



ROLE OF SCIENCE AND EDUCATION FOR SUSTAINABLE DEVELOPMENT

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ROLE OF SCIENCE AND EDUCATION FOR SUSTAINABLE DEVELOPMENT

Edited by Magdalena Wierzbik-Strońska
and Iryna Ostopolets

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4.18. THE ROLE OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN THE DEVELOPMENT OF THE DIGITAL EDUCATIONAL SPACE

4.18. РОЛЬ ІНФОРМАЦІЙНО-КОМУНІКАЦІЙНИХ ТЕХНОЛОГІЙ У РОЗВИТКУ ЦИФРОВОГО ОСВІТНЬОГО ПРОСТОРУ

Галузь інформаційно-комунікаційних технологій (ІКТ) розвивається в умовах безперервних прискорених інновацій. Цифровізація суспільства та освіти на сьогодні впливають на розвиток та професійну майстерність науково-педагогічних працівників. Дедалі світовий простір стає більш електронним, цифровим, віртуальним кіберпростором. Ключовими компонентами розвитку такого простору являються інформаційні ресурси, інформаційна безпека цих ресурсів, електронні комунікації.

Потужні бази даних та знань являють собою гігантські сховища інформації для систем генерування, розповсюдження та передачі знань. Бурхливий розвиток комп'ютерної техніки та гаджетів, інформаційних технологій, цифрової індустрії створює принципово нові моделі набуття вищої освіти. Відтак, з розвитком ІКТ, освітня діяльність в умовах глобалізації зазнає систематичних динамічних змін. Інформаційний простір являє собою віртуальне середовище з чітко структурованою корпоративною інформацією. Саме використання сучасних ІКТ дозволяє отримати доступ до необмежених масивів наукової, навчальної та професійної інформації, що зберігається в централізованих банках даних.

У глобальному світовому інформаційно-комунікаційному просторі особливого значення набула наукова та практична інформація, яка є важливою для реформування вищої освіти. Використання новітніх ІКТ в навчальному процесі при підготовці майбутніх фахівців у галузях цифрового суспільства є потужним фактором для їх подальшого працевлаштування та попиту згідно затребуваних професійних вимог.

Створення і розвиток єдиного цифрового освітнього простору являється актуальним завданням інформаційного суспільства в Україні. Основними завданнями для України при гармонізації цифрових ринків з Європейським Союзом та країнами Східного партнерства є: забезпечення вільного транскордонного потоку інформації; конфіденційність, доступність, якість та захищеність даних; кібербезпека, гарантії захисту прав споживачів е-торгівлі та електронних послуг, захист персональних даних¹²⁶⁴.

Бази нових цифрових платформ значно розширюють можливості надання освітніх послуг, які все більше стають дистанційними та трансформуються в online режим. Впровадження ІКТ в навчальний процес закладів вищої освіти сприяє розширенню доступу до освітніх ресурсів, дозволяє реалізувати індивідуальний підхід до навчання та надає можливість навчатись у вільний від професійних обов'язків час.

Стрімкий розвиток цифрових технологій, в свою чергу, призводить до стрімкого зростання темпів в різних секторах економіки та відповідно – галузях знань. Як наслідок, вища освіта постійно потребує швидкого та динамічного створення та впровадження інноваційних форм засвоєння набутих знань та професійних компетенцій, здатних задовільнити потреби на ІТ-ринку праці.

Цифрова грамотність визнана Європейським Союзом однією з ключових компетенцій для повноцінного життя та діяльності суспільства. У 2016 та 2017 роках відбулось концептуальне оновлення рамки цифрової компетентності громадян (ЄС) DigComp. Було опубліковано два документи DigComp 2.0 та DigComp 2.1, які містять опис п'яти та відповідно вісьми рівнів кваліфікації цифрової системи компетентності для громадян. На

¹²⁶⁴ В. Ночвай, М. Корявець, І. Кульчицький, Л. Олексюк, О. Приходько, К. Гороховський, В. Грига. (2019) Проблеми та перспективи гармонізації цифрового ринку України з ринками ЄС та країн СхП – Аналітичний звіт. с. 14. URL:<https://cid.center/wp-content/uploads/2019/02/> (дата звернення: 15. 02. 2021).

основі довідкової концептуальної моделі The Digital Competence Framework for Citizens представлені знання, що застосовуються до сфери навчання та зайнятості, а саме:¹²⁶⁵

1. Інформаційна грамотність та грамотність даних (перегляд, пошук, фільтрування даних, інформації та цифрового контенту; оцінювання даних, інформації та цифрового контенту; керування даними, інформацією та цифровим контентом).

2. Комунікації та співпраця (взаємодія за допомогою цифрових технологій; поширювати дані, інформацію та цифровий контент для інших за допомогою цифрових технологій; використовувати цифрові інструменти та технології для процесів співпраці, спільного конструювання даних, ресурсів та знань; адаптувати різноманітні цифрові середовища; керувати цифровою ідентичністю, цифровими інструментами, середовищами та сервісами).

3. Створення цифрового контенту (розробка, редагування та інтеграція цифрового контенту; вдосконалення та створення нового, оригінального та релевантного контенту та знань; розумітися на авторському праві та ліцензуванні цифрового контенту; розробляти алгоритми для комп'ютерних систем).

4. Безпека (захищати пристрої та цифровий контент, знати ризики та загрози у цифрових середовищах; усвідомлювати, що цифрові сервіси використовують політику конфіденційності для інформування про використання особистих даних; вміти захистити себе та оточуючих від можливих небезпек цифрових середовищ).

5. Розв'язування проблем (усувати технічні проблеми при користуванні пристроями та цифровими середовищами; обирати та пристосовувати цифрові середовища та інструменти під особисті потреби; використовувати цифрові технології для створення нових знань та інновацій, долучатись до когнітивного опрацювання з метою розуміння та вирішення концептуальних проблем та проблемних ситуацій у цифрових середовищах; розуміти аспекти, де бажано вдосконалити особисту цифрову компетентність; саморозвиватись та бути в курсі цифрової еволюції).

Електронні освітні ресурси є важливим інструментом навчального процесу і вважаються одним з найголовніших елементів інформаційно-освітнього цифрового середовища. При проектуванні та створенні цифрових освітніх ресурсів використовуються різноманітні програмно-технічні та апаратні засоби, які дозволяють розмістити їх в цифрових репозитаріях. Репозитарії надають вільний доступ до наявних там освітніх та наукових ресурсів всім учасникам навчального процесу.

Ступінь розвитку новітніх ІКТ в Україні дозволяє забезпечити відкритість національної освітньо-наукової системи на відповідному європейському та світовому рівнях. Принципи відкритості освітньо-наукових систем проголошувались на міжнародному рівні, на рівнях окремих країн. Вони постійно перебувають під контролем професійних освітніх та наукових спільнот. Відкритість являється важливою передумовою ефективності єдиної національної освітньо-наукової системи, яка, зокрема, передбачає:¹²⁶⁶

1) відкритість для суспільства навчальних матеріалів усіх рівнів освіти, довідково-інформаційних матеріалів, результатів наукових досліджень та інформації про наукові проекти;

2) системна єдність усіх рівнів і компонентів освіти – початкової, середньої, професійної, вищої та освіти протягом життя і забезпечення якомога тісніших зв'язків освіти з наукою та економікою;

3) єдність змісту освіти (навчальні програми, плани та відповідні методичні матеріали); забезпечення відповідності навчальних програм критерію наукової обґрунтованості;

¹²⁶⁵ Рамка цифрової компетентності DigComp 2.1 (2017) URL: <http://dystosvita.blogspot.com/2018/02/digcomp-2017> (дата звернення: 15. 02. 2021).

