənbələr vasitəsilə əldə edilən enerji növü – təbiətə minimum zərər vuraraq davamlı inkişafa töhfə verir. Bu enerji mənbələri iqlim dəyişikliyinə qarşı mübarizədə həlledici rol oynamaqla yanaşı, həm də enerjinin

səmərəli istifadəsini təmin edir. Ekoloji davamlılıq isə təbii resursların qorunmasını, tullantıların idarə olunmasını və gələcək nəsillər üçün sağlam bir mühitin yaradılmasını ehtiva edir.

Bu mövzu cəmiyyətin, dövlətlərin və beynəlxalq təşkilatların birgə səylərini tələb edir. Tədqiqatlar göstərir ki, yaşıl enerji və ekoloji davamlılıq yalnız ətraf mühitin deyil, həm də sosial və iqtisadi rifahın təmin olunması üçün əsas şərtidir. Bu baxımdan, təqdim olunan mövzu həm global səviyyədə mövcud vəziyyətin təhlili, həm də gələcəyə dair perspektivlərin müəyyən edilməsi baxımından xüsusi aktualıq kəsb edir.

Ümid edirəm ki, bu mövzu üzrə təqdim olunan məlumatlar oxucular üçün faydalı olacaq, onları yaşıl enerji və ekoloji davamlılıq məsələlərində daha məlumatlı və məsuliyyətli qərarlar qəbul etməyə təşviq edəcəkdir. Ekoloji davamlılıq hər birimizin həyatının ayrılmaz bir hissəsinə çevrilməli və daha yaşıl bir gələcək üçün hər kəs öz töhfəsini verməlidir.

Açar sözlər. Yaşıl enerji, yaşıl enerji mənbələri, ekoloji davamlılıq, təbii resursların istifadəsi,

Yaşıl enerji anlayışı və onun mahiyyəti. Yaşıl enerji bərpa olunan mənbələrdən istehsal edilən, ətraf mühitə minimal ziyan vuran, enerji növüdür. Bu enerji növü ekoloji davamlılıq prinsiplərinə əsaslanaraq, karbon emissiyalarını azaltmağa və təbii resurslardan səmərəli istifadəyə yönəlib. Yaşıl enerji təkcə ətraf mühitin qorunmasına deyil, həmçinin iqtisadi inkişafın davamlı olmasına və gələcək nəsillərin enerji ehtiyaclarının təmin edilməsinə xidmət edir [1]. Yaşıl enerjinin aşağıdakı xüsusiyyətləri var:

- Bərpa olunma xüsusiyyəti. Yaşıl enerji mənbələri təbii şəkildə davamlı olaraq yenilənir. Günəş işığı, külək, su və yerin daxili istiliyi kimi resurslar daim mövcuddur.

- Ekoloji təmizlilik. Fosil yanacaqlardan fərqli olaraq, yaşıl enerji mənbələri karbon dioksid (CO₂) və digər istixana qazlarının emissiyasını minimuma endirir. Havanın, torpağın və suyun çirklənməsinə səbəb olmur.

- Təhlükəsizlik və sabitlik. Enerji təhlükəsizliyini təmin edən əsas səbəblərdən biri də yaşıl enerji mənbələrinin tükənməz olduğudur. Bu səbəbdən, enerji idxalından asılılıq minimuma enir və yerli resurslardan istifadəyə şərait yaradır.

- Davamlı İnkişaf. Hazırkı enerji ehtiyaclarını ödəyərkən gələcək nəsillərin enerji resurslarına zərər vermir. Eyni zamanda, BMT-nin Davamlı İnkişaf Məqsədləri çərçivəsində ətraf mühitin qorunmasına və iqtisadi inkişafın dəstəklənməsinə töhfə verir. [2]

- Enerji Çeşidliliyi. Yaşıl enerji fərqli mənbələrdən istehsal oluna bilər (günəş, külək, su, biokütlə və s.).

- Uzunmüddətli Maliyyə Səmərəliliyi. Başlanğıcda yüksək quruluş xərclərinə baxmayaraq, uzun müddət ərzində əməliyyat xərclərini azaldır. Əməliyyat xərclərinin azalması və eyni zamanda enerji səmərəliliyinin artırılması ilə iqtisadi qənaətə nail olunur.

- İnnovasiya və Texnoloji İnkişaf. Yaşıl enerji sahəsi texnoloji yenilikləri təşviq edir (məsələn, ağıllı enerji sistemləri). Texnoloji yeniliklər çox hallarda yeni iş yerlərinin yaradılmasına və iqtisadi inkişafın sürətlənməsinə şərait yaradır. [2]

Yaşıl enerji təkcə ətraf mühitin qorunmasına deyil, həmçinin iqtisadi inkişafın davamlı olmasına və gələcək nəsillərin enerji ehtiyaclarının təmin edilməsinə xidmət edir. Onun mahiyyətinə bir neçə aspektdən baxa bilərik. [2]

Yaşıl enerjinin mahiyyətinə ekoloji faydalılıq tərəfdən baxdığımız zaman bir neçə təsir imkanlarının olduğunu müşahidə edirik. Bura karbon dioksid (CO₂) və digər zərərli qazların emissiyasının azaldılması, ətraf mühitin çirklənməsinin minimuma endirilməsi, biomüxtəlifliyi qorunmasına dəstək aiddir.

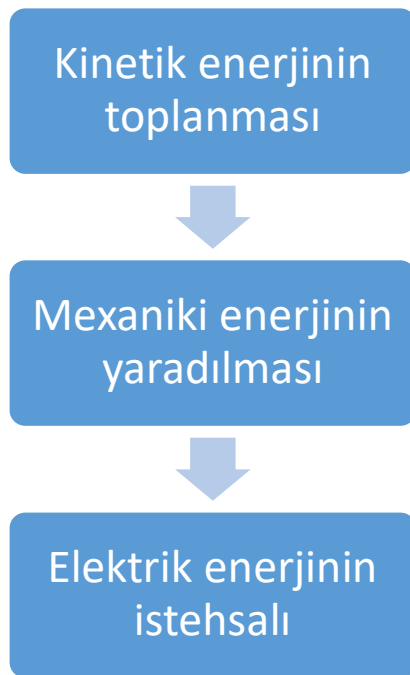
Növbəti aspekt kimi biz bərpa olunma nüansını götürə bilərik. Çünki hər bir yaşıl enerji tükənməzdir və daima yeni xarakterik xüsusiyyətə yenilənir. Digər yanacaq mənbələrindən fərqli olaraq tükənmə təhlükəsi yoxdur. [c]

Yaşıl enerji mənbələri və onun digər enerji mənbələrindən fərqi. Yaşıl enerji mənbələrinə aşağıdakılar aiddir:

- Günəş
- Külək
- Hidroenerji
- Bioenerji
- Geoenerji
- Dalğa enerjisi
- Hidrogen enerjisi [d]

Günəş enerjisi, günəş şüalarının enerjisini elektrik və istilik enerjisinə çevirmək üçün istifadə olunan bərpa olunan enerji növüdür. Günəş, dünyanın ən güclü və tükənməz enerji mənbələrindən biridir. Bu enerji növü ekoloji cəhətdən təmiz, davamlı və geniş tətbiq sahəsinə malikdir. Azərbaycanın coğrafi mövqeyi və iqlimi günəş enerjisindən geniş istifadə üçün əlverişlidir. Ölkədə illik günəşli günlərin sayı 2400-3200 saat arasında dəyişir. Bu, günəş enerjisinin inkişafı üçün mühüm bir baza yaradır. Ölkəmizdə, Kənd təsərrüfatı və suvarma sistemlərində, məişət və sənaye miqyaslı enerji istehsalında, lternativ enerji mənbələrinin təşviqində tətbiq oluna bilər [2].

Külək enerjisi, havanın hərəkətindən yaranan kinetik enerjinin mexaniki və ya elektrik enerjisinə çevrilməsi ilə əldə edilən bərpa olunan enerji növüdür. Külək türbinləri vasitəsilə istehsal olunan bu enerji növü, təmiz və ekoloji baxımdan davamlı enerji mənbələrindən biridir [2].



Külək enerjisi küləyin yaratdığı kinetik hərəkətin türbinlərin qanadlarını döndərməsi ilə başlayır. Bu proses aşağıdakı mərhələlərdən ibarətdir:

1. **Kinetik Enerjinin Toplanması:** Külək türbinlərinin qanadları küləyin təsirindən dönmür.
2. **Mexaniki Enerjinin Yaradılması:** Qanadların dönməsi ilə generatora enerji ötürülür.
3. **Elektrik Enerjisinin İstehsalı:** Generator vasitəsilə mexaniki enerji elektrik enerjisinə çevrilir və enerji şəbəkəsinə ötürülür.

Azərbaycan külək enerjisinin inkişafı üçün əlverişli coğrafi şəraitə malikdir. Xüsusilə Xəzər dənizi sahilləri və Abşeron yarımadası külək enerjisinin inkişafı üçün böyük potensiala malikdir. Ölkədə orta illik külək sürəti 3-5 m/s civarındadır ki, bu da enerji istehsalı üçün kifayət qədər əlverişlidir [2].

Hidroenerji, suyun hərəkətindən əldə edilən kinetik və potensial enerjinin elektrik enerjisinə çevrilməsinə əsaslanan bir enerji növüdür. Bu enerji növü əsasən bəndlər, çaylar və su axınlarından istifadə etməklə istehsal olunur. Hidroenerji bərpa olunan enerji növü olaraq ekoloji təmiz və davamlı hesab edilir. Hidroenerji istehsalı suyun potensial və kinetik enerjisinin mexaniki və elektrik enerjisinə çevrilməsi ilə həyata keçirilir [2]. Əsas mərhələlər:

1. **Su saxlanması.** Su bəndlərdə toplanır və enerji istehsalı üçün müəyyən bir hündürlükdən axıdılır.
2. **Mexaniki enerji istehsalı.** Su axını turbinləri hərəkətə gətirir və mexaniki enerji yaradır.
3. **Elektrik enerjisi istehsalı.** Turbinlərin hərəkəti generator vasitəsilə elektrik enerjisinə çevrilir.
4. **Enerjinin şəbəkəyə ötürülməsi.** İstehsal olunan elektrik enerjisi enerji şəbəkəsinə inteqrasiya olunur və istifadəçilərə çatdırılır.

Hidroenerji, təmiz enerji istehsalında mühüm rol oynayaraq istixana qazlarının azaldılmasına, enerji təhlükəsizliyinin təmin edilməsinə və iqtisadi inkişafın dəstəklənməsinə töhfə verir. Azərbaycan kimi su resursları ilə zəngin ölkələrdə bu enerji növü həm ekoloji, həm də iqtisadi baxımdan strateji əhəmiyyətə malikdir [2].

Bioenerji, bioloji mənbələrdən – bitkilərdən, heyvan tullantılarından və ya üzvi materiallardan (biokütlə) əldə edilən enerji növüdür. Bu enerji növü bərpa olunan enerji mənbələri arasında mühüm yer tutur və istilik, elektrik enerjisi, həmçinin nəqliyyat üçün yanacaq təmin edir. Bioenerji ekoloji cəhətdən təmiz və dayanıqlı enerji istehsalı baxımından əhəmiyyətlidir. Bioenerji mənbələrinə bitki biokütlesi, heyvan tullantıları, əkinçilik və meşə tullantıları, mikroorqanizmləri, qida və məişət tullantılarını aid edə bilərik.

Geoenerji, Yer daxili istiliyindən əldə edilən enerji növüdür. Bu enerji Yer nüvəsindən, maqma qatından və yeraltı su hövzələrindən gələn istiliyin istismarına əsaslanır. Geotermal enerji, bərpa olunan və davamlı enerji növlərindən biri olaraq elektrik istehsalı, istilik təminatı və soyutma məqsədləri üçün istifadə edilir [2].

Dalğa enerjisi, okean və ya dəniz səthində yaranan dalğaların mexaniki enerjisini elektrik enerjisinə çevirməyə əsaslanan bir enerji növüdür. Bu enerji, küləyin suyun səthinə təsiri nəticəsində meydana gələn dalğaların kinetik və potensial enerjisindən istifadə etməklə istehsal olunur. Dalğa enerjisi bərpa olunan enerji mənbələri arasında yer alır və xüsusilə sahiləyən ölkələr üçün əhəmiyyətlidir.

Hidrogen enerjisi, hidrogenin kimyəvi reaksiyalarla enerji istehsalına çevrilməsidir. Bu enerji növü bərpa olunan enerji mənbələri arasında yer alır və əsasən təmiz və ətraf mühitə zərər verməyən enerji istehsal etmək üçün istifadə olunur. Hidrogen, çox yüksək enerji sıxlığına sahibdir [2].