¹²⁶⁶ Здіорук С. І., Іщенко А. Ю., Карпенко М. М. (2011) Формування єдиного відкритого освітньо-наукового простору України: оптимальне використання засобів забезпечення випереджального розвитку. Аналітична доповідь. URL: https://niss.gov.ua/sites/default/files/2011-10/Science_educational-e2f67.pdf (дата звернення: 15. 02. 2021).

максимальна доступність найкращих навчальних та методичних матеріалів; швидка інтеграція у масову навчальну практику найефективніших педагогічних підходів і методів;

4) єдність якості освіти – забезпечення єдиної високої якості освіти на всіх рівнях і в усіх закладах незалежно від територіального розміщення;

5) єдність освітніх стандартів, у тому числі кваліфікаційних;

6) єдність оцінювання, як у плані критеріїв успішності, так і в аспекті забезпечення прозорості процедур та результатів;

7) єдність наукових досліджень, освітнього процесу та виробничої діяльності.

Одним з основних призначень ІКТ в навчальному процесі закладів вищої освіти є прискорення процесу передачі знань та накопиченого професійного досвіду від викладачів до студентів, вдосконалення засобів для реалізації всіх процесів, пов'язаних з навчанням у цифровому середовищі та забезпечення безперервності освіти. ІКТ забезпечують динамічний стан цифрового освітнього простору, його наповнення численними освітніми ресурсами та безперервний супровід електронних комунікацій.

Головна роль ІКТ відводиться в тому, щоб, по-перше, забезпечити безперебійний комп'ютерний взаємозв'язок між викладачем та студентом, а по-друге, надати миттєвий доступ до розподілених інтелектуальних інформаційних ресурсів.

Найбільш виразним направленням сучасного використання ІКТ в освіті являється формування світового глобального інформаційного простору та його національних складових, функціонування яких залежить від гармонічно розвинутої телекомунікаційної інфраструктури, ресурсної бази та темпів впровадження інноваційних технологій в освіту¹²⁶⁷.

Сучасні ІКТ в системі вищої освіти підтримують процеси пошуку та здобування знань. Вони надають можливості здобувачам вищої освіти індивідуально конструювати нові знання з використанням існуючих інформаційних ресурсів. Таким чином, ІКТ стають невід'ємною частиною освітніх та освітньо-професійних програм.

Розвиток ІКТ для досягнення мети ефективного навчання здійснюється на засадах діджиталізації, штучного інтелекту, робототехніки, Інтернету речей, кібербезпеки. Діджиталізація всіх сфер суспільного життя є актуальним напрямом через глобальні тренди сучасності та загальнодержавну політику розбудови цифрової трансформації держави загалом та освіти зокрема.

Електронне навчання базується на таких освітніх технологіях, як дистанційне навчання, веб-орієнтоване навчання, комп'ютерно-орієнтоване навчання, змішане навчання, мобільне навчання тощо. ІКТ становлять складні, комплексні системи, що охоплюють широке коло технічних, технологічних, апаратних, програмних та організаційних процесів.

Накопичений світовий досвід з інформатизації та комп'ютеризації вищої освіти забезпечує широке впровадження ІКТ в навчальний процес ЗВО. Інформаційно-комунікаційні технології навчання забезпечують гнучкість процесу навчання, унікальність індивідуальних освітніх траєкторій, формування творчого мислення особистості, оцінювання самого процесу навчання, забезпечує домінуючу роль студента, як шукача інформації.

Online доступ до електронних освітніх ресурсів зумовив появу і розвиток систем управління навчанням. Таким чином, відбувається інтеграція подання навчального контенту, планування процесу навчання та контролю знань студентів у єдиному web-середовищі, яке є доступним через Інтернет-технології, як зорієнтовані засоби ІКТ.

Використання систем управління навчанням створює умови для програмно-методичної підтримки індивідуальної, групової та колективної форм організації навчання студентів, при цьому можна урізноманітнювати способи подання навчального контенту на різних типах пристроїв, зокрема смартфонів. А використання хмарних технологій сприяє досягненню учасниками навчального процесу: професорсько-викладацьким складом та студентством високого рівня мобільності.

¹²⁶⁷ В. И. Гриценко, С. П. Кудрявцева, В. В. Колос, Е. В. Веренич. (2004) Дистанционное обучение: теория и практика, с. 31.

Інформаційні технології електронного навчання та сервіси на сьогодні являють собою Інтернет-технології, хмарні технології, мобільні технології, веб 2.0, веб 3.0, веб 5.0 сервіси. В залежності від апаратного та програмно-технічного забезпечення змінювались покоління електронного навчання та відповідно – цифровий освітній простір. Напрями діяльності інформаційних та комп'ютерних мереж спрямовані на розвиток глобального цифрового освітнього простору та цифрового (інформаційного) суспільства.

В період пандемії COVID 19 заклади вищої освіти України стрімко ввійшли в середовище цифрової освіти, перейшовши на змішану та елементи дистанційної форм навчання. Як наслідок, науковці моделюють різноманітні підходи до формування та розвитку цифрового освітнього простору та новітні ІКТ для його створення та підтримки. Поняття «Цифровий університет» стає реальною альтернативою організації навчального процесу в ЗВО.

Таким чином, українські університети постали перед низкою актуальних питань, а саме¹²⁶⁸:

- пошуком моделі цифровізації кожним закладом вищої освіти в межах визначеної автономії;

- необхідністю формування оптимальної структури закладу вищої освіти та поєднання складників цієї структури в ефективну систему, на основі якої і формується цифровий університет;

- поєднанням елементів інформаційно-комунікаційних технологій, що є в кожному університеті і технічних засобів навчання у дієві мережеві інструменти;

- визначенням ролі, завдань і видів діяльності для наукових, науково-педагогічних і педагогічних працівників такого університету;

- заміною традиційного «аудиторного» освітнього простору на віртуально-мережевий;

- пошуком відповідних освітнім завданням методів і прийомів дистанційного навчання;

- налагодженням ефективної комунікації усіх учасників освітнього процесу в мережевому середовищі.

Провідні університети розробляють власні цифрові стратегії, створюють віртуальні освітні лабораторії, які здатні моделювати поведінку об'єктів реального часу в електронному освітньому середовищі, чим сприяють оволодінню нових знань та вмінь з різних дисциплін професійного циклу. Створення високоякісного та високотехнологічного цифрового освітнього простору являє собою складне технічне завдання, яке здатне повністю модернізувати освітнє середовище ЗВО.

Інформаційне освітнє середовище ЗВО передбачає використання комп'ютерної техніки, програмно-телекомунікаційних систем, яке включає систему апаратних засобів, програмне забезпечення та інформаційні процеси, які реалізуються. Компонентами такого середовища є: веб-сайти, мультимедійні віртуальні дошки, медіатеки, електронні навчальні ресурси, ресурси соціальних мереж та Інтернету.

Використання Інтернет, як найбільш перспективної технології передачі навчальної та наукової інформації надає необмежені можливості для доступності та підвищення якості вищої освіти. Відомо, що здобувачі вищої освіти повсякденно звертаються до бібліотечних ресурсів мережі.

Однією з найбільш масштабних міжнародних освітніх програм у галузі ІКТ вважається програма корпорації Intel® «Навчання для майбутнього». Програма покликана допомогти студентам педагогічних ЗВО опанувати ефективні інформаційні технології, розширити їх використання під час організації самостійної роботи в майбутній професійній діяльності¹²⁶⁹. Інформаційно-комунікаційні технології найбільш активно використовуються в навчальному процесі США під час вивчення різних дисциплін.

¹²⁶⁸ Арешонков В. Ю. (2020) Цифровізація вищої освіти: виклики та відповіді. Вісник НАПН України. URL: <https://visnyk.naps.gov.ua/index.php/journal/article/view/106> (дата звернення: 19. 02. 2021).

¹²⁶⁹ Маріна Мокра. Інформаційно-комунікаційне середовище в освітній системі США URL: <http://ena.lp.edu.ua/bitstream/ntb/23849/1/28-213-222.pdf/> (дата звернення: 20. 02. 2021).

Так, прогрес у галузі мобільного зв'язку зробив доступним Інтернет на основі технології GPRS, а впровадження технологій 3G та 4G значно збільшили швидкість обміну інформацією, що забезпечує ефективність мобільного навчання. Вартує уваги й аналізу діяльність розробників освітніх технологій Cisco, Giuntl Labs та Serious Games Institute (Велика Британія), які працюють над створенням сучасних навчальних середовищ, що об'єднують технології мобільного та віртуального навчання. Ці технології дозволяють запровадити технологічну платформу, на основі якої вибудовується цифрова модель приміщень навчального закладу для того, щоб незалежно від місця перебування студента йому надавався доступ до необхідних навчальних матеріалів. Спосіб доставки має відповідати не лише місцю перебування, а й пристроям, які користувач має у певний момент часу¹²⁷⁰.

Навчальні заклади США заохочують своїх працівників до використання електронних пристроїв iPad, eReader, Tablet. Перспективним є використання педагогами мініатюрних, кишенькових комп'ютерів, а також смартфонів, що поєднують комп'ютер і стільниковий телефон¹²⁷¹.

На сьогодні основний напрям застосування інформаційних технологій в освітньому просторі США – впровадження та використання розподілених інформаційних систем навчання. Розподілені інформаційні системи використовуються великими організаціями зі значною кількістю філій, що є автономними центрами прийняття рішень. Саме такою організацією є національна система освіти США. Для кожного з управлінських і освітянських рівнів освіти відкривається філія інформаційної системи навчання – DM (data mart – “інформаційна вітрина”) у вигляді окремої бази даних (масивів літератури в галузі освіти та науки), куди з центрального сховища копіюється лише та інформація, яка необхідна саме для цього підрозділу. Прикладом такої інформаційної системи освіти в Інтернеті є ERIC (The Educational Resources Information Center)¹²⁷².

Отже, сучасне сприйняття поняття цифрового освітнього простору повільно, але впевнено приходить на зміну старої «класичної» моделі концепції управління навчальним процесом та надання освітніх послуг у сфері вищої освіти. На зміну приходять розробки науковців, IT-фахівців, педагогічних працівників щодо обґрунтування сутності та змісту електронної освіти, зміни ролі викладача у його взаєминах зі здобувачами вищої освіти на основі нової моделі цифрового освітнього середовища. Впровадження інформаційних технологій в освітньому просторі надало можливості викладачам оперативного надавати навчальну інформацію, а студентам одержувати її.

В цифровому освітньому просторі активно використовуються всі види інформаційних технологій: дистанційні курси, електронні підручники та посібники, віртуальні бібліотеки, локальні внутрішні мережі, розподілені інформаційні системи навчання та інші програмні засоби навчального значення.

Електронне навчання, засноване на розвитку ІКТ (E-learning 1, E-learning 2, E-learning 3, E-learning 4) призвело до нових форм навчального процесу в галузі вищої освіти. Розвиток програмно-інструментальних платформ призвів до модернізації навчального процесу. Розвиток ІКТ сприяв появі мобільних комп'ютерних технологій навчання, які є більш портативними та більш зручними у використанні. Застосування нових технологій мобільного зв'язку дозволяє використовувати мобільний доступ до мережі Internet з високою функціональністю, що не поступається потужним персональним комп'ютерам. Тому поступово все більшого використання серед студентства набувають переваги мобільного навчання (M-learning).

¹²⁷⁰ Чучмій І. І. (2008) З досвіду впровадження сучасних інформаційних технологій у освітній процес Великобританії // Сучасні інформаційні технології та інноваційні методики навчання в підготовці фахівців: методологія, теорія, досвід, проблеми : зб. наук. пр. / ДОВ “Вінниця” – Вип. 20, с. 114.

¹²⁷¹ The Global Information Technology Report (2009) World Economic Forum and INSEAD. URL: <http://www.weforum.org/pdf/gitr/2009/gitr09fullreport.pdf/> (дата звернення: 20. 02. 2021).

¹²⁷² The Educational Resources Information Center URL:<http://www.accesseric.org:81/> (дата звернення: 20. 02. 2021).

Мобільність і гнучкість технології M-learning дозволяє відображати інформацію в тому вигляді, що необхідна на даний момент і яка створює умови для продуктивності навчання, дозволяє здійснювати навчальний процес в зручний час для суб'єктів навчання.

Зупинимося на конкретних формах і методах впровадження M-learning у навчальний процес підготовки майбутніх фахівців з вищою освітою¹²⁷³:

1. Мобільний телефон забезпечує доступ до сайтів з навчальною інформацією (застосовується як одна з форм дистанційного навчання). Першим (і найпоширенішим) способом є використання мобільного телефону, як засобу доступу до глобальної мережі. Можлива організація доступу на спеціалізовані сайти, що містять електронні навчальні курси, тести, практичні завдання та додаткові навчальні матеріали (3D-малюнки, фотографії, графічні-, звукові- та відео-файли). Крім цього, можливий обмін електронною поштою в освітніх цілях і обмін терміновими повідомленнями в програмах ICQ, QIP, версії яких існують для мобільних телефонів. Таким чином, на всіх етапах навчання існує багато можливостей для передачі інформаційних матеріалів до суб'єктів навчання.

2. Мобільний телефон – засіб відтворення звукових, текстових, відео і графічних файлів, що містять навчальну інформацію. Використання спеціальних програм для платформ стільникових телефонів дозволяє відкривати та переглядати файли офісних програм (Word, Powerpoint, Excel). Таким чином, маючи в пам'яті мобільного телефону файли, що містять навчальну інформацію, можна переглядати їх версії, адаптовані спеціально для екрана телефону, із зручними смугами прокрутки, потрібним шрифтом і зручним інтерфейсом.