Yaşıl enerjinin BMT-nin Dayanıqlı İnkişaf Məqsədlərindəki yeri. 2015-ci ildə BMT-də qəbul edilən Dayanıqlı İnkişaf Məqsədlərinin bir neçə bölməsində müxtəlif tələblər əsasında yaşıl enerjiyə yer ayrılmışdır [4]. 2030-cu ilə qədər hər kəsin etibarlı və aşağı qiymətli enerjiyə çıxışını təmin etmək, enerji səmərəliliyini artırmaq, bərpa olunan enerji mənbələrinin qlobal enerji istehsalındakı payını artırmaq tələbləri ilə Məqsəd 7-nin əsasında yaşıl enerji durur. Yaşıl enerji, bu məqsədin mərkəzində durur. Məqsəd, hər kəsə aşağı qiymətə, etibarlı, davamlı və müasir enerji təmin etməkdir. Yaşıl enerji mənbələri (günəş, külək, hidroenerji, bioenerji və s.) bu məqsədin həyata keçirilməsi üçün ən ideal vasitələrdən biridir. Bərpa olunan enerji mənbələri, enerji ehtiyaclarının təmiz və davamlı şəkildə qarşılmasını təmin edir və fosil yanacaqlara olan asılılığı azaldır [4].

Sənayelərdə dayanıqlı texnologiyaların inkişafını və tətbiqini dəstəkləmək, yaşıl enerji texnologiyalarına investisiya yatırımlarını artırmaq tələbləri ilə Məqsəd 9 Sənaye və infrastrukturda yaşıl enerji ilə əlaqəlidir [4].

Yaşıl enerji, dayanıqlı sənaye və infrastrukturun inkişafında da mühüm rol oynayır. Bərpa olunan enerji texnologiyalarının inkişafı və yayılması, sənaye sahələrində daha az zərərli və daha səmərəli istehsal proseslərinin tətbiqinə imkan verir. İnnovasiyalar və yaşıl enerji texnologiyalarının təşviqi, sənaye sektorunun daha ekoloji təmiz və davamlı olmasına gətirib çıxarır.

Şəhərlərdə enerjinin səmərəli istifadəsini təmin etmək, dayanıqlı binalar və nəqliyyat sistemləri yaratmaq tələbləri ilə Məqsəd 11. Davamlı şəhərlər və icmalar yaşıl enerji ilə əlaqəlidir.

Şəhər və icmaların inkişafı zamanı, yaşıl enerji istifadəsi əhəmiyyətlidir. Şəhərlərdə enerji istehlakının böyük bir hissəsi binaların və nəqliyyat sistemlərinin enerji istifadəsindən gəlir. Bərpa olunan enerji mənbələrindən istifadənin artırılması, şəhərlərin daha təmiz və dayanıqlı olmasına kömək edir. Günəş panelləri, külək turbinləri və digər yaşıl enerji texnologiyaları, şəhərlərin enerji istehsalını və istehlakını daha ekoloji təmiz hala gətirə bilər [4].

İqlim dəyişikliklərinin təsirlərinə qarşı mübarizə aparmaq və adaptasiya strategiyalarını gücləndirilməsi, iqlimlə əlaqəli təbii fəlakətlərin qarşısının alınması, karbon emissiyalarını

azaltmaq üçün yaşıl enerji istifadəsini təşviq etmək tələbləri ilə Məqsəd 13 İqlim dəyişikliyinə asılıdır.

Məqsəd 13 (İqlim dəyişiklikləri ilə mübarizə): Yaşıl enerji, iqlim dəyişikliyinə azaltmaq üçün əsas vasitədir. Bu məqsəd çərçivəsində yaşıl enerjiyə keçid, daha az karbon emissiyası və ekoloji zərərlərin azaldılması məqsədini güdür [4].

Ekoloji davamlılıq üçün əsas tədbirlər. Ekoloji davamlılıq ətraf mühitin qorunması, təbii ehtiyatların səmərəli istifadəsi və gələcək nəsillər üçün sağlam ekosistemlərin təmin edilməsi məqsədini daşıyır. Aşağıdakı tədbirlər bu məqsədə nail olmaq üçün əsas addımlardır:

- Təbii resursların səmərəli istifadəsi
- Bərpa olunan enerji mənbələrinə keçid
- Tullantıların idarə olunması və azaldılması
- Biomüxtəlifliyin qorunması
- Şəhər mühitinin dayanıqlı inkişafı
- Təhsilin və maarifləndirmənin artırılması [3]

Təbii resursların səmərəli istifadəsi ekoloji davamlılığın əsas prinsiplərindən biridir. Resursların məsuliyyətli istifadəsi həm ətraf mühitin qorunmasını, həm də gələcək nəsillər üçün onların mövcudluğunun təmin olunmasını hədəfləyir. Bu məqsədlə görülməli tədbirlərdən biri su resurslarından səmərəli istifadəsidir. Bu tədbirlərə su istismarının azaldılması, effektiv suvarma texnologiyalarının tətbiqi, tullantı sularının təkrar istifadəsi, ictimai maarifləndirmə, torpaq degradasiyasının qarşısını alma, eroziyanın azaldılması, alternativ yanacaq növlərinə keçid, meşə salma və qoruma, aqromezə proqramlarının tətbiqi, atmosferin mühafizəsi və innovasiyaların tətbiqi aiddir [3].

Bərpa olunan enerji mənbələrinə keçid, iqlim dəyişikliyi ilə mübarizə, ətraf mühitin qorunması və enerji təhlükəsizliyinin təmin edilməsi üçün mühüm bir addımdır. Bu keçidin uğurla həyata keçirilməsi üçün müxtəlif sahələrdə tədbirlərin görülməsi zəruridir. Bərpa olunan enerji sahəsində dövlət səviyyəsində strategiyaların və fəaliyyət planlarının hazırlanması vacibdir. Bu strategiyaların və fəaliyyət planlarının tətbiq edilməsi bu sahədə sahibkarlıq fəaliyyətlərini stimullaşdıracaqdır. Sahibkarların stimullaşdırılması üçün bərpa olunan enerji layihələrinin vergi güzəştləri və subsidiyalarla təmin edilməsi böyük imkanlar açacaqdır. Günəş panelləri, külək turbinaları, hidroenerji qurğuları və digər texnologiyaların yerli istehsalının təşviqi mərhələli şəkildə bərpa olunan enerji mənbələrinə keçidi sürətləndirir [3].

Tullantıların düzgün idarə olunması ekoloji davamlılıq və ətraf mühitin qorunması üçün əsas şərtlərdən biridir. Bu, həm təbii resursların qorunmasını təmin edir, həm də iqlim dəyişikliyinə qarşı mübarizəyə töhfə verir [2]. Tullantıların çeşidlənməsi, təkrar emal və məhsulların yenidən istifadəsi, üzvi tullantıların idarə edilməsi və ağıllı tullantıların idarə olunması bu istiqamətdə atılan ən vacib tədbirlərdir [3].

Biomüxtəliflik (canlı orqanizmlərin müxtəlifliyi) ekosistemlərin sabitliyini və funksionallığını təmin edən əsas amildir. Onun qorunması ekoloji tarazlığın təmin edilməsi, iqlim dəyişikliyi ilə mübarizə və təbii resursların davamlı istifadəsi üçün zəruridir. Biomüxtəlifliyin qorunması istiqamətində tədbirlər təbiəti mühafizə zonalarının yaradılması, nadir və nəslə kəsilməkdə olan növlərin qorunması, ekosistemlərin bərpası, ekoloji maariflənmə və istiqamətlərdə həyata keçirilə bilər.

Ekoloji davamlılıq istiqamətində maarifləndirmənin artırılması cəmiyyətin bütün səviyyələrində ekoloji şüurun inkişafına kömək edir. İnsanların ekoloji problemləri dərk etməsi və onların həllində fəal iştirakı təbiətin qorunmasına və dayanıqlı gələcəyin təmin edilməsinə şərait yaradır. Bu istiqamətdə təhsil proqramlarının dəyişdirilməsi, KİV vasitəsilə maariflənmə, şəhər və rayonlarda ictimai tədbirlərin keçirilməsi, yerli icma təşəbbüslərinin dəstəklənməsi əsas tədbirlərdəndir [2].

Nəticə və təkliflər. Yaşıl enerji və ekoloji davamlılıq dünya miqyasında cəmiyyətin, iqtisadiyyatın və ətraf mühitin harmonik şəkildə inkişafını təmin etmək üçün ən vacib strateji prioritetlərdəndir. Bu anlayışlar yalnız iqlim dəyişikliyi ilə mübarizəyə deyil, həmçinin ekosistemlərin qorunmasına, təbii resursların dayanıqlı istifadəsinə və gələcək nəsillər üçün sağlam bir planetin təmin edilməsinə yönəlmişdir. Yaşıl enerji mənbələri, xüsusilə günəş, külək, hidroenerji, bioenerji və digər bərpa olunan mənbələr, ənənəvi fosil yanacaqlardan fərqli olaraq ekoloji təmiz, tükənməz və iqtisadi baxımdan sərfəli enerji alternativləri təqdim edir. Onların geniş miqyasda tətbiqi:

- İqlim dəyişikliyinə qarşısını alır;
- Havanın çirklənməsini azaldır;
- Enerji asılılığını və istehlakını daha davamlı edir.

Ekoloji davamlılıq təbii ehtiyatların qorunmasını, tullantıların idarə olunmasını və biomüxtəlifliyin saxlanılmasını təmin edir. Bu konsepsiya yerli icmaların, dövlətlərin və beynəlxalq təşkilatların birgə səyləri nəticəsində reallaşdırıla bilər. Davamlılıq üçün əsas layihələr aşağıdakı istiqamətdə həyata keçirilə bilər:

- Təbii resurslardan səmərəli istifadə;
- Tullantıların idarə olunması və təkrar emalın genişləndirilməsi;
- Biomüxtəlifliyin qorunması və deqradasiyaya uğramış ərazilərin bərpası.

Yaşıl enerji və ekoloji davamlılıq bir-biri ilə sıx bağlı anlayışlardır. Onların inkişafı təkcə ekologiya baxımından deyil, həm də sosial və iqtisadi baxımdan vacibdir. Dövlətlərin, özəl sektorun, qeyri-hökumət təşkilatlarının və cəmiyyətin birgə səyləri ilə bu istiqamətdə daha dayanıqlı və yaşıl bir gələcək qurmaq mümkündür. Ekoloji davamlılıq həm bu günümüzün, həm də gələcəyimizin təminatı üçün qaçınılmaz bir zərurətdir.

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Art History

DECIPHERING PREHISTORIC MURALS OF ÇATALHÖYÜK AS CALENDARS OF FEMALE REPRODUCTIVE CYCLE

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ABSTRACT

The article ventures to uncover and decode sacred and practical meaning of abstract wall images from the Stone Age settlement of Çatalhöyük. Based on our reconstruction, we came to believe that they testify to the intellectual development of people who lived there 8500 years ago, specifically to their understanding of the female reproductive cycle.

Since discovered in 1958, the Neolithic site of Çatalhöyük has never ceased to amaze the scientific world with stunning finds, including its mind-boggling city plan and a collection of astounding artifacts and other material remains. When examining them, one question inevitably arises: what was the level of sophistication of people who built and made them and how they preserved and passed knowledge well before any hint of literacy? To answer, we focus on some well-preserved abstract wall paintings (murals), presumed by scholars to be prototypes of ancient carpets.

The authors, who are engaged in deciphering of the visual 'language' of Turkic carpets, have read pictorial abstractions from Çatalhöyük and concur that they attest to the incredible knowledge of the first people. We see the murals as calendars preserving and displaying priestly knowledge about the nature of the female monthly cycle. Such knowledge, depicted on walls of dwellings among other sacred objects, apparently had ritual and magical significance.

Decipherment of the 'calendars' reveals to the scientific world the level of intellectual development level of people before written history. The knowledge revealed shatters the established paradigm about the nature of consciousness and poses questions for new scientific models about its development.

KEY WORDS: decipherment, Çatalhöyük, calendar, mural, carpet.

INTRODUCTION

The visual materials under consideration in this article date back to 6500 - 6000 BCE and were discovered during the excavations of the ancient settlement of Çatalhöyük (also rendered Çatal Hüyük) situated in the central Anatolian region of what is now Türkiye. The site was discovered in 1958 and excavated in subsequent years by a British archeologist James Mellaart

to reveal sensational finds about early human habitation patterns.¹ Many scholars believe Çatalhöyük is the oldest urban settlement anywhere in the world.

With its well-preserved artifacts, Çatalhöyük stands a silent witness to the life and death of people in preliterate societies. One of the most intriguing among the finds at Çatalhöyük were abstract murals or frescos adorning walls of some dwellings. They contained enigmatic drawings, with imagery that is seemingly simple, yet defies easy comprehension. These abstract images have kept their secrets for more than half a century. Two of the most complex-patterned murals were recognized by Mellaart as prototypes of earliest carpets. While Mellaart's hypothesis was generally accepted, meaning of the images he discovered remained elusive. This article reopens this debate by presenting our attempt at decipherment of the images in question.