3. Мобільний телефон і його функціональні можливості дозволяють організувати навчання з використанням адаптованих електронних підручників, навчальних курсів і файлів спеціалізованих типів з навчальною інформацією. Електронні засоби навчального призначення можуть сьогодні безпосередньо розроблятися для платформ мобільних телефонів. Студентам пропонується завантажити на телефон Java-додатки, що містять, наприклад, тести з певних предметів, а також інформацію (електронні підручники, тексти лекцій), необхідну для їх успішного виконання. Сучасні інформаційні технології дозволяють спроектувати і програмно реалізувати такі електронні посібники.

Можливість розміщення схем, креслень і формул робить написання електронних навчальних курсів для мобільних телефонів універсальним і абсолютно придатним для будь-якого досліджуваного академічного курсу. Можлива реалізація навчальних програм у віртуальній оболонці, використовуючи можливості комп'ютерної графіки мобільних телефонів, проте – це складний і трудомісткий процес. Унаслідок цього, написання електронних підручників і програм предметного тестування для мобільних телефонів є сьогодні основним напрямком у M-learning.

Мобільне навчання являє собою спосіб отримати доступ до різноманітного on-line контенту за допомогою мобільного телефону. При мобільному навчанні багато освітніх та наукових джерел шукаються в мережі Internet.

Основними тенденціями мобільних технологій є змішане навчання, що робить його більш ефективним і цікавим. M-learning можна комбінувати з іншими видами навчання, забезпечуючи інтерактивні умови для студентів. Оскільки інформаційні потреби суб'єктів науково-освітньої діяльності постійно зростають, то саме ІКТ дозволяють задовольнити ці потреби.

Під впливом розвитку ІКТ змінилися шляхи здійснення наукового та навчального, професійного пошуку. Сервіси, що забезпечують е-інфраструктури, можна використовувати для опрацювання значних масивів даних із залученням необхідних обчислювальних

¹²⁷³ Горбатюк Р. М., Тулашвілі Ю. Й. (2013) Мобільне навчання як нова технологія. Науковий вісник Ужгородського національного університету. Серія : Педагогіка. Соціальна робота. Вип. 27, с. 31.

потужностей, здійснювати віртуальні експерименти, реалізовувати спільний доступ до віддаленого обладнання, що не було можливим раніше¹²⁷⁴.

В зв'язку з тим, що комп'ютеризація вищої освіти невинно поглиблюється, створюються нові науково-освітні інформаційні мережі, то подальшого розвитку набувають засоби інформаційно-комунікаційних технологій та сервісні потужності цифрового навчального середовища.

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¹²⁷⁴ Биков, В. Ю., Спірін, О. М., Шишкіна, М. П. (2015) Корпоративні інформаційні системи підтримання науково-освітньої діяльності на базі хмаро орієнтованих сервісів. Проблеми та перспективи формування національної гуманітарно-технічної еліти: збірник наукових праць. – Вип. 43 (47) частина 2. с. 178.

ANNOTATION

Part 1. FINANCIAL AND ECONOMIC MECHANISMS FOR SUSTAINABLE DEVELOPMENT

1.1. Svitlana Fedyna, Oleksandr Kubatko. ENSURING ENERGY INDEPENDENCE OF ECONOMIC SYSTEMS THROUGH BIOENERGY PROMOTION

The problems of reliable, cost-effective, and sufficient provision of fuel and energy resources are the subject of research by scientists in the context of energy security, the formation and implementation of energy policy, as well as in the context of overcoming energy poverty. The article aims to analyze the possibilities of the impact of the economy's bioenergy sector on energy poverty. As a result, the essence of energy poverty, its forms, main factors, and assessment methods were determined. The main indicators that can describe the level of energy poverty were studied. Bioenergy was considered as one of the methods to reduce energy poverty. The possibilities of bioenergy in this direction, its resource base, and the state of its development were analyzed. Bioenergy is an area that can reduce dependence on one fuel and uses cheaper and more energy-efficient resources as raw materials, which besides can have a positive impact on the environment.

1.2. Alla Kariuk, Dmitry Yermolenko, Vira Shchepak. CALCULATED VALUES OF AIR TEMPERATURE FOR THE BUILDING ENCLOSURES DESIGN

The paper describes the methods of statistical study of the temperature of atmospheric air and the normalization of its design values necessary to design the enclosing structures of buildings.

The design values of air temperature are determined by probabilistic methods, taking into account the return period corresponding to the established service life of the building, as well as the temperature-averaging interval, reflecting the thermal inertia of the enclosing structure.

The tendencies of long-term changes in air temperature and the need to take them into account in the development of regulatory documents were analyzed using data from 25 meteorological stations in Ukraine, which have rather long series of meteorological observations.

1.3. Yuliia Kravchenko. QUALITY AS A FACTOR OF INCREASING THE COMPETITIVENESS OF AGRICULTURAL PRODUCTS

The article analyzes the impact of the quality of agricultural products on the competitiveness of agricultural enterprises. It is determined that quality is one of the factors influencing the increase of product competitiveness. The main indicators of quality of agricultural products are determined. The classification of quality indicators of agricultural products is given. The basic principles of the economic approach to ensuring the quality of agri-food products are formulated.

1.4. Leonid Melnyk, Iryna Dehtyarova, Oleksandr Matsenko. SOCIAL AND ECONOMIC TRENDS OF SUSTAINABLE DEVELOPMENT IN THE CONDITIONS OF DIGITAL ECONOMY

The article considers the directions of anthropogenic impacts on nature. It offers recommendations for changes in production and consumption principles to reduce their negative influence on nature and support sustainable development in the conditions of digital economy. The article presents the relationship between sustainable development goals. It introduces the concept of sustainization as the process of economic transformation in the interests of sustainable development. Necessary features of a sustainable economy are formulated, which will indicate how sustainable development of the economy should move. It shows the scheme of the reproducing mechanism of sustainable development of the economy. It analyzes the EU experience in the application of economic preconditions for sustainable energy development.

1.5. Oksana Boriushkina. TECHNOLOGIZATION OF THE FUNCTIONING OF THE EMPLOYMENT SERVICE IN THE LABOR MARKET

The article is devoted to the issue of creating a new system of employment regulation through the introduction of pre-developed social technologies in the labor market. The classification of the main intermediaries in the labor market, in particular the employment service of Ukraine, its structural elements, and main functions are considered. It is proposed to regulate the structure and distribution of competencies between different levels for more efficient operation of the employment service.

1.6. Inna Dotsenko. SOLVENCY MANAGEMENT IN THE SYSTEM OF FINANCIAL SECURITY OF SMALL BUSINESS ENTERPRISES

The analysis of the essence of the concept: «financial security of the enterprise», «solvency of the enterprise», «system of financial security of the enterprise». The author's interpretation of these concepts. The key features of the essence of the concept of «financial security of the enterprise» are singled out. The relationship between the solvency of the enterprise and ensuring its financial security is substantiated. Conceptual provisions on solvency management in the financial security system of a small enterprise are proposed and schematically reflected. The subsystems of the solvency management system of small businesses are singled out, namely: management, controlling, planning, analysis, information support. The directions of managerial influence on strengthening the financial security of small enterprises under the condition of improving the solvency of enterprises are generalized.

1.7. Boris Zheliba. LOST TEN YEARS OF THE BELARUSIAN ECONOMY

The results of the implementation of the five-year plans of the Belarusian government for 2011-2015 and 2016-2020 are analyzed. It is stated that they are not even close to being fulfilled. It has been established that over the past ten years there has been no real growth in wages and pensions in Belarus, despite numerous government promises. Consequently, the country's economy is stagnating. It is shown that the neighboring countries of Belarus, which have carried out market reforms, have bypassed its economy in all respects. It is reflected that the country's economy is burdened with large public debts, the budget is being executed for the second year with a deficit, and the population is taking bank deposits, not trusting banks and the government in general. After a dubious presidential election, the country is in deep political and economic crisis. It faces the loss of state sovereignty.

1.8. Tetiana Katkova, Barbara Stelyuk, Pavlo Steblyanko. MODELING AND FORECASTING THE DEVELOPMENT OF SOCIO-ECONOMIC SYSTEMS IN CONDITIONS OF UNCERTAINTY AND AMBIGUITY OF DATA

The paper considers the main methods of forecasting socio-economic systems in conditions of uncertainty and vagueness of data. Methods of mathematical modeling to the greatest extent ensure the validity and effectiveness of socio-economic research and forecasts. The accuracy of forecasting depends on the effectiveness of the management of the socio-economic system as a whole, so if the data is unclear, it is proposed to use fuzzy neural networks.

1.9. Iryna Koshkalda, Vadym Petrov, Alona Riasnianska. FORMATION AND ORGANIZATION OF LAND USE IN THE CONTEXT OF WORLD TRENDS OF AGRICULTURAL DEVELOPMENT

The purpose of the study is to analyse the main world trends in agricultural development within two periods of time: for the period of 1900-2000, as well as for the last few years. The retrospective analysis made it possible to study global trends and on the basis of their analysis to draw conclusions that have become a methodological basis for solving current problems in land use strategy. The development of agriculture was studied according to such indicators as the level of

GDP, agricultural production per capita, and others. It is established that the main aspect of land use formation in many countries of the world is the level of plowing. According to this indicator, Ukraine occupies the first position, resulting in soil degradation. Also, the reason for soil degradation is the unwillingness to invest in the quality of land-by-land users, which is not owned by them, but is used on lease. Based on this, it is emphasized the need to address the issue of agricultural land turnover.

1.10. Olesia Kulbaka. THE MAIN TRENDS AND CURRENT STATE OF REGULATION OF EXISTING LAND TENURE AND LAND USE

The study examines the problems of rational land use in Ukraine as a result of reforming land relations as part of economic reform. There are significant differences in the structure of land use of agricultural land in the country, which creates obstacles to rational land use, and they should be taken into account when optimizing land use. It is substantiated that the main tool of land consolidation is the exchange of land plots. The development of approaches to the exchange of land plots during their redistribution allows ordering directly by concluding appropriate agreements, which will facilitate the simple consolidation of land and create conditions for solving the problems of multi-purpose land consolidation.

1.11. Irina Munasypova-Motyash, Victoriya Dyachenko. COMPONENTS OF EVERYDAY CONSCIOUSNESS AND ECOLOGICAL COMPETENCE OF SOCIAL HUMANITIES AND NATURAL SCIENCES AND NATURAL MATHEMATICAL SPECIALTIES

The article presents a study of moral, legal, economic, environmental spheres of everyday consciousness, as well as environmental competence and attitudes towards the environment of students of different specialties. The study found that most respondents have a pronounced environmental component of everyday consciousness, value-semantic component of environmental competence, as well as the behavioral component of the moral component of everyday consciousness, which provides them with understanding of harmony and inner comfort, preservation of environment and environment as moral norms and dignity. human, the ability and tendency to link behavior and activities with environmental problems. It was found that students of social sciences and humanities have a higher level of manifestation of the ecological sphere of everyday consciousness.

1.12. Liudmyla Nalyvaiko, Viktor Boiko, Andrii Teliatnikov. DEVELOPMENT AND USE OF DISINFECTANTS IN VETERINARY MEDICINE

In the system of veterinary and sanitary measures, the search for new highly effective means for prevention, treatment and disinfection amid ecological changes in the environment remains relevant. Quality disinfection depends on the use of effective veterinary preparations. In a short time, they are to eliminate the pathogens of infectious diseases, which requires a special approach to the choice of methods (wet, aerosol, gas, foam) and means (chemical, biological, physical) of disinfection and techniques for their use. Effective disinfection requires appropriate preparations, but most of them do not meet certain requirements, namely: some of them have a high bactericidal effect, but are toxic, others – have a high effect, low toxicity, but destructive impact on the treated objects.

1.13. Olha Ovsiienko. ONLINE PLATFORMS FOR INTERACTION BETWEEN THE STATE AND SMALL BUSINESS IN UKRAINE

The article examines the forms of online interaction between small business and the state. Among them are the following: the provision of administrative services by the state (issuance of permits, business licensing, business registration, provision of certificates and extracts from state registers); support for national business, including abroad; provision of free consulting services;

state funding for online learning and raising digital literacy; informing citizens about digital business opportunities; creation of information content aimed at the perception of small business as an opportunity for self-realization. It is proved that in the development of state online platforms there is a tendency to integrate numerous digital services into a single system, as well as the desire to ensure their interoperability. The role of state online platforms for small business support in the formation of the Ukrainian economy digital infrastructure is determined.

1.14. Tetiana Pavlyuk, Larysa Osipova. THE MARKET MECHANISM AND THE FORMATION OF AN EFFECTIVE NATIONAL ECONOMIC MODEL

The article considers the economic essence of the market, functions, place and role in commodity production. The market as a complex, multifaceted category that can be explored in several areas is defined. The features of the market mechanism, conditions for its effective functioning as an effective tool to increase efficiency, accelerate its expanded reproduction are revealed. The models of market economy are considered in the context of the new model features of capitalism regarding the combination of market levers of regulation with the levers of state regulation. The features of the "Ukrainian model of management" are noted. The necessity of forming an effective economic model in Ukraine is shown considering all the advantages of the market mechanism and state regulation of economies.

1.15. Yuri Pozdnyakov, Maria Lapishko. ASSET VALUE VALUATION RESULT METHODOLOGICAL ERROR AT VALUE OVER TIME CHANGE MODEL INADEQUATE CHOICE

The article behaves to the field of assets value economic measurements, performing by independent expert evaluation methods. The mathematical description main methodological principles of valuation object value/depreciation dynamics are considered. It is noted that value and depreciation dynamics models are used in evaluation practice may be not closely correspond to the actual state, since they do not take into account the possibility of different depreciation models.

The method of assets value/depreciation uncertainty degree quantitative assessment on the case of inadequate depreciation model choice – progressive instead of regressive, and vice versa – is analysed. As the criterion for the results uncertainty degree the objective quantitative indicators are chosen – their absolute and relative errors. Analytical equations that mathematically strictly describes these errors estimates for two possible mistake types of depreciation model choosing are obtained. A new kind of mathematical description is proposed that takes into account the opposite depreciation dynamics character in progressive and regressive depreciation models.

It is proved that the actual absolute and relative error indicators can be determined on the basis of Iowa type curves condition percent factor equations and monitoring data, obtained by periodic independent expert evaluation (reevaluation) performing. The importance of those researches for the further development of the information and metrological paradigm of the independent valuation methodology is underlined. Some recommendations in relation to priority directions of further researches are offered.