OUR RESOLVE TO DECIPHER these murals grew as we developed a theory of the visual language of Turkic carpet art.² Awareness of carpet imagery produces a realization that ancient carpets are never purely ornamental in purpose. Instead, abstract visual language of carpets, when known both to creators and viewers, is able to encode, convey and preserve sacred, philosophical and social narratives. The learned patterns of image coding encouraged us to untangle the mystery of Çatalhöyük murals identified by Mellaart as carpet prototypes. We were convinced that the principles of visual coding, revealed to us in the carpet art, have semantic commonality with messages conveyed via wall images discovered by Mellaart and decided to test this hypothesis through attempted decipherment.

Before presenting our conjectures, it is essential to briefly discuss location of the murals and placement of pictorial elements involved in coding. Descriptions and illustrations from Mellaart's publications indicate that a typical dwelling in the settlement consisted of a number of small (5-10 m²) spaces opening into a larger room of 18-20 m². Between dwellings of family groups were sanctuaries decorated with statuary, reliefs, and murals. There is a clear commonality in motifs between these three types of visual elements: all of them depict predominantly female and male deities. A figurine of Mother Goddess - the symbol of life and fertility - is seen in Fig. 1b. She also appears as a woman in labor (Birthing Goddess) on reliefs in Fig. 1a and 1c; these are copied in larger images of the side panels of murals (Fig. 2). Her numerous daughters are depicted in sexually explicit poses in the upper and lower horizontal bands in Fig. 3. The male deity was imagined in the shape of a strong, indomitable bull, portrayed in the bull-head figurines as in Fig. 1c and in the form of graphic images of bull horns in Fig.2.



¹ James Mellaart. "Çatal Hüyük Revisited" HALI magazine. UK, London, No.42, Nov-Dec 1988, pp. 21-30.

² Сиявуш Дадаш, Аслан Дадаш. *Визуальный язык азербайджанского ковра*. Istanbul, 2022.

1a. Birthing Goddess relief; 1b. Mother Goddess figurine; 1c. Birthing Goddess relief and figurines of sacred bulls.

As the murals we attempt to decipher are placed in the sanctuaries of the living quarters above the images of Mother Goddess and Sacred Bull, they must have signified something spiritually important for the people of Çatalhöyük. In a preliterate society, these images could be intended to preserve some knowledge people possessed. Imagery familiar to viewers thus formed the collective consciousness of the people, became part of their spiritual experience.

Each picture is built like a story plot from repeated visual symbols recognizable to a viewer. Interconnections in the arrangement of images enhance their visual content. Key symbols used throughout the murals are those in Fig. 1 or their derivations. Meanings of these images must be similar or related even if they are executed in slightly different ways from the same set of key symbols.

The purpose and meaning of the murals were revealed to us when comparing these similar images. We believe these were sacred calendars of Mother Goddess. We shall endeavor to read them for the first time after 9,000 years of oblivion.



Fig 2. A mural presenting a version of the Mother Goddess calendar

The sacred calendar was intended for daughters of the community and contained knowledge about female nature as a message from Mother Goddess. The calendar served as a guide explaining the timing of the female reproductive cycle indicating days of impurity, cleansing, love-making and, most importantly, it pointed to the divine day of conception. For all the improbability of existence of such a detailed knowledge about reproductive matters in a Neolithic society, the calendar unmistakably demonstrates precisely that.

To illustrate this point, we turn to the key elements of the first calendar in Fig. 2. The center of the horizontal axis of the picture is formed by a chain of 21 rhomboids (diamonds) divided into three groups. We propose that the chain shows a 21-day period within a month during which women are ready to conceive. The leftmost red diamond coming before seven black ones signifies the end of bleeding and the start of love-making. We interpret three consecutive strings of rhomboids (7 black + 7 red + 6 black) to indicate three periods of readiness of female body for conception. The first and third periods marked with black

diamonds indicate days less likely for conception. In between them there is a central group of 7 red diamonds showing most favorable days. The fourth diamond in the red seven stands out as divine because of its central location and enlarged size.

Above and below the chain of rhomboids one can see polygonal bands or conduits bounded by three angled lines. We believe they represent umbilical cords as they seem to derive from belly regions (probably navels) of the eight Birthing Goddess images on the margins of the 'carpet': 4 figures each on the left and right. The sequence of bull horns appearing in the conduits signifies love-making in cycles with black rhomboids. In the middle of the bands, above and below the red diamonds, the calendar indicates the greatest likelihood of conception, highlighting the central red diamond by location and size. This is the divine 12th day from the beginning of a healthy cycle.

The stick images of men in the upper and lower framing of the picture also consist of 3 groups of figures: two groups in black and one in red. The total number of male figures is 21. The calendar directs men highlighted in red to comply with the established rules and "hold fast" to women. The mirror duplication of the same images in the upper and lower parts of the mural is predominant in the later Sumero-Akkadian visual art. This is understood as a manifestation of a belief that life of humans in the lower world is duplicated by gods in the upper world (or vice versa).³

The content of the calendars sheds a light on the reason for their creation. Apparently, it is related to the high value placed on the reproductive function and hence the value of child-bearing women to the community, which must have experienced high levels of childbirth and infant mortality. The average life expectancy in Çatalhöyük, according to Mellaart, may not have exceeded 35 years.⁴ Based on our decipherment of the first mural, we can observe similar elements in the second mural as well (Fig.3).

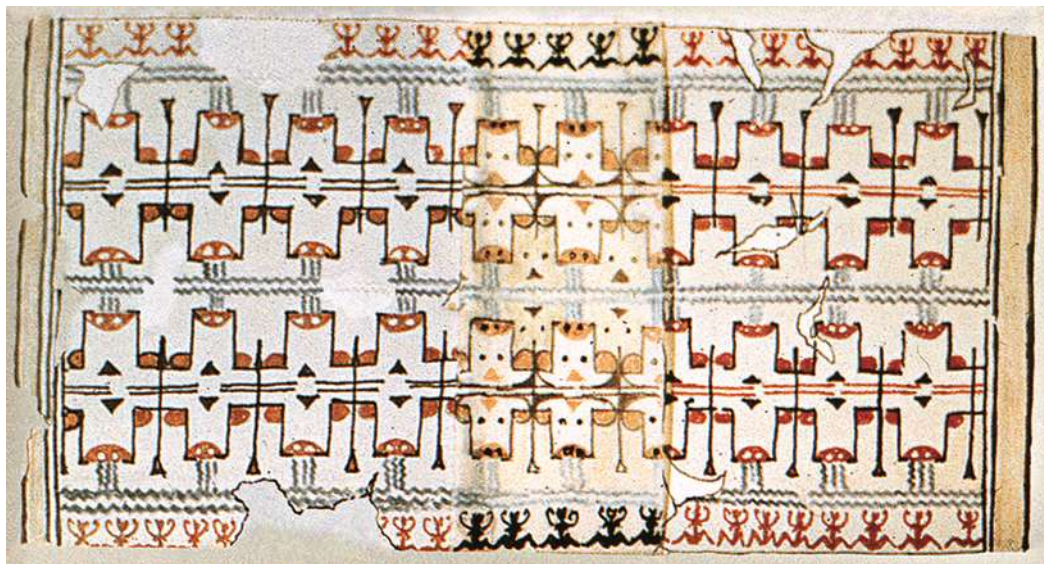


Fig 3. Another version of the calendar

³ В.В. Емельянов. *Древний Шумер. Очерки культуры*. Санкт-Петербург, 2001.; Торкильд Якобсен. *Сокровища тьмы. История месопотамской религии* (пер. с англ.) Российская АН, Институт востоковедения. Москва. 1995.

⁴ Дж. Мелларт. *Древнейшие цивилизации Ближнего Востока* (пер. с англ.) Главная редакция восточной литературы. «Наука». 1982. Стр. 84-95.

However, design and visual presentation of the content are executed in a different way. A liberal approach to these important, even sacred depictions suggests that the underlying knowledge had been known in the community for some time while the style of its pictorial expression had not yet solidified. The visual solution of the first calendar is characterized by a clear choice of visual vocabulary of elements and logic of their interrelation. The calendar can be perceived as a message bequeathed to the community by Mother Goddess.

The second calendar (Fig.3) provides a new interpretation to the visual elements of similar content by ascribing different symbols to the Birthing Goddess and love-making between women and men. A more abstract visual language of this calendar expresses already familiar concepts in a different way, shedding unique light on modes of thinking and passing of knowledge in a pre-literate society.

Similar to the previous example, the picture is constructed of two mirror-image sections, one for Gods and one for mortals. The divine and mundane worlds are separated by an undulating band along the horizontal axis. The same undulating ribbons, filled with simple stick-like figures of young women, make up the upper and lower frames of the painting. Both upper and lower framing ribbons are composed of 21 female figures, illustrating 21 days of the female cycle in a sequence of 8 red + 5 black + 8 red figures.

The second calendar depicts a more simplified representation of the cycle. Here the 5 central days of the cycle are highlighted, signifying the readiness of the female nature to conceive. In the upper and lower ribbons, these are marked with black female symbols. Of these, days 10 and 12 are deemed especially conducive for reproduction. The presence of Mother Goddess is accentuated through a network of undulating bands (corridors), evocative of umbilical cords, which signify connectedness of Holy Mother with her daughters, i.e. women of the community. Each woman in the central field of the mural is represented by a 'tower'. These towers are reminiscent of dwellings, almost like individual family units of Çatalhöyük. Sleeve-like shorter sections of wavy bands connect each tower individually to Mother Goddess. This powerful imagery tells us that each mother-woman is connected to Holy Mother and is seen as a tower, a force giving and sustaining life in the fortified settlement of Çatalhöyük.

Further on, intervals between towers may represent calendar days of the female reproductive cycle. They illustrate love encounters of women with men, who are symbolized by arrows. During the first and third phase of the cycle, the left and right pane of the mural, respectively, the arrows penetrate yet fail to yield results. In the second phase of the cycle (the central pane), tower entrances open: they letting arrows in and facilitate conception. A pictorial explanation of women's readiness to conceive is provided by two red, rounded shapes on the top of each tower. It is precisely these rotund forms that are linked by short, wavy sleeves to Goddess. We interpret them as female breasts. Characteristically, they are empty in the first and third phases of the cycle and are filled in the second phase, once more indicating their readiness to conceive. On the tenth and twelfth days of the calendar, the arrows penetrating the towers impregnate women, that is, enable divine conception, which is symbolized by stylized babyface images that look wonderfully endearing.

Abstract visual language of the calendar is astoundingly realistic. When properly read, the calendar has a capacity to enchant with its drama of visual presentation and layered symbolic meaning and to captivate in its presentation of complex topics with tact and guileless simplicity. The calendar is rare glimpse into the spiritual life of Neolithic people, illuminating their sacred notions of private and social life.

SUMMARY OF DECIPHERMENT RESULTS

- Deciphering of the contents of two calendars created in Çatalhöyük around 8,500 years ago shatters the notion about lack of intellectual development of prehistoric people.
- The results of decipherment reveal the fruits of intellectual activity of Neolithic people aimed at sustaining life in their community. In abstract images they depicted knowledge about the nature of female physiology and created a calendar of favorable days for conception. The knowledge they discovered is universal and strikingly close to contemporary ideas about the subject.
- Visual presentation of this knowledge in the form of female reproductive calendars, interpreted by Mellaart as prototypes of ancient carpets, is incredibly detailed and realistic.
- The depiction of calendars in the inner sanctum of dwellings, among the sacred symbols of male and female gods, testify to the worship of knowledge, which was a divine gift for people of Çatalhöyük.

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Philosophical Sciences

О философских аспектах влияния технологической цивилизации (из опыта Казахстана)

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Аннотация: В данной статье рассматриваются некоторые философские аспекты цифровизации в современном Казахстане в контексте их преобразующего влияния в образовании, общественных структурах, уровне самосознания и ценностной ориентации молодого поколения. В условиях освоения сложной реальности технологической цивилизации, актуализируется взаимодействие между цифровизацией и культурной идентичностью. Статья предлагает тезисный философский дискурс трансформации цифровых технологий в образовательные парадигмы, которые меняют социальную динамику и влияют на поведение и цели молодого поколения, отражая как вызовы, так и возможности, связанные с этой цифровой трансформацией.

Вероятно, нет ни одной области современного общества, не затронутой информационными технологиями. В информационном обществе информация понимается как основной ресурс, приравниваемый к знаниям, то есть образованию. Обеспечение и правильное использование информации во всех аспектах нашей жизни расширяет наши знания и позволяет нам эффективно их применять. Правильное управление этой информацией также имеет важное значение. При изучении особенностей управления в информационном обществе мы считаем, что анализ роли и характеристик управляющего субъекта имеет решающее значение, продолжающее идеи работы Д. Белла «Пришествие постиндустриального общества» относительно «Кто будет управлять?» [1].