1.16. Alexander Sklyarenko. THE IMPORTANCE OF EDUCATION AND KNOWLEDGE ECONOMY FOR ENSURING SUSTAINABLE SOCIO-ECONOMIC DEVELOPMENT

The paper provides a general and concise analysis of the importance of education, the knowledge economy, as the main without exaggeration factors of development and building a sustainable society.

1.17. Iryna Topalova, Olena Makoveieva. RESOURCE PROVISION MANAGEMENT OF THE REGION

In the course of this study, the methodological principles of formation and management of resource potential of the region were determined. Important elements of quantitative and qualitative filling of the potential of resource provision are: levers of formation of potential of resource provision; conditions that affect the formation of resource provision potential; structure of resource provision potential; features, approaches and methods of resource potential formation; areas in which it is advisable to form the resource potential of the region.

1.18. Anastasiia Shulha. TAXATION AS ONE OF THE IMPORTANT COMPONENTS OF THE FINANCIAL MECHANISM FOR SUSTAINABLE DEVELOPMENT (ON THE EXAMPLE OF A LOCAL TAXATION OF UKRAINE)

The article analyzes taxation as one of the important components of the financial mechanism of provision sustainable development, on the example of local taxation in Ukraine. At the beginning of the study, the essence of sustainable development and the financial mechanism of its provision are outlined; the functions, structure and algorithm of formation of this mechanism are given. The main part of the article is devoted to characterizing the modern system of local taxation in Ukraine. Innovations in the mechanism of local taxation are outlined and the fiscal potential of local taxation is determined by analyzing the dynamics of tax revenues to local budgets and other indicators of their profitability. At the end of the article, it was concluded that local taxation is one of the important components of the financial mechanism of provision sustainable development and ways to improve it are given.

Part 2. MODERN APPROACHES FOR EDUCATION DEVELOPMENT

2.1. Mariia Bobrova, Halyna Naidonova, Svitlana Koval. THE ROLE OF THE PROOXIDANT-ANTIOXIDANT SYSTEM IN PROVIDING IMMUNE RESISTANCE OF THE PLANT ORGANISM

Plant immunity is an important fundamental in applied science closely related to practical agricultural issues. Understanding the mechanism of plant immunoprotection and the role of components of the prooxidant-antioxidant system opens up prospects for their use and modification to increase the body's defenses, as well as outlines a new range of research in immunology, breeding, biotechnology, and genetic engineering. The article reveals the history of the formation of the doctrine of plant immunity, and the role of prooxidants and antioxidants in its provision.

2.2. Olga Kryvonos, Zhanna Chernyakova. FORMATION OF KEY COMPETENCIES OF THE FUTURE TEACHER OF NEW UKRAINIAN SCHOOL IN THE CONTEXT OF ENSURING SUSTAINABLE DEVELOPMENT OF EDUCATION

The purpose of the article is to analyse the key competencies that an innovative teacher should have as an agent of change in new Ukrainian school and to highlight the ways of forming a competent teacher. In particular, the following key competencies have been analysed: creative solution of professional tasks; research competence; ability to learn throughout life, to implement the principles of partnership pedagogy; ability to communicate with students, their parents, colleagues effectively (professional command of the word, dialogic skills); ability to perceptual activity; organizational competencies; possession of innovative and informational pedagogical technologies. The own experience of teaching students at the level of competencies is presented, in particular, the involvement of students during classes and pedagogical practice in heuristic, project, interactive activities.

2.3. Valentin Molodychenko, Natalya Molodychenko. INTERCULTURAL COMMUNICATION AS A PREREQUISITE FOR THE FORMATION OF SUSTAINABLE SOCIETY DEVELOPMENT

Modern research proves that the implementation of the sustainable development concept in addition to purely economic components requires consideration of the spiritual and cultural component, which is manifested in knowledge and understanding of national and world culture, the development of tolerance towards people with other axiological preferences, special worldview. The solution of these problems is possible through the implementation of multicultural education in order to acquire skills of intercultural communication at all ages and professional levels, which can be a guarantee of non-conflict modern society development.

2.4. Olena Murzina. THE ESSENCE AND CONTENT OF THE MEDIA COMPETENCE OF FUTURE DOCTORS

The study reveals the essence and content of the "media competence" definition from the standpoint of modern national and foreign researchers and presents the terminological apparatus on this topic. The transition from the analysis of given terms to the concept of "media competence" has been made. Media competence is defined as a set of knowledge, skills, abilities that contribute to the selection, use, critical analysis, evaluation, creation and transmission of media texts in various types, forms and genres, analysis of media functioning complex processes in society. The media competence of future doctors is considered as the competence to apply media technologies in professional activities.

2.5. Nina Myropoltseva, Olha Amplieieva. GENDER ASPECT RESEARCH OF NON-VERBAL COMMUNICATION AMONG STUDENT YOUTH

The research examines the gender characteristics of non-verbal communication of student youth. Theoretical approaches of researches on this problem are analyzed. The role of nonverbal communication in human life and features of development of this phenomenon from the point of view of domestic and foreign researches are considered. The peculiarities of students' emotional intelligence as a component of nonverbal communication have been studied. The level of social intelligence development (verbal and nonverbal indicators) of different sexes students is revealed. The role of a high level of development of students' social intelligence in further employment is determined. Using a statistical criterion, a significant difference in the results of these groups was established. Further directions of work on this issue are outlined.

2.6. Larysa Onishchuk, Lina Rybalko. PHYSICAL AND HEALTH ACTIVITIES OF STUDENTS IN THE CONDITIONS OF HEALTHY EDUCATIONAL ENVIRONMENT

The article raises the problem of physical culture and recreation activity in higher education. The purpose of the study was to identify and clarify the essence and content of the concept of "physical culture and recreational activities", "recovery". In order to realize the goal, methods of analysis and synthesis of scientific literature, comparison and synthesis have been applied. On the basis of the analysis of scientific and pedagogical literature it was clarified that healing is a complex of measures of physical culture, social, educational, medical and hygienic nature, aimed at preservation, strengthening and restoration of human health; whereas physical culture and recreation activity in the system of physical education of higher educational establishments includes: monitoring of the state of physical development of student youth; promotion of a healthy lifestyle; motivating students to have a healthy lifestyle; formation of a positive attitude towards sports activities; stimulating interest in sports and health improvement.

2.7. Oksana Pasko. POTENTIAL OF PROJECT ACTIVITIES IN THE DESIGNERS' PROFESSIONAL EDUCATION: COMPETENCE APPROACH

The article is devoted to the analysis of the phenomenon of «project activity» and its possibilities in the development of future design specialists' professional competencies. The special attention is paid to the possibilities of project activity in the development of students' compositional project thinking. The clauzura and its influence on the development of design students' compositional thinking as one of the effective means of project activity are characterized.

2.8. Yuliia Roik. ETHNODESIGN AS AN ISSUE FOR DISCUSSION IN FOREIGN SCIENTIFIC LITERATURE

The article reveals the experience of formation and implementation of ethnic design in foreign countries. This work is based on the analysis of the scientific literature that historically reveals the unity of design and folk crafts in education of the world's developed countries such as Great Britain, Germany, Italy, France and Japan.