Знание всегда является идеализированным образом истины, поскольку знать что-либо, означает иметь идеализированное понимание этого. Таким образом, мы должны рассматривать познание как сложный процесс, а знание как определенный результат. Важное значение в связи с этим приобретает национальное образование, которое есть, в свою очередь, компонент образовательной системы, направленной на воспитание будущих поколений специалистов. Насколько этим новым поколениям специалистов будет присуще чувство национальной идентичности и как они его сохраняют в эру наступления цифровизации (как сопутствующего «продукта» глобализации) - проблема, требующая изучения. На сегодняшний день для Казахстана главная цель национальной системы образования - воспитать личностей, осознающих важность сохранения национальных ценностей и их гармонизацию с общечеловеческими ценностями.

Необходимо рассматривать образование и воспитание как неразделимые части единого целого, осознавая, что знания, полученные в процессе образования, всегда будут иметь прочное будущее. Знания являются главной движущей силой научно-технического и экономического прогресса, на основе которых осуществляются многочисленные усилия движения по пути цивилизации. Основной целью образования в Республике Казахстан является воспитание у молодежи чувства гражданственности и казахстанского патриотизма, воспитание уважения к государственным символам, почитание народных традиций, знакомство с мировыми и

национальными культурными достижениями [2]. Воспитание строится на духовных ценностях и направлено на формирование личности, способной адаптироваться к современному динамичному, многогранному, поликультурному и полиэтничному миру. Экономическая успешность страны напрямую зависит от степени оказываемого ею внимания образованию и просвещению своей молодежи. Чтобы заложить основу для будущего, первоочередной задачей должно быть воспитание молодого поколения этой страны в поколение сознательное, что сегодня синонимично информированному населению. Как сказал «второй учитель» мудрости Аль-Фараби: «Быть знающим - значит открывать неизвестное и обладать способностью делать это» [3]. В соответствии с этим, главная цель национального высшего образования в современном Казахстане - не просто обучать студентов, не только (и не столько) ориентироваться на усвоение определенных знаний, но и развивать всесторонне развитых, новаторских личностей, которые динамично и гибко адаптируются к информационным (в том числе) вызовам, с энтузиазмом открывают новые идеи в каждом новом обстоятельстве вокруг них.

Повышение качества образовательного контента, а также переход общества к информационной эпохе являются одними из основных показателей развития общества. Сегодня стало ясно, что дальнейшее продвижение научно-технического прогресса может быть достигнуто только за счет эффективного использования информации, поскольку именно информация становится движущей силой экономики, технологий, науки, политики и общего развития общества в информационном обществе. Главной характеристикой широкого внедрения новых информационных технологий в современный образовательный процесс, наряду с развитием информационной грамотности студентов, является поиск путей, которые четко определяют практическую направленность обучения, гармонизируют междисциплинарные связи и определяют содержание и цель образования.

В современную эпоху, не предоставляя студентам качественного образования, невозможно соответствовать требованиям времени и обеспечивать экономическое развитие. Основная цель высших учебных заведений - подготовить будущих специалистов, обладающих знаниями и способных к освоению и получению знаний в течение всей жизни. Это подразумевает как профессиональную и технологическую подготовку, так и обеспечение широких знаний и высокой информационной грамотности студентов: владение компьютером, эффективное использование Интернет-ресурсов, освоение новых компьютерных технологий в образовании, проведение интерактивных уроков и др. Для достижения этих образовательных целей стал необходимым переход от традиционных методов обучения к инновационным. Такой тип обучения развивает индивидуальные способности студентов и позволяет им быстро адаптироваться к социально-экономическим изменениям. Высшие учебные заведения современного Казахстана активно внедряют инновационные подходы для дальнейшего повышения качества образования. Подготовка квалифицированных специалистов является доминирующей целью национального высшего образования.

Интеграция и совершенствование информационных технологий в системе образования, а также повышение информационной грамотности обучающихся являются тесно взаимосвязанными задачами, требующими внедрения в образовательный процесс современных технологий и технических средств обучения. Выполнение этих требований напрямую связано с научным решением вопросов подготовки высококвалифицированных специалистов в системе образования. Эффективное решение проблемы информатизации в образовании тесно связано с развитием информационной грамотности педагогических кадров. Информационная грамотность учителя является неотъемлемой частью его общей педагогической культуры. Информационные системы стремительно развиваются в XXI веке, становясь ключевым компонентом развития промышленности и общества. Современные информационные технологии, постоянно расширяясь и развиваясь, открывают значительные возможности для общества в целом в организации работы и созданию новых форм занятости. Внедрение этих возможностей влияет на все аспекты жизни,

включая семью, образование, работу и др. Сегодня информационные технологии могут играть решающую роль в укреплении взаимосвязей между производительностью труда, объемом производства, инвестициями и занятостью. Новые типы онлайн-услуг продемонстрировали потенциал создания многочисленных рабочих мест, как подтвердил недавний опыт.

В процессе использования новых технологий преподаватель берет на себя посредническую и консультационную роль между традиционным обучением и инновационными методами, влияя на качество образования, выступая в качестве менеджера проектов в процессе обучения. Опыт показывает, что использование новых технологий, особенно информационных, требует от преподавателей и такого важного составляющего элемента, каким является психологическая готовность. Для высшего образования Казахстана важно, чтобы преподаватели стремились обладать информационными знаниями, владеть научными методами познания и умели координировать различные виды образовательной деятельности. Кроме того, преподаватели должны уметь находить и обрабатывать дополнительную информацию и представлять ее в адаптивном и востребованном для студентов формате.

В эпоху (эру) глобальной цифровой цивилизации Казахстан поддерживает идею образованного поколения как опоры независимой нации. Думается, XXI век станет «эпохой знающих». Казахское общество в настоящее время переходит в новую фазу развития - информационную, потому что компьютерные технологии и связанные с ними информационно-коммуникационные технологии становятся неотъемлемой частью педагогической сферы. Понятие «Информационно-коммуникационные технологии/ИКТ в образовании» тесно связано с такими терминами, как «новые информационные технологии в обучении», «современные информационно-образовательные технологии», «компьютерные технологии обучения» и др.

В настоящее время национальная система образования характеризуется глубокими структурными изменениями в связи с проводимыми реформами в сфере образования. В эпоху научно-технологического прогресса предоставление качественного образования является одним из самых фундаментальных вопросов развития. В современном цивилизованном обществе основной проблемой в системе образования является повышение качества образования до международного уровня.

Сегодня эффективным путем интеграции в мировую информационно-образовательную сферу является полная цифровизация сферы образования. В Законе Республики Казахстан «Об образовании» цифровизация системы образования определена на основе принципов государственной политики. Долгосрочная государственная Стратегия «Казахстан-2030. Процветание, безопасность и улучшение благосостояния всех казахстанцев» делает акцент на разработке и развитии национальной модели образования и интеграции системы образования Казахстана в мировое образовательное пространство. Поскольку XXI век - век информации, цифровая грамотность является важнейшей задачей. Дж. Гэлбрейт в своей книге «Новое индустриальное общество», изданной еще в 1967 году, рассматривает новое индустриальное общество как следствие коренной трансформации капитализма, основанной на новых факторах труда. По его мнению, производство становится все более сложным в связи с научно-техническим прогрессом, требующим социальной организации, включающей индивидуальное управление собственностью [4]. Соответственно, субъект управления переходит от капиталистических собственников к группе лиц, управляющих деятельностью предприятий, - так называемой техноструктуре. «Техноструктура» состоит из специалистов в области управления и научно-технической сферы. По мнению Э. Тоффлера (работа «Третья волна»), политический режим, институты власти и лидерские качества будут более качественными по сравнению со «второй волной». Во-первых, потому что промышленная информатизация является неотъемлемой частью информатизации, в результате которой человек обрел свободу в своей трудовой деятельности и не испытывает физических ограничений в работе и меньше взаимодействует с психологическими процессами. Во-вторых, «новая свобода возникает из последствий новой технологии. Если

технология раннего индустриализма требовала работников, способных механически повторять определенные задачи, то технология будущего потребует людей, способных принимать решения, осуществлять действия, требующие внутренней гибкости и креативности» [5]. Сверхиндустриализм требует и производит «обычных людей», которые отличаются друг от друга, и это не роботы, а личности. Действительно, современный человек должен обладать высокими интеллектуальными способностями и психофизиологическими характеристиками для выполнения своей трудовой деятельности. Для многих профессий физическая сила и здоровье не имеют первостепенного значения. Информационные связи не требуют физических движений. Человеку необходимо думать, генерировать и объединять идеи и решения на своем рабочем месте. В современном информационном обществе работнику не обязательно быть физически сильным. Интеллектуальные способности имеют решающее значение, поскольку они открывают широкие возможности для людей с ограниченными физическими возможностями. Здоровье человека имеет большое значение как основа психологического благополучия.

В настоящее время процесс информатизации активно идет во всех секторах казахстанского общества, предпринимаются усилия по модернизации государственных услуг и административного управления в соответствии с мировыми стандартами с использованием новых информационно-коммуникационных технологий (в частности, уникальный опыт Сингапура - Smart Nation). Одним из важнейших факторов политического обновления Казахстана является создание и развитие информационного менеджмента.

В связи с этим значительная ответственность и обязательства возлагается на инструменты публичной информации в нашей стране. Это означает, что инструменты публичной информации формируют общественное мнение и играют важную роль в защите нашего информационного пространства, влияют на формирование общественного сознания. Поэтому для Казахстана одним из направлений в области цифровизации является развитие информационного менеджмента.

В Казахстане формируется новая культура управления, в которой информация, знания, научное планирование и социальное моделирование становятся приоритетными. Это актуализирует, в частности, обострение внимания к медиакультуре, поскольку последняя играет посредническую роль между обществом и государством, индивидами и властью. Организация Объединенных Наций назвала XXI век «Эрой информатизации». Казахстан вступил в новую фазу глобализации, где основным показателем научно-технического прогресса станет информатизация общества. Вместе с тем, необходимо понимать, что для Казахстана крайне важно уважать национальные особенности, ценности, идентичность. На этом этапе технологии играют ведущую роль, а роль человека как инициатора и двигателя прогресса постепенно меняется, увеличивая зависимость от технологий. В новых социотехнологических условиях люди сталкиваются с новыми проблемами и цифровыми реалиями, что требует глубокого понимания этих сложных изменений. Этот процесс расширяет коммуникационные и познавательные возможности и создает новые цифровые среды, отличные от реального мира. В результате возникла электронная форма культуры, тесно связанная с текущими глобальными изменениями.

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Journalism

The Impact of Media on Young People's Critical Thinking

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Abstract:

This article explores the influence of media on young people and students, examining how it often prescribes specific viewpoints and shapes public perception. The propensity of media to dictate what individuals should think can significantly inhibit the development of independent thought and personal opinion formation. By focusing on the delivery of information rather than encouraging nuanced discussions, media outlets may unintentionally stifle the critical thinking skills essential for young audiences. This analysis highlights the implications of media consumption on the cognitive autonomy of students and its potential effects on their engagement in public discourse and democratic processes.

Keywords: Media influence, young people, students, public perception, cognitive autonomy, critical thinking, independent thought, opinion formation, media literacy, democratic engagement.

Introduction

Critical thinking, as defined by the American Philosophical Association, is the ability to think logically and reflectively, evaluate information, and make reasoned judgments. In today's fastpaced and informationsaturated society, critical thinking is more crucial than ever. With the unrelenting flow of data through numerous media channels, young people are often inundated with information that can influence their decisions, perceptions, and beliefs.

The modern media landscape is characterized by the rapid dissemination of information, thanks in large part to the rise of digital media. From social networks and online platforms to traditional news outlets, the abundance of available content presents both opportunities and challenges for young people in developing their critical thinking skills. This article posits that while media has the potential to foster critical thinking among youth, it equally harbours risks that may hinder their ability to critically evaluate information, make informed decisions, and avoid misinformation.

Characteristics of Media and Young People

Young people today navigate a unique media environment, one that is saturated with social networks, digital platforms, and often misleading information. Social media platforms such as Instagram, TikTok, and YouTube serve as primary sources of news and entertainment for many youth. According to Pew Research Center (2022), over 80% of teenagers report using social media daily, which underscores the profound influence these platforms have on their information consumption habits.

The constant availability of information can affect the cognitive processes of young people in both beneficial and detrimental ways. The psychological implications of this digital landscape are significant; constant exposure to information can lead to cognitive overload, impacting attention spans and the depth of engagement with content (Humbert et al., 2021). As noted by media

scholars, “The fastpaced nature of digital media often encourages users to skim rather than engage deeply with information, promoting superficial understanding” (McLuhan, 1964).

Positive and Negative Impact of Media on Critical Thinking

Despite the challenges posed by the digital landscape, various facets of media can support the enhancement of critical thinking skills in young people. Educational platforms, such as Khan Academy and TEDEd, provide highquality resources that promote critical inquiry and analysis. “Access to quality information empowers learners to distinguish credible sources from unreliable ones,” asserts media literacy educator Renee Hobbs (Hobbs, 2017).

Moreover, numerous campaigns aimed at increasing media literacy have emerged, seeking to equip young individuals with the skills necessary to navigate and evaluate media content effectively. Programs like “News Literacy Project” and “MediaSmarts” focus on informing youth about misinformation, helping them to recognize biases and develop a discerning approach to media consumption. Furthermore, the diversity of perspectives available on various platforms encourages the evaluation of different viewpoints, which can enhance argumentative skills and critical analysis.

Conversely, the media landscape also poses significant challenges that can undermine young people's critical thinking abilities. The proliferation of misinformation and fake news is particularly concerning. According to a study by the MIT Media Lab, false news spreads significantly faster and reaches more people than the truth on social media platforms (Vosoughi, Roy, & Aral, 2018). This phenomenon creates confusion, leading to difficulties in discerning truth from falsehood.

In addition, social media algorithms generate personalized content tailored to users' interests, often resulting in echo chambers and filter bubbles that reinforce existing beliefs. These algorithms limit exposure to diverse perspectives, which can inhibit critical evaluation and a deeper understanding of complex issues (Pariser, 2011).

The demands of quickconsumable content further contribute to the decline in attention spans, as social media's “clickbait” culture fosters a superficial engagement with information. As described by educational psychologist Patricia Greenfield, “When attention spans decrease and content is consumed rapidly, the capacity for thoughtful reflection diminishes” (Greenfield, 2014).

Media Criticism in Contemporary Contexts

The state of media criticism in contemporary society is characterized by a significant decline, largely due to the constraints imposed by mainstream media, which frequently curtail open discourse on this topic. Although some critical perspectives occasionally reach the public sphere, they are often compromised by the same systemic forces that have transformed mainstream media into a vehicle for manipulation and misinformation.

The integration of new media, particularly social media, into responsible journalism has become a focal point of ongoing discourse within both academic and professional circles. It has been observed that news organizations increasingly operate as integral components of the political and economic systems they are ostensibly tasked with reporting on. Instead of maintaining an objective distance and striving to provide accurate accounts of events, many media outlets act as stakeholders, manipulating information to align with their organizational interests. This entanglement results not only in inherent conflicts of interest for media corporations but also in a troubling dynamic wherein journalists who strive for integrity often find their ethical standards compromised by the demands of power within their own institutions. The implications of this reality extend to the necessity of robust media criticism, which is vital for the preservation of democratic processes (Ken, Sanes, 2008).

However, the prevalence of incisive media criticism remains limited. Notable thinker Noam Chomsky posits that the primary function of the media is not to inform the public but rather to misinform—to divert public attention away from critical issues and significant policy changes enacted by political and economic elites. He argues that this diversion occurs through a continuous

barrage of distractions and trivial information. In his analysis, Chomsky outlines ten strategies employed by the media to maintain this status quo, three of which warrant specific attention: the strategy of distraction, the strategy of problem-reaction-solution, and the strategy of fostering complacency among the public (Timsit, Sylvain, 2010).

Chomsky identifies the strategy of distraction as a key method of social control. He contends that by inundating the public with inconsequential information, the media effectively diverts attention away from issues that are crucial for informed citizenry, including critical knowledge in the fields of science, economics, psychology, neurobiology, and cybernetics. This diversion not only diminishes public engagement with essential knowledge but also undermines the capacity for critical analysis and informed decisionmaking (Timsit, 2010).

About the problem-reaction-solution strategy, Chomsky argues that this approach involves the creation of a problem—often by instigating a crisis—followed by a public reaction that makes the population more amenable to proposed solutions. For example, an economic crisis may be orchestrated to engender acceptance of austerity measures, diminished social rights, and the dismantling of public services (Timsit, 2010). This cyclical manipulation of public perception fundamentally alters the landscape of societal discourse.

Furthermore, the strategy of promoting complacency entails cultivating a culture where ignorance and mediocrity are not only tolerated but celebrated. Chomsky asserts that this could lead to a societal norm wherein the populace believes that it is fashionable to embrace stupidity and vulgarity, thereby stifling critical thought and meaningful discourse. This strategy is particularly insidious as it fosters an environment where dissenting ideas and alternative viewpoints struggle for visibility and support. This phenomenon is exacerbated by the concentration of media ownership in the hands of a few wealthy individuals, who naturally wield significant influence over the narratives that are disseminated to the public, thus rendering the media an ally of those in power.

In his seminal work, *Media Control*, Chomsky further elaborates on the dynamics of consent manufacturing within democratic societies, particularly in the context of the United States. He identifies fear as a potent mechanism through which consent is orchestrated. By exploiting public fear—whether through the portrayal of external threats or domestic concerns—media narratives shape public support for governmental initiatives, including military actions. Chomsky notes that jingoistic rhetoric and emotionally charged slogans can mobilize public sentiment, resulting in what he describes as a "bewildered herd" that becomes increasingly susceptible to manipulation. However, he cautions that the media's presentation of reality bears little resemblance to the actual circumstances, emphasizing that public perception is often grounded in a distorted version of events that serves the narrow interests of a governing elite (Chomsky, 182).

The divergence between public perception and reality underscores the urgent need for a critical reevaluation of the role of media in society. It necessitates rigorous academic inquiry and dialogue aimed at unpacking the mechanisms by which media narratives are constructed and propagated. This critical examination is essential not only for understanding the contemporary media landscape but also for fostering an informed citizenry capable of recognizing and challenging the pervasive influence of manipulation and misinformation. Consequently, the legitimacy of these critical perspectives invites further scholarly investigation, as they hold significant implications for democratic engagement and civic responsibility in the modern era.

The media frequently exhibits a propensity to prescribe certain viewpoints, thereby influencing public perception and limiting the scope for individual deliberation. Rather than presenting a diverse array of perspectives and fostering an environment conducive to critical thinking, the media often adopts a didactic approach, effectively dictating what individuals should think. This phenomenon can be attributed to the media's tendency to prioritize the dissemination of

information over the facilitation of nuanced discussion, thereby undermining the development of independent thought and autonomous opinion formation.

In this context, the media's role can be seen as more prescriptive than provocative, with a focus on shaping public opinion rather than encouraging the public to engage in introspective analysis and form their own opinions. By presenting information in a manner that is often devoid of contextual depth and lacking in diverse perspectives, the media can inadvertently stifle the cognitive processes that underpin critical thinking, thereby limiting the potential for individuals to develop wellinformed and independently held opinions.

This raises important questions regarding the media's impact on cognitive autonomy and the extent to which it can be seen as a facilitator of, or impediment to, independent thought. A critical examination of the media's influence on public discourse reveals a complex interplay between the dissemination of information, the shaping of public opinion, and the cultivation of individual perspectives. Ultimately, the media's tendency to dictate rather than stimulate can have farreaching implications for the development of a critically thinking and intellectually engaged citizenry.

Solutions and Recommendations

To effectively nurture critical thinking skills in an increasingly mediarich environment, educational institutions and families must assume a proactive role. The responsibility of equipping young people to critically evaluate information does not rest on a single group but requires a collaborative approach that includes schools, parents, and media and technology companies.

a) The Role of Educational Institutions

Schools can play a pivotal role in enhancing media literacy by implementing tailored educational programs that specifically focus on critical analysis, factchecking, and evaluating sources. A curriculum that integrates media literacy can equip students with the skills necessary to discern credible information from misinformation. For instance, classes could include modules on recognizing bias, understanding propaganda techniques, and evaluating the reliability of various information sources. Such approaches can develop critical thinking as a core component of students' learning experiences.

Additionally, schools should encourage students to engage in discussions around current events and media messages, fostering an environment where questioning and inquiry are viewed as vital parts of the learning process. Group discussions, debates, and Socratic seminars can stimulate thoughtful engagement with complex topics, helping students learn how to articulate their thoughts and understand differing viewpoints.

Participation in hands on projects, such as producing multimedia reports or creating awareness campaigns about misinformation, can provide practical experience in critical thinking. Students can work together to analyze news stories, dissect advertisements, or critique social media posts, which enhances their ability to engage in realworld media environments. These experiential learning opportunities allow students to practice critical analysis and develop a deeper understanding of how media messages are constructed and disseminated.

b) The Role of Parents

Parents can significantly contribute to this developmental process by guiding their children in navigating media content effectively. This guidance starts with creating an open environment at home that encourages discussions about media consumption. "Conversations about media consumption are essential; they help children develop an understanding and appreciation for credible information," suggests media literacy advocate David Buckingham (Buckingham, 2019). When parents take the initiative to discuss the media content their children are exposed to, they can clarify misconceptions, address misleading information, and reinforce the importance of critical evaluation.

Furthermore, parents should encourage their children to ask questions about the information they encounter—who created it, what their motivations might be, and whether the sources cited are credible. This inquiry-based approach can foster a culture of critical engagement at home. Engaging with children in activities such as reading news articles together, watching documentaries, or exploring websites can provide rich opportunities for guided discourse about media messages.

Additionally, parents can model critical thinking behavior by demonstrating their process of evaluating information. For instance, when presented with a news story, parents can articulate their thinking process—asking themselves questions and conducting factchecking as a family. This modeling not only provides practical skills but also emphasizes the importance of skepticism and inquiry in everyday life.

c) The Responsibility of Media and Technology Companies

In parallel to the roles of educational institutions and families, media and technology companies have a crucial responsibility to ensure accountability for the content they host and to actively participate in the promotion of media literacy. One way these companies can contribute to a healthier information ecosystem is by supporting thirdparty factchecking initiatives. Collaborating with independent factcheckers can enhance the credibility of the information shared on their platforms, helping to combat the spread of misinformation.

Moreover, providing users with accessible tools to evaluate the credibility of sources is essential. Features that flag unreliable or questionable content, as well as algorithms that prioritize highquality, credible sources of information, can contribute to an informed user base. For instance, platforms can implement systems for user reports on misinformation or offer educational prompts that encourage users to think critically about the information they consume before sharing it.

Finally, media and technology companies should promote digital literacy by collaborating with educational institutions to provide resources and training that help educators teach media literacy effectively. This collaboration could involve funding programs, providing informational resources, or creating partnerships with schools to bring media literacy workshops directly into classrooms. By fostering a culture of responsibility and education around the usage of their platforms, these companies can play a transformative role in shaping how young people engage with media.

In summary, fostering an environment conducive to critical thinking in the face of proliferating media requires a concerted effort from educational institutions, families, and media companies alike. By collaborating to implement comprehensive media literacy programs, encouraging open dialogue at home, and ensuring accountability in content delivery, society can equip young people with the essential skills needed to navigate the complexities of modern media. Together, these efforts will help cultivate a generation that not only consumes media thoughtfully but also engages with it critically, ensuring a more informed, discerning public equipped to face the challenges of the digital age.

Conclusion

The intersection of media and critical thinking is a complex and multifaceted topic that reflects the broader challenges faced in our rapidly changing digital environment. Modern media offers both tools and resources that can effectively enhance critical thinking skills among young people, providing unique opportunities to engage with diverse perspectives and access highquality information. However, it also presents significant threats, including the pervasive spread of misinformation and the challenge of cognitive overload, which can overwhelm individuals and hinder their ability to think critically.

Misinformation, fueled by social media dynamics and sensationalized reporting, creates a landscape where distinguishing truth from falsehood becomes increasingly difficult. As young people navigate this environment, their ability to evaluate the credibility of sources and engage in discerning dialogue is put to the test. Furthermore, cognitive overload can result from the relentless stream of information that modern digital platforms present, thereby impeding deeper engagement and thoughtful reflection. As noted by cognitive psychologists, “When faced with an excess of information, individuals often adopt surfacelevel processing strategies, which can inhibit critical thought” (Sweller, 1988).

This scenario underscores the necessity for a shared responsibility across various sectors of society. Young people, parents, educators, and media and technology companies must work collaboratively to foster a mindful media environment that encourages critical thinking. Educational institutions are particularly crucial in this interplay, as they can develop curricula that emphasize media literacy, providing students with the skills needed to navigate the complex information landscape. By integrating critical thinking exercises and media analysis into traditional learning frameworks, schools can prepare students to be not only consumers of information but also thoughtful evaluators of content.

Moreover, parents play a pivotal role in guiding their children through media consumption. Intentional discussions around media messages and factchecking can help instill critical thinking habits early in life. Encouraging open dialogue about the impact of media portrayals and the importance of diverse perspectives allows young people to cultivate an inquisitive mindset that resists blind acceptance of information.

Looking ahead, if media and technology are leveraged appropriately, they can serve as powerful tools for the development of critical thinking. The potential of digital platforms to facilitate educational content and promote interaction with diverse viewpoints should not be underestimated. For instance, online forums and discussion groups can provide spaces for young people to engage in meaningful debates, enhancing their ability to articulate arguments and evaluate opposing views. Additionally, innovative educational resources—like interactive quizzes, virtual reality simulations, or gamified learning experiences—can make the process of learning to think critically engaging and relevant.

In closing, the ongoing evolution of the media landscape calls for a proactive approach to fostering critical thinking among young people. By prioritizing media literacy and promoting active engagement with content, society can cultivate a generation capable of navigating the intricate and often overwhelming information landscape with discernment and insight. Through collaborative efforts at multiple levels, we can help empower young individuals to not only survive in this complex media environment but thrive as informed and critical thinkers ready to face the challenges of the digital age.