The author distinguished and characterized the main stages in design development, which are correlated with changes in meaning of concept "design": "Protodesign", "Art construction", "Art projection», "Ethnodesign".

It is substantiated that art education should originate from national traditions and the methodological system of teaching ethnodesign should include both the technology of art projecting (designers) and the technology of technical projecting (engineers).

2.9. Olena Shenderuk. COMMUNICATIVE APPROACH IN LEARNING ENGLISH

Nowadays there is a great number of different approaches and methods of learning English. But not all of them are efficient. The scientists point out communicative approach that is directed to speaking practice as the most methodical and productive. Among the peculiarities of communicative approach are studying a language as a mean of communication, through a personal activity of a student, English classes are considered to be communicative ones. Communicative approach includes preparatory, organizational, correctional and generalizing and simulative stages. The main aim of communicative learning of a language is studying it as a communicative competence.

2.10. Nataliya Shandra, Olena Fonariuk, Iryna Chystiakova. SYNCHRONOUS AND ASYNCHRONOUS DISTANCE LEARNING: BENEFITS AND LIMITATIONS

This paper provides the definition of the notion "distance education", which is regarded as a planned and systematic activity which comprises the choice, didactic preparation and presentation of teaching materials as well as the supervision and support of student learning and which is achieved by bridging the physical distance between student and teacher by means of at least one appropriate technical medium. The research describes two basic types of distance learning, namely synchronous and asynchronous, in details. The benefits and limitations of both types are analysed. Distance education theory is provided.

2.11. Olena Shevchenko, Oksana Burkovska. USE OF CASE-STUDY METHOD IN TEACHING HUMANITIES AT MEDICAL UNIVERSITY

The article deals with the peculiarities of case-study method in the teaching humanities at medical university. The reasonability of its implementation in the teaching process has been proved. Learning potential of case-study method for teaching humanities has been analyzed. Positive features of case-study method use have been picked out.

2.12. Daria Shiyani, Olena Lakomova, Tatiana Karpenko, Nadiia Kaida. THE IMPORTANCE OF INTERDISCIPLINARY RELATIONS IN THE EDUCATIONAL PROCESS OF HIGHER EDUCATIONAL INSTITUTIONS IN UKRAINE

The article considers the concepts of interdisciplinary connections, their features and characteristics. Universal competencies of educational programs of Ukraine are revealed, the ratio of competencies under the EU Framework Program on updated key competencies and State educational standards of Ukraine is revealed.

2.13. Sergiy Tsviliy, Darya Gurova, Tetiana Kuklina. RESEARCH OF THE SPECIFICS OF PROVIDING TOURIST EDUCATION IN THE LATEST CONDITIONS: MARKETING APPROACH

It is established that tourism education is a priority in the architectural construction of the country's tourism economy, but today one can see a crisis in all spheres of life. The logic of using the marketing approach to analyze the market of educational services by the vector of tourism education is proved. A survey was conducted to study the views of teachers of higher education institutions on the potential for training quality tourism professionals. Recommendations were given to the heads of the institutes of higher education (HEI) in order to develop management decisions to improve the process of providing tourism education. The state of providing tourist education in the latest conditions is analyzed according to the elements of the modern marketing complex: product, price, place, promotion, time, people, material evidence, process. It is concluded that it is expedient to build a quality system for monitoring the coronavirus environment in the development of marketing complex HEI.

2.14. Anna Aleksieieva, Liudmila Grygorieva, Olena Makarova. STANDARDS FOR PERMISSIBLE LEVELS OF RADIONUCLIDES IN RESERVOIRS ACCORDING TO THE ECOLOGICAL PRINCIPLE OF SAFETY

The scientific and practical problem of normalization of the content of radioactive substances in the water of a freshwater reservoir, which is affected by liquid discharges of NPPs by protecting the ecosystem of the reservoir from excessive radionuclide contamination, was solved. It is shown that the ecological principle of safety of such reservoirs is not to exceed the limit of radionuclide content in the biota of the reservoir. According to the results of radioecological research in the reservoirs of the South Ukrainian NPP, the standards of permissible levels of radionuclides in freshwater reservoirs, hydrologically related to the technological reservoirs of NPPs, are determined by the ecological principle of safety: permissible radionuclide discharge and permissible radionuclide concentrations. It is proposed to use these standards in the ecological monitoring of such freshwater reservoirs.

2.15. Liudmyla Balla. EDUCATION OF SPIRITUAL AND MORAL VALUES IN CHILDREN OF SENIOR PRESCHOOL AGE BY MEANS OF ARTISTIC WORD

The article highlights the problem of educating the spiritual and moral values of older preschool children by means of oral folk art. Questions of formation of spirituality of the person, morality and self-consciousness are considered. Definitions and analysis of the definitions "spirituality", "moral values", "value", "consciousness", "self-awareness", "self-sufficiency", "oral folk art", "fairy tale" are given. Ways of education of spiritual and moral values in children of senior preschool age by means of influence of the artistic word on the emotional and volitional sphere of the child are analyzed, where through emotions, imagination, ability to empathy to cause arbitrary behavior in children, emergence of initial self-regulation of behavior. Which in turn will positively affect the development of spiritual and moral values of students.

2.16. Valentyna Baranovska. USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN THE EDUCATIONAL PROCESS OF PRIMARY SCHOOL

The article deals with the pedagogical expediency of using multimedia technologies in the educational process of primary school as a means of increasing efficiency and further improvement of the learning process. At the same time, based on the analysis of pedagogical sources, it is determined that the use of information and communication technologies by primary school teachers in the educational process should be pedagogically considered.

It is emphasized that the use of multimedia game programs for educational purposes in combination with other didactic techniques (visualization of messages, organization of feedback between teacher and students, encouragement of correct answers) will ensure a gradual transition of primary school students from play to learning.

2.17. Liudmyla Berezovska. THE SPECIFICS OF FORMATION IN PRESCHOOL CHILDREN LIFE SKILLS THAT ARE FOCUSED ON SUSTAINABLE DEVELOPMENT

The article analyses the concept of "education for sustainable development"; the author's interpretation of the definition of "sustainable development" is given; The peculiarities of formation of initial ideas about actions and behaviour focused on sustainable development in preschool children are characterized. The usage of active forms and methods of teaching with preschool children is revealed, in particular, the method of projects, creation of game problem situations, case method, etc. It is noted that preschool age is a favourable period for laying a solid foundation for the formation of effective actions and life skills focused on sustainable development, positioned examples of exercises and tasks that should be used with preschool children.

2.18. Olha Vyshnyk. HISTORY OF STUDY, ETIOLOGY AND SYMPTOMS OF DYSLEXIA

The study deals with the problem of reading disorders, which can be an independent disorder and manifest itself along with other severe disorders. It is emphasized that dyslexia today is the most common form of speech pathology. It is emphasized that in the historical excursion, researchers have different understandings of the relationship between reading disorders and genetic factors, environmental influences, educational conditions, gender, individual characteristics of the child, and so on. There is a lack of uniform terminology used to denote reading disorders, their characteristics and classifications. The types of dyslexia and possible causes of its occurrence are characterized.