This article provides a comprehensive overview of the relationship between media and critical thinking, focusing on modern media's influences on young people's decisionmaking and evaluative abilities.

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Philological Sciences

Xarici dillərin tədrisinin kommunikativ məqsədi

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Xülasə

Azərbaycanda bir neçə ildir ki, ənənəvi təhsil sistemi öz dövrünü başa vurmaqdadır. Qeyd edək ki, XX əsrin sonları və XXI əsrin əvvəllərində dominant rol oynayan ənənəvi təhsil sistemində təhsil alanlara bir obyekt kimi yanaşılıb, təhsildə avtoritar idarəetmə üsullarına üstünlük verilib. Lakin Azərbaycan müstəqillik qazandıqdan sonra demokratik ölkənin əsas prinsiplərinə uyğun yeni, müasir tələblərə cavab verən təhsil sisteminin qurulmasına başlanılıb. Hazırda tədris-təlim prosesində yeni texnologiyaların tətbiqi, pedaqoji prosesin idarəedilməsində yeni yanaşmalardan istifadə, keyfiyyətli sinif-dərs sisteminin qurulmasına geniş imkanlar açır. Sinif-dərs sisteminin keyfiyyət təminatında ənənəvi dərslərdən fərqli olaraq, müasir dərsin təşkili həlledici rol oynayır. Bu halda sinif mühitində son dərəcə əhəmiyyətli dəyişikliklər baş verir, öyrədənə öyrənən arasında, şagirdlərin öz aralarında və məktəblə valideynlər arasında müasir tələblərə cavab verən qarşılıqlı əlaqələr qurulur. Müasir təlim metodlarından biri olan interaktiv təlim üsullarından və İKT-dən geniş istifadəyə yeni imkanlar yaranır. Bu isə müasir təlim prosesinin qarşıya qoyduğu məqsədlərə çatmağı daha da sürətləndirir.[1]

Açar sözlər: xarici dil, yeni texnologiya, kommunikasiya, təlim metodları, fəal interaktiv təlim, müasir dərs

Communicative purpose of teaching foreign languages

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Abstract

The traditional education system in Azerbaijan has been coming to an end for several years. It should be noted that in the traditional education system, which played a dominant role in society until the end of the 20th century and the beginning of the 21st century, students were treated as objects, and authoritarian management methods were preferred in education. However, after Azerbaijan gained independence, the establishment of a new, modern education system that meets the basic principles of a democratic country has been started. Currently, the application of new technologies in the teaching-learning process, the use of new approaches in the management of the pedagogical process, opens wide opportunities for the establishment of a quality class-lesson system. In contrast to traditional lessons, the organization of a modern lesson plays a decisive role in ensuring the quality of the classroom system. In this case, extremely important changes take place in the classroom environment, interactions between the teacher and the learner, between the students themselves and between the school and parents are established that meet modern requirements. New possibilities for wide use of interactive learning methods

and ICT, which are one of the modern teaching methods, are emerging. This accelerates the achievement of the goals set by the modern training process.

Keywords: foreign language, new technology, communication, training methods, active interactive training, modern lesson

Коммуникативная цель обучения иностранным языкам

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Резюме

Традиционная система образования в Азербайджане уже несколько лет подходит к концу. Следует отметить, что в традиционной системе образования, игравшей доминирующую роль в обществе до конца XX – начала XXI века, к учащимся относились как к объектам, а в образовании отдавалось предпочтение авторитарным методам управления. Однако после обретения Азербайджаном независимости началось создание новой, современной системы образования, отвечающей основным принципам демократической страны. В настоящее время применение новых технологий в учебно-учебном процессе, использование новых подходов в управлении педагогическим процессом открывают широкие возможности для создания качественной классно-урочной системы. В отличие от традиционных уроков, организация современного урока играет решающую роль в обеспечении качества классной системы. При этом происходят чрезвычайно важные изменения в классной среде, устанавливаются взаимодействия между учителем и учеником, между самими учащимися и между школой и родителями, отвечающие современным требованиям. Появляются новые возможности широкого использования интерактивных методов обучения и ИКТ, которые являются одними из современных методов обучения. Это ускоряет достижение целей, поставленных современным тренировочным процессом.

Ключевые слова: иностранный язык, новые технологии, общение, методы обучения, активное интерактивное обучение, современный урок.

Giriş: Qeyd edək ki, müasir təlim prosesinin əsas məqsədi tədrisin səmərəliliyini artırmaq, öz düşüncəsi, ağılı, potensial enerjisi, güclü məntiqi ilə fənləri dərinlən mənimsəyən və onu tətbiq etməyi bacaran, hər cür situasiyalarda işin məğzini tutub çıxış yolunu tapmağı bacaran yüksək intellektli gənclər yetişdirməkdir. Bu məqsədləri yerinə yetirmək üçün fəal interaktiv təlim metodlarından istifadə edərək, təlim prosesi (müasir dərslər) belə aspektdə qurulmalı, keyfiyyətli tədris- təlim prosesinin təşkili təmin edilməlidir. Eyni zamanda müasir dərslərin planlaşdırılmasından sonra, dərslər qədər, dərslər prosesi və dərslərdən sonrakı mərhələlərin geniş təhlili aparılmalı, dərslərin məzmununa keçmədən əvvəl, mövzunun əhəmiyyəti, eləcə də onun öyrənilən qarşısında qoyduğu məqsəd və vəzifələrə dair suallar formalaşdırılmalıdır.[2]

I.Təhsilin humanistləşməsi. Hazırda bütün dünyada təhsilin humanistləşdirilməsi və demokratikləşdirilməsi ideyası aktualıq kəsb edir. Humanistləşdirmə təhsil işinin bütün sahələrində, bütün mərhələ və pillələrdə təhsilin məzmununda, təşkilində, tərbiyəvi tədbirlərdə, müəllim-şagird(tələbə)münasibətlərində, ayrı-ayrı fənlərin tədrisində və s. nəzərdə tutulur. Humanitarlaşdırmanın məqsədi başlıca olaraq, təhsilin məzmununda-tədris planı, proqram və dərslərdə, bir sözlə, tədrisdə öz həllini tapmalıdır.

Humanistləşdirmə ümumbəşəri, ümumdünya mahiyyət kəsb edir. Təlim-tərbiyə işinin, ümumiyyətlə, təhsilin humanistləşdirilməsi ideyasının orta əsrlər dövründən başlayaraq həyata vəsiqə alması danılmazdır.[3]

Təhsilin, təlim-tərbiyənin humanistləşdirilməsinin başlıca məqsədi cəmiyyətin humanist prinsiplərlə yaşamasına, inkişafına xidmət etməsidir.

Təhsilin demokratikləşdirilməsi və humanistləşdirilməsi başlıca olaraq üç istiqamətdə öz həllini tapır:

1. Təhsilin idarə edilməsinə nəzarət və rəhbərlik.
2. Təlim prosesinin təşkili və həyata keçirilməsində ayrı-ayrı fənlərin imkanlarından səmərəli istifadə olunması.
3. Tərbiyə prosesinin təşkili və tərbiyəvi tədbirlərin həyata keçirilməsi zamanı bu üç istiqamətin eyni zamanda bir-biri ilə sıx əlaqədə və bir-birini tamamlama vəhdətində nəzərdə tutulması.
4. Müəllim-şagird, şagird-sınıf rəhbəri, şagird-məktəb rəhbəri, şagird-valideyn münasibətlərində demokratiyanın, xoş mənəli münasibət və ünsiyyətin başlıca yer tutması.

II. Təhsilin məqsədi. Bu baxımdan gənc nəslin yetişdirilməsi, geniş mənada vətəndaş tərbiyəsinin böyük uğurlarının bünövrəsinə gətirib çıxarır. Bununla da mənəvi təkamülə nail ola bilir. Azərbaycanda təhsil islahatı uğurla həyata keçirilir. Təhsilin keyfiyyətinin yaxşılaşdırılması, cəmiyyət üçün inkişaf etmiş, beynəlxalq standartlara cavab verə biləcək şəxsiyyətin formalaşdırılması – sosial-iqtisadi və mədəni inkişafın əsasını təşkil edir. Bu şəxsiyyəti yetişdirmək üçün ailə ilə yanaşı, müəllimlərin də üzərinə böyük məsuliyyət düşür. Pedaqoji təmayüllü müəssisələrdə isə bu, xüsusilə, diqqət mərkəzində olmalıdır. Bu gün qarşımızda duran əsas vəzifələrdən biri texniki tərəqqi dövründə yeni təhsil islahatından, Milli kurikulum və fəal təlimin üsul və vasitələrindən xəbərdar olan, İKT- dən istifadə etməklə dərslərini quran müəllimlər hazırlamaqdır.[4]

Bu baxımdan, xarici dili tədris edən müəllim İKT bacarığına özü yiyələnməklə yanaşı, öyrənənlərdən də, müasir avadanlıqlarla işləməyi tələb etməli, dərsi elektron variantda təqdim etməlidir. Müasir müəllim isə öz fəaliyyətini müasir notlar üzərində kökləməyi bacarmalıdır. Çünki, artıq məktəblər və dərslilər “Elektron” fəaliyyət göstərmək əzmindədirlər.

Xarici dil üzrə kommunikasiya canlı danışığın qurulması, interaktiv fəaliyyətin formalaşmasını tələb edir. Xarici dillərin tədrisinin kommunikativ məqsədi şagirdin şəxsiyyət kimi formalaşmasını əsas götürür. Bu faktor isə həm müəllim, həm də dərslilər və dərslər vəsaitləri faktorı ilə sıx bağlıdır.

III. Fəal təlim üstünlükləri. Bizim işdə ən vacib məsələ tədris olunan xarici dilə şagirdin böyük marağının yaradılmasıdır. Bu məsələ də əsasən praktik dərslərdə həll edilir. Xarici dilə marağı artırmaq üçün şagirdlərə daha asan, onlara yaxın olan mövzularda söhbətlərin aparılması təqdirəlayiqdir. Bu tip ünsiyyət nə qədər mütəmadi olsa, bir o qədər də effektiv olar. Nitq, danışanın fikrinə uyğun olmalıdır. Danışan söyləyəcəyini fikrində götür-qoy etməli, özünə aydınlıq gətirdikdən sonra fikrini izah etməlidir.

Fəal təlim zamanı dialoq ən çox istifadə olunan üsullardan biri olub həm təlim, həm də tərbiyə metodu kimi tətbiq olunur. Əgər dil keçən müəllim sinifdə və ya sinifdənkənar məşğələlərdə bir hadisəni tədris etdiyi xarici dildə öyrətmək istəyərkən ziddiyyət tapırsa, dialoq metodunu tətbiq edir. Ziddiyyətdən çıxışı şagird kollektivinin özü müstəqil surətdə axtarır. Bu zaman şagirdlər öyrəndikləri xarici dildə sözləri səhv belə ifadə etsələr də özləri bir-birinə kömək edə-edə müəllimin müdaxiləsi olmadan səhvlərini düzəldərək ziddiyyətdən çıxış yolu axtarırlar. Dialoq o vaxta qədər davam edir ki, həqiqət artıq üzə çıxır. Bu da şagirdlərdə xarici dilə olan marağı daha da artırır.[5]

Nəticə: Təhsildə özülün möhkəm qoyulması nailiyyətlərin artmasına səbəb olur. Demək, təlimin səmərəlilik dərəcəsinin artırılması başlıca şərt kimi daim diqqətdə olmalıdır. Təlimin keyfiyyəti müasir təlim texnologiyalarını müəllimin yaxşı bilməsindən də asılıdır. Müəllim hazırlığı məsələsi təhsil islahatının əsas tərkib hissəsidir. Qloballaşan dünyada sivilizasiyanın ən mütərəqqi sahəsi sayılan təhsil prosesinin durmadan inkişafı, müasir tələblər səviyyəsində təkmilləşdirilməsi, yenidən qurulması tələb olunur.

Buna görə də hər bir xarici dil müəllimi öz üzərində daima işləməli və inkişaf etməlidir. Bu isə müəllimdən açıqlıq və zənginlik, hər şeydən məlumatlı olmaq, seminarlarda, başqa təcrübəli müəllimlərin dərslərində iştirak etmək, öz həmkarlarının məsləhətlərinə qulaq asmaq və onların təcrübələrindən bəhrələnməyi, həddən artıq səbrli olmağı tələb edir. Müəllimin əsas açarı onun şagirdləri ilə daima ünsiyyətdə olması və onların fikirlərinə tərəfdar çıxmağı bacarmasıdır. Kommunikativ təlimin əsaslarını öyrənilən dildə danışmaq təşkil etdiyindən, müəllim bu dildə gözəl danışmağı bacarmalı və bununla şagirdlərə misilsiz nümunə olmalıdır. Bununla o, şagirdlərdə dilə olan marağı daha da artırmağa nail olmalıdır.

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IMPORTANCE OF ENGLISH LANGUAGE IN THE DEVELOPMENT OF TOURISM MANAGEMENT

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Abstract. The importance of language in communication and understanding between tourists and tourist facilities is emphasized by the fact that English is now an international language and that most tourist establishments require their employees to speak both English and the local language of the country because English has become a familiar language for almost all people. Since the tourism industry must interact directly with foreigners, this paper will focus on the importance of the English language in the bi-sector development and encourage practitioners to pay attention to the language issue. Collaboration between educational providers and tourism organizations is necessary if they want to compete in the global market.

Key words: Language, Tourism, Management, English, Development

The rapid global development of tourism management has been a major advancement in the tourism industry over the past few decades. Communication is key to management, and the English language will be a crucial tool for communication within tourism organizations and for tourism management. Buckley et al. noted that language plays a role in facilitating communication between headquarters and subsidiaries. As a result, high-level personnel with language skills are becoming increasingly important to corporate efficiency and success in tourism management in the global environment. These personnel are needed as local agents of tourism organizations conducting domestic tour business. This paper aims to analyze the roles of the English language, consider definitions of tourism management, investigate tourism management and development, understand language policy and tourism management, examine the characteristics of tourism management, discuss service quality in tourism organizations, propose solutions for managing language problems, and testify to the idea that effective tourism management is partially dependent on the use of language, particularly in the form of promotion, instructions, and other written material.

Language is a system of spoken or written symbols that can convey ideas, emotions, and experiences. By understanding the role of language, organizations can improve coordination skills, operate new technology more effectively, develop customer satisfaction, and have effective management in the tourism industry. Domke-Damonte and Nurden cited Willy Brantdt, a former German Chancellor, who once said, "If I am selling to you, I speak your language." People cannot understand what someone else demands if they are unable to converse with others on their own terms. This suggests that language generates greater interest and is a significant factor that influences competitiveness, so it is imperative that an organization have communicative competence throughout the organization. The crucial connection between consequence and action in tourism businesses is Buck & Communication. People can succeed somewhere else if they can succeed at the organization. Daft and explained how language and organizational management in tourism are related. They show that there is little variation in language used in tourist organizational management. A wide range of languages is more complicated and prone to mistakes. In actuality, descriptive language used in tourism organizational management frequently contains both factual and inaccurate information. This implies that dealing with a wide range of

linguistic usages may not be as advantageous for the company. To convey meaningful claims about the systems, communication to and from organizations will primarily use a wide range of vocabulary.

Due to a lack of communication and knowledge exchange, ignoring the crucial responsibilities of the English language could result in resource loss and constraints on the organizational and management development of the tourism industry. The development of the tourism sector must communicate across linguistic boundaries in order to complete the goal. Thus, the English language can be considered a necessary communication tool in tourism organizational administration. It affects the organization's capacity to manage global operations. According to Luring, the ability to effectively handle communication across the English language is essential to the successful development of tourism. It is said that organizational management in the tourism industry needed a procedure and additional measures.

The English language also serves as a negotiated source of power in the growth of tourism. Its function is also explained in terms of the establishment and upkeep of power dynamics and social structures. Furthermore, language should be viewed as a tool utilized by and for those in positions of power. It is examined as a strategy used to increase an organization's efficacy, especially in organizational communication related to tourism. Everyday activities and practically every other facet of human existence are covered by the English language. The effectiveness of organizational administration in the tourism industry increases with the amount of linguistic input. Language's impact on authority in companies during periods of significant transformation. Organizational change is influenced by language.

English language policy and tourist management development

The management of tourism should have an English language policy. A company's or organization's systematic actions and endeavors to promote the company's objective can be referred to as its language policy. General language policy and particular policy are the two broad categories into which Simonsen (2003) and Bergenholtz and Johnsen (2006) split language policy. Language selection in a national or regional context, language selection in a group, company, or organization, language selection in an international environment, and language selection in a national context in connection with language instruction are all included in general language policy. General recommendations on how to maximize communication in a particular language are included in specific language policies.

According to the organization community, social media, and social resources, English is a common language. Having a common language facilitates the communication of functional knowledge. It is employed for knowledge transfer. By giving workers freedom, just and enforceable policies can contribute to their empowerment. When properly drafted, policies can eliminate time-consuming issues and aid in cost savings and organizational administration. Michael Porter (2003) noted that although Thailand's tourist sector was globally competitive, there was a lack of industry-wide cooperation.

The Ministry of Tourism and Sports needs to put more of an emphasis on technology and establish clear policies for managing organizations and facilitating informative communications in order to promote collaboration. It will promote greater information sharing. Understanding how language functions in tourism management may also be advantageous in a managerial context. According to freely and, language is seen to provide significant advantages for tourism management, including making official reports and informational communications easier.

Solutions for dealing with issues related to the English language

The English language barrier in tourism management has been identified. Problems with language or communication can have detrimental effects and cause misunderstandings, which can further result in poor business decisions for the tourism industry and the inability to follow up on

mail queries by phone. The prospective foreign visitors will leave. Therefore, it is necessary for tourism organizations to take into account and give attention to the English language issue. Language competency training for staff members is crucial. Language competence is crucial for business. It is beneficial for both informal and formal communication. Therefore, the success of tourist management depends on the growth of communication competency in the industry. Some businesses have set up facilities for internal English language instruction. Being able to adjust to change will provide businesses a competitive edge. According to, human resource assistance, organizational management techniques, and foreign languages are all part of management.

In conclusion, the literature seems to agree on the important functions of the English language in tourism administration. This report urges practitioners to concentrate on particular intermediate performance outcomes for English language roles efforts. When developing tourism management, pay close attention to language issues. Increased cooperation between industry representatives of education providers and professional industry associations is definitely needed. Future research will examine the significance of English as a language in the growth of tourism management by interviewing managers of inbound tour companies, heads of tourism education departments, and international tourists.

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Physical and Mathematical Sciences

Construction of a proprietary Hamiltonian and its diagonalization for deformed nuclei

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The complete shell model space is truncated to the subspace of collective nucleon pairs, which we call the pair approximation. The operators of the generation of collective pairs with angular momenta and in the form of:

$$\left. \begin{aligned} S^+ &= \sum_j \alpha_j A_0^{+(0)}(jj) \\ D_\mu^+ &= \sum_{j_1 j_2} \beta_{j_1 j_2} A_M^{+(2)}(j_1 j_2) \end{aligned} \right\} \quad (1)$$

Here $A_M^{+(j)}(j_1 j_2) = \frac{1}{\sqrt{2}} [a_{j_1}^+ a_{j_2}^+]_M^{(j)}$ – the operators of the birth of two nucleons in orbits j_1 and j_2 .

Coefficients α and β (structural constants) should be determined by a method that maximizes collectivity. S – and D – pair Obviously structures S – и D – pair They significantly depend on the structural regions (spherical, deformed, transitional) of the nuclei, which we have included in further consideration. It is assumed that the low-lying collective states of even-even nuclei are well approximated by the following states constructed from

$$S \text{ – и } D \text{ – pair: } \quad |S^{n_s} D^{n_d} \gamma J \rangle \quad (2)$$

where γ – the additional quantum number required for a complete classification of states. One of the methods of constructing such states is using a method in which these states are recorded through geneological d – bosonic coefficients. Here are the fermionic states

$$|D^{n_\alpha} \alpha LM \rangle = \frac{1}{N} \sum_{\beta J} (d^{n_\alpha-1}(\beta J)_J d | \} d^{n_\alpha}(\alpha L)) \times \sum_{K m} \langle JK 2m | LM \rangle D_m^+ |D^{n_\alpha-1} \beta JK \rangle \quad (3)$$

they are replaced, one by one, by the corresponding bosonic states $|d^{n_\alpha} \alpha LM \rangle$, where $(d^{n_\alpha-1}(\beta J); d | \} d^{n_\alpha}(\alpha L))$ – geneological coefficients d – bosons, N – the normalizing coefficient. This establishes an unambiguous correspondence between fermionic and bosonic spaces. However, in the case of bosonic states, the basis functions constructed in this way are not

orthogonal to each other due to the lack of a good quantum number defining this state. Therefore, here we use the well-known Schmidt procedure.

In order to check whether the trimmed space is a good approximation to the exact solution of the usual shell model problem, first, we diagonalize the Hamiltonian of states from the pairing and quadrupole terms in a single j – the shell:

$$H = -qA_0^{+(0)} A_0^{(0)} - (1 - x) \quad (4)$$

where

$$A_0^{+(0)} = \frac{1}{\sqrt{2}} [a_j^+ a_j^+]_0^{(0)}$$

$$Q_M^{(2)} = [a_j^+ a_j^+]_M^{(2)}$$

The last expression in H is a normal product. Here $0 \leq x \leq 1$ It varies from spherical to deformed nuclei. For the case of proton-neutron systems in a single j – shell, we take the Hamiltonian as:

$$H_{\pi\nu} = - \sum_{\rho=\pi,\nu} [g_{\rho_0} A_{\rho}^{+(0)} A_{\rho}^{(0)} + g_{\rho_2} A_{\rho}^{+(2)} A_{\rho}^{(2)} + K_{\rho} : Q_{\rho}^{(2)} Q_{\rho}^{(2)} :] + K_{\pi\nu} Q_{\pi}^{(2)} \cdot Q_{\nu}^{(2)} \quad (5)$$

where $g_{\rho_0}, g_{\rho_2}, K_{\rho}, K_{\pi\nu}$ – the depth of monopoly, quadrupole pairing, and quadrupole-quadrupole interaction. When, in the system $n - n, p - p$ how security is maintained $g_{\rho_2} = 2k_{\rho}$ и $k_{\pi\nu} = 0$ The Hamiltonian (5) describes a semi-magical core.

After testing the validity of the truncated S and D-paired spaces, a bosonic mapping of the fermionic operators of the model was performed. Thus, the parameters of the constructed bosonic Hamiltonian are calculated as matrix elements of the fermionic interaction operators. Such microscopic descriptions of collective excited states of nuclei in a clipped SD- pair space quite well convey the properties of nuclei in the vibrational region.

Table 1 below shows the calculated energy values of the low-lying states of the ruthenium isotope and comparisons with their experimental values.

Table 1- Spectrum of spherical isotopes Ru (Mev) ¹⁰⁰Ru ¹⁰²Ru ¹⁰⁴Ru

I^{π}	¹⁰⁰ Ru		¹⁰² Ru		¹⁰⁴ Ru	
	Exp.	Calculate	Exp.	Calculate	Exp.	Calculate
0_g^+	0	0	0	0	0	0
2_g^+	0,54	0,55	0,48	0,50	0,36	0,37
4_g^+	1,23	1,25	1,11	1,13	0,89	0,91
6_g^+	2,08	2,11	1,87	1,93	1,56	1,61
8_g^+	3,06	3,09	2,70	2,78	2,32	2,37
10_g^+	4,09	4,31	3,43	3,92	3,11	3,38

The first column of this table shows the spins, the parity, and the spin at the bottom: g is the ir band, β , γ - respectively, mean β and γ - bands of the spectrum.

Next, the relative probabilities of γ -transitions in (E2) between these states were calculated. A comparison of the calculated probabilities of electromagnetic transitions with their experimental values provides information on the suitability of the wave functions of states for describing the features of their structure, since the obtained ψ - functions of states allow us to calculate the probabilities of E2 transitions in nuclear systems.

Table 2 shows the calculated relative probabilities of γ transitions in comparison with their experimental values for E2 transitions. The experimental data.

Table 2- Relative probabilities of E2 transitions in isotopes Ru

Relative values I^π	^{100}Ru		^{102}Ru		^{104}Ru	
	Exp.	Calculate	Exp.	Calculate	Exp.	Calculate
$\frac{4_g^+ \rightarrow 2_g^+}{2_g \rightarrow 0_g}$	$1,50 \pm 0,21$	1,46	$1,43 \pm 0,2$	1,38	$1,43 \pm 0,2$	1,36
$\frac{0_\beta \rightarrow 2_g}{2_g \rightarrow 0_g}$	$0,99 \pm 0,2$	1,04	$0,76 \pm 0,15$	0,87	$0,46 \pm 0,6$	0,54
$\frac{2_\gamma \rightarrow 2_g}{2_\gamma \rightarrow 0_g}$	$15,4 \pm 0,9$	22	26 ± 3	24	21 ± 4	25
$\frac{2_\gamma \rightarrow 2_g}{2_g \rightarrow 0_g}$	$0,90 \pm 0,15$	1,03	$0,90 \pm 0,15$	1,01	$1,0 \pm 0,2$	0,93
$\frac{3_\gamma \rightarrow 2_\gamma}{3_\gamma \rightarrow 2_g}$	11 ± 5	16	27 ± 3	22	26 ± 3	24

As can be seen from Table 2, the relative values of the E2 transitions for the lower states of the nuclei are quite satisfactorily transmitted within the limits of experimental errors. It should be noted that all transitions with a change in the number of pairs by one are approximately of the same order, and transitions with a change in the number of pairs by two units are an order of magnitude smaller than transitions from states with a change in one pair of particles. The probability of transitions decreases by an order of magnitude if the transition takes place from states of one band to states of another band.

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Bosonic mapping of fermionic operators and their matrix elements

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Discuss in more detail the bosonic maps of fermionic operators and their matrix elements to bosonic ones using the Otsuki–Arima, Yakello (OAYA) method, first for single–shells. Let's express the parameters of the bosonic Hamiltonian in terms of fermionic matrix elements. Two-partial fermionic interactions are written as:

$$V = \sum_{KM} G_K A_M^{+(K)} A_M^{(K)} \quad (1)$$

$$\text{where } A_M^{+(K)} = \frac{1}{\sqrt{2}} [a_j^+ a_j^+ J_M^{(K)}], \quad G_J = \langle j^2 JM | V | j^2 JM \rangle$$

$$\bar{V} = 2 \sum_{KM} (-)^{K+1} F_K A_M^{+(K)} A_M^{(K)}$$

$$F_K = \sum_j (2J+1) W(jjjj; JK) G_J = \sum_j (2J+1) \left\{ \begin{matrix} jjJ \\ jjK \end{matrix} \right\} G_J$$

The given fermionic matrix elements will have the form:

$$\begin{aligned} & \langle j^n, \mathcal{G}-2, \alpha J | V | j^n, \mathcal{G}, \alpha' J \rangle = \\ & = \frac{\sqrt{(2\Omega+2-n-\mathcal{G})(n-\mathcal{G}+2)}}{2\sqrt{\Omega+1-\mathcal{G}}} \frac{\Omega-n}{\Omega-\mathcal{G}} \langle j^{\mathcal{G}}, \mathcal{G}-2, \alpha JM | V | j^{\mathcal{G}}, \mathcal{G}, \alpha JM \rangle \end{aligned} \quad (2)$$

$$\begin{aligned} & \langle j^n, \mathcal{G}, \alpha J | V | j^n, \mathcal{G}, \alpha' J \rangle = \\ & = \left\{ \frac{(\Omega-2\mathcal{G})(2\Omega-n-\mathcal{G})}{4(\Omega-\mathcal{G})(\Omega-\mathcal{G}-1)} (G_0 + 2F_0) - F_0 \right\} (n-\mathcal{G}) \delta_{\alpha\alpha'} + \\ & + \frac{(\Omega-\mathcal{G})(\Omega-\mathcal{G}-2) + (n-\Omega)^2}{2(\Omega-\mathcal{G})(\Omega-\mathcal{G}-1)} \cdot \langle j^{\mathcal{G}}, \mathcal{G}, \alpha J | V | j^{\mathcal{G}}, \mathcal{G}, \alpha' J \rangle + \\ & + \frac{(2\Omega-n-\mathcal{G})(n-\mathcal{G})}{2(\Omega-\mathcal{G})(\Omega-\mathcal{G}-1)} \langle j^{\mathcal{G}}, \mathcal{G}, \alpha J | V | j^{\mathcal{G}}, \mathcal{G}, \alpha' J \rangle \end{aligned} \quad (3)$$

If the interaction is scalar in a quasi-spinal space, namely $V = \bar{V}$ and $G_0 = -2F_0$ the latter equality is simplified:

$$\langle j^n, \mathfrak{g}, \alpha J | V | j^n, \mathfrak{g}, \alpha' J \rangle = \frac{G_0}{2} (n - \mathfrak{g}) \delta_{\alpha\alpha'} + \langle j^{\mathfrak{g}}, \mathfrak{g}, \alpha J | V | j^{\mathfrak{g}}, \mathfrak{g}, \alpha' J \rangle \quad (4)$$

Then, the bosonic image of the fermionic interaction is given as:

$$\begin{aligned} H_B = & k_0 + \varepsilon_d \hat{n}_d + \frac{1}{2} \mathfrak{g}_0 \left([d^+ d^+]^{(0)}_{SS} + h.c. \right) + \frac{1}{\sqrt{2}} \mathfrak{g}_2 \left([d^+ d^+]^{(2)}_{ds} + h.c. \right) + \\ & + \frac{1}{2} \sum_L C_L \left([d^+ d^+]^{(L)} [dd]^{(L)} \right) \end{aligned} \quad (5)$$

In which all parameters are expressed in terms of fermionic matrix elements:

$$\begin{aligned} \kappa_0 = & 2 \left(\frac{(2\Omega - 2N)}{4(\Omega - 1)} (G_0 + 2F_0) - F_0 \right) N \\ \varepsilon_d = & A_1 + A_2 \langle \mathcal{D} | V | \mathcal{D} \rangle + A_3 \langle \mathcal{D} | \bar{V} | \mathcal{D} \rangle - \kappa_0 \\ \mathfrak{g}_0 = & B \langle SS | V | \mathcal{D}\mathcal{D} \rangle; \mathfrak{g}_2 = C \langle SD | V | \mathcal{D}\mathcal{D} \rangle \end{aligned} \quad (6)$$

$$C_L = D_1 + D_2 \langle DDL | V | DD; L \rangle + D_3 \langle DDL | \bar{V} | DDL \rangle - \kappa_0 - 2\varepsilon_d$$

where
$$A_1 = \left\{ \frac{(\Omega - 4)(2\Omega - 2N - 2)}{4(\Omega - 2)(\Omega - 3)} (G_0 + 2F_0) - F_0 \right\} (2N - 2)$$

$$A_2 = 2 \frac{(\Omega - N - 1)(N - 1)}{(\Omega - 2)(\Omega - 3)}; \quad A_3 = \frac{(\Omega - 2)(\Omega - 4) + (2N - \Omega)^2}{2(\Omega - 2)(\Omega - 3)} \quad (7)$$

$$B = \sqrt{\frac{(\Omega - N - 1)(\Omega - N)}{(\Omega - 2)(\Omega - 3)}}; \quad C = \frac{\Omega - 2N}{\Omega - 4} \sqrt{\frac{\Omega - N - 1}{\Omega + 3}}$$

$$D_1 = \left\{ \frac{(\Omega - 8)(2\Omega - 2N - 4)}{4(\Omega - 4)(\Omega - 5)} (G_0 + 2F_0) - F_0 \right\} (2N - 4)$$

$$D_2 = \frac{(\Omega - 4)(\Omega - 6) + (2N - \Omega)^2}{2(\Omega - 4)(\Omega - 5)}; \quad D_3 = 2 \frac{(\Omega - N - 2)(N - 2)}{(\Omega - 4)(\Omega - 5)}$$

Fermionic matrix elements:

$$\langle SS | V | \mathcal{D}\mathcal{D} \rangle = \frac{1}{\sqrt{1 - \alpha_j^2}} \langle OO; O | V | 22; O \rangle - \frac{\alpha_j}{\sqrt{1 - \alpha_j^2}} \langle OO; O | V | OO, O \rangle$$

$$\langle DD|V|DD\rangle = \frac{1}{\sqrt{1-\alpha_J^2}} \langle 22;J|V|22;J\rangle - 2 \frac{\alpha_J}{1-\alpha_J^2} \langle OJ;J|V|22;J\rangle + \frac{\alpha_J^2}{1-\alpha_J^2} \langle OJ;J|V|OJ,J\rangle \quad (8)$$

$$\langle L'_1 L'_2; J|V|L_1 L_2 \rangle = \frac{1}{\sqrt{N_{L_1 L_2} N_{L'_1 L'_2}}} \sum_{KR} G_K U_{L_1 L_2 KR} U_{L'_1 L'_2 KR}$$

$$U_{L_1 L_2 KR} = \delta_{KL_1} \delta_{RL_2} + \delta_{KL_2} \delta_{RL_1} - 4 \hat{L}_1 \hat{L}_2 \hat{K} \hat{R} \begin{Bmatrix} j & j & L_1 \\ j & j & L_2 \\ K & R & J \end{Bmatrix} \quad (9)$$

$$\alpha_J = \langle 22J|0J;J \rangle N_{L_1 L_2} = U_{L_1 L_2 L_1 L_2}$$

It was with the same parameters of the paired interaction of nucleons with each other, selected for ruthenium isotopes, that we calculated the energy values of the states of palladium isotopes, as well as the relative reduced probabilities of γ transitions between their states.

Table 1 shows the calculated energy spectrum of the states of even-numbered Pd isotopes in comparison with their experimental values.

Table 1 - Spectrum of isotope states Pd (MeV) ^{102}Pd ^{104}Pd ^{106}Pd ^{108}Pd

I^π	^{102}Pd		^{104}Pd		^{106}Pd		^{108}Pd	
	Exp.	Calculate	Exp.	Calculate	Exp.	Calculate	Exp.	Calculate
0_g^+	0	0	0	0	0	0	0	0
2_g^+	0,56	0,56	0,56	0,57	0,51	0,52	0,43	0,45
4_g^+	1,28	1,21	1,32	1,26	1,23	1,18	1,05	0,99
6_g^+	2,11	1,98	2,25	2,06	2,08	1,98	1,77	1,64
8_g^+	3,01	2,81	3,22	3,01	2,96	2,83	-	2,08
10_g^+	3,99	3,63	4,02	3,82	3,53	3,37	-	2,71

As can be seen from this table, with the appropriate choice of the energy of the first 2g levels, we obtained a completely satisfactory agreement of the calculated energy values of the states within 10%.

However, as the spin of the g, β, γ - bands increases, the agreement of the energy values deteriorates somewhat. The discrepancy reaches 20%. In addition, it should be noted for the isotope ^{108}Pd . The reason for these discrepancies was discussed, as well as for Ru isotopes, which is apparently related to the absence of contributions from nucleon pairs with higher internal spin in the calculations, as well as the deviation from sphericity of states with increasing excitation energies.

Table 2 shows the relative probabilities of electromagnetic transitions in (E2) in the states of Pd isotopes in comparison with their experimental data. The experimental values are also taken.

Table 2- Relative reduced probabilities of electromagnetic transitions in (E2) states and isotopes Pd.

Relative values I^π	^{102}Pd		^{104}Pd		^{106}Pd		^{108}Pd	
	Exp.	Calculated	Exp.	Calculated	Exp.	Calculated	Exp.	Calculated
$\frac{4_1 \rightarrow 2_1}{2_1 \rightarrow 0_1}$	$1,41 \pm 0,1$	1,45	$1,4 \pm 0,1$	1,46	$1,5 \pm 0,2$	1,49	-	1,52
$\frac{0_2 \rightarrow 2_1}{2_2 \rightarrow 0_1}$	$9,0 \pm 5,2$	12,0	$21,0 \pm 6,0$	19,6	$37,0 \pm 8,0$	29,2	$59,0 \pm 14,0$	36,3
$\frac{2_3 \rightarrow 2_2}{2_3 \rightarrow 0_1}$	$23,0 \pm 2,0$	20,0	$32,0 \pm 14$	28,2	-	32,4	-	36,5
$\frac{2_2 \rightarrow 2_1}{2_1 \rightarrow 0_1}$	-	1,22	$1,52 \pm 0,3$	1,3	$1,0 \pm 0,2$	1,42	$1,63 \pm 0,38$	1,45

As can be seen from the tables, for low energy states, these relative values are approximately the same for all Pd isotopes, but they differ greatly from each other with increasing excitation. This distinctive trend of γ -transitions is well conveyed in computing. But experimental data on γ -transitions are also scarce, especially for heavier isotopes. The theory also conveys the general picture of the probability of transitions satisfactorily.

The constructed microscopic theory, which is the nucleonic basis of the phenomenological bosonic theory, is applied to the study of the structure of states of spherical isotopes of nuclei of average atomic weight. The structures of the collective excited levels of spherical nuclei are studied ^{102}Pd ^{104}Pd ^{106}Pd ^{108}Pd . The energy values of their states and the entire lower spectrum of levels are calculated, as well as the relative probabilities of electromagnetic E2 transitions between the found states.

The theory satisfactorily conveys all the features of the experimental spectra of spherical nuclei, although the accuracy of calculations for higher energy levels is not very high. This is especially true for the characteristics of spherical isotopes Pd. This is due, among other things, to the fact that when calculating their characteristics, we use all the parameters found for ruthenium isotopes without modification. To more accurately determine the spectrum and probability of ^{102}Pd ^{104}Pd ^{106}Pd ^{108}Pd - transitions for palladium isotopes, it was apparently necessary to slightly clarify the parameters of the interaction of nucleons.

The reasons for such inaccuracy of calculations are investigated. At the same time, the probabilities of electromagnetic transitions between the found states are conveyed by the theory quite satisfactorily. This indicates a good accuracy of the mixing values of the wave functions of states. The obtained wave functions are applied to the calculation of not only $B(E2)$, but also the values of the quadrupole moment Q_2 , and some of their features are explained.

In general, the theory can serve as a microscopic basis for phenomenological MBS, and their parameters are quite well calculated on a nucleonic basis and it is satisfactorily applied to the study of the structure of states of spherical nuclei.

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