2.19. Olena Havrylo. EFFICIENCY OF USING PROJECT ACTIVITY OF CHILDREN OF SENIOR PRESCHOOL AGE IN ENVIRONMENTAL EDUCATION

The article presents the results of the using of project activities in older preschool children`s environmental education. Based on the analysis of scientific and pedagogical literature, the types, tasks and structure of projects for preschoolers are determined. Plans for two projects have been developed and their implementation in experimental groups of older preschool children has been described. According to the results of the inspection, an increase in the level of children`s environmental education after their participation in project activities was proved.

2.20. Vasil Gaida. METHODOLOGICAL BASES OF FORMATION OF SELF-EDUCATIONAL COMPETENCE OF PUPILS OF ELEMENTARY SCHOOL AT STUDYING OF PHYSICS ON THE BASIS OF SUSTAINABLE DEVELOPMENT

The author of the article raises and substantiates the problem of forming self-educational competence of the individual on the basis of sustainable development, which determine the motivational and meaningful aspect of educational activities. It is noted that the effectiveness of achieving this goal in solving this problem will depend on the chosen methodological approaches

and the need for systematic and consistent implementation. Competence, personality-oriented and axiological approaches analysed in detail by the author became such methodological basis of the research. The implementation of these approaches is based on productive teaching methods (problem, heuristic, research) and the project method. The effectiveness of these approaches is enhanced by the introduction of individual, group and various forms of extracurricular activities.

2.21. Iryna Danylchenko. PREPARATION OF FUTURE EDUCATORS BEFORE THE FORMATION OF CHILDREN PRESCHOOL SKILLS BASED ON SUSTAINABLE DEVELOPMENT: INTERDISCIPLINARY APPROACH

The study highlights the issues of sustainable development, education for sustainable development, the formation of skills in preschool children focused on sustainable development and the preparation of future educators for their implementation. The main components of the readiness of future educators to form in preschoolers skills focused on sustainable development: cognitive, activity, motivational, evaluative. The content of the formation of the specified readiness in the process of theoretical and practical professional training is revealed. A system of work on preparing future educators for the formation of skills in preschoolers focused on sustainable development during the teaching of disciplines «Fundamentals of Science with Methodology», «Introducing children to the environment», «Children's Literature» based on the principle of interdisciplinary integration.

2.22. Oksana Danylchuk, Zoryna Boiarska. APPLICATION OF MATHEMATICAL METHODS AND MODELS IN THE PROCESS OF STUDYING HIGHER MATHEMATICS

The article identifies the role of higher mathematics as an important tool for effective work of specialists in various fields; forms and methods of application of the mathematical apparatus for solving tasks of economic, physical and chemical content; examples with the use of mathematical modeling as a means of professionally oriented teaching of higher mathematics are considered; the expediency of using applied tasks, which demonstrate the need to apply mathematical concepts, increase motivation and stimulate the study of discipline, promote the development of research skills of future professionals.

2.23. Olha Donchenko. DOMINANT FACTORS OF CREATIVE PERSONALITY IN THE CONTEXT OF MODERN EDUCATION FOR SUSTAINABLE DEVELOPMENT

The article focuses on substantive aspects of modern education in the sustainable development paradigm. The author further argues the formation of creative personality as prerequisites for successful child socialization in contemporary society. The dominant factors of creative personality are covered in the article. Particularly, the author analysis psychophysiological factors (fabric, type of higher nervous activity, temperamental features, dominance of right hemisphere assumetric brain self direction), social factors (intensive social dynamics, freedom, democracy), psychological factors (motivation, emotional sphere, mental characteristics) and proves the role of creative personality.

Part 3. EDUCATION AS A FACTOR OF SUSTAINABLE DEVELOPMENT

3.1. Diana Drozdova. ARCHETYPAL SYMBOLISM AND COLLECTIVE UNCONSCIOUS

The study addresses the issue of links between two areas of the psyche – conscious and unconscious, considers their functional features. The emphasis of the study is on archetypal symbolism that symbolically expresses the content of the latter and is filled with the individual content of the subject taking into account certain conditions of the deep psychological process of cognition. Referring to psychodynamic theory, we have provided the impact analysis of archetypes on the subject's psyche and the possibility of its cognition under the condition of spontaneous behavior with the involvement of different visualized self-presentation means.

3.2. Mykola Dubinka. PROFESSIONAL AND PEDAGOGICAL COMMUNICATION AS A BASIS FOR THE FORMATION OF THE PERSONALITY OF THE FUTURE SPECIALIST

In the article the author tries to present and reveal the basic principles of professional and pedagogical communication in higher education, which is the basis for organizing and ensuring an effective educational environment and substantiates that the humanistic principles of any communicative interaction are the basis and productivity of further professional development. future specialist. Analyzing the process of professional development of the individual, the author argues that communication plays a leading role and is determined by the following characteristics of the interaction process: activity, the presence of connections between subjects, awareness and goal setting, emotional empathy and psychological contact. Together, they form the basis of professional and pedagogical communication, which is characterized as a dynamic and manageable system that provides constant control over the progress and results of the future professional.

3.3. Oleksandr Dubovoi, Viacheslav Babych, Volodymyr Dubovoi. APPLICATION OF INNOVATIVE APPROACHES TO THE ORGANIZATION OF PHYSICAL EDUCATION AS AN IMPORTANT CONDITION FOR INCREASING THE LEVEL OF SELF-CONFIDENCE AND OWN CAPABILITIES OF STUDENTS OF A SPECIAL MEDICAL GROUP

The article highlights the problems of improving the process of physical education of students. Was revealed the significance of the application of innovative approaches to the organization of the practical component of the discipline „Physical Education”, aimed at increasing students’ level of psychological stability and self-confidence and their own abilities. It is noted that with the help of innovative approaches to the organization of the practical component of the discipline „Physical Education” it is possible to fully form a healthy personality of students in physical, mental, social and spiritual aspects.

3.4. Yevgeniya Yelenina. THE USAGE OF EXHIBITION MATERIALS OF LOCAL HISTORY MUSEUM IN THE EDUCATIONAL SCHOOL PROCESS

The dynamic system «collaboration: school + museum» is represented in the article. The principles and forms of work are clearly defined. It is concentrated on the six ways of activities which provide developing basic competencies of students by means using the exhibition materials of Local history museum in the educational school process.

3.5. Liudmyla Zahorodnia. FORMATION OF ENVIRONMENTAL COMPETENCE OF FUTURE SPECIALISTS OF PRESCHOOL INDUSTRY IN THE CONTEXT OF EDUCATION FOR SUSTAINABLE DEVELOPMENT

The aim of the study is to form environmental competence in future professionals in the preschool industry in the context of education for sustainable development. The problem of greening of education, which involves the formation of the young generation of systematic, comprehensive knowledge and competencies in the context of environmental protection and environmental ethics to achieve sustainable development of society is relevant given the environmental crisis on a global scale. Education of the basics of personality consciousness begins at the preschool age, so today the problem of formation of environmental competence in future educators, directors of preschool education institutions is especially relevant. Formation of ecological competence in future specialists of preschool education is provided by theoretical, activity and scientific components of this process.

3.6. Svitlana Inozemtseva, Iryna Malynina, Nadezhda Mironenko. INTERDISCIPLINARY RELATIONS AS A FACTOR OF QUALITY PROFESSIONAL TRAINING OF FUTURE MULTIMEDIA DESIGNERS

The article is devoted to the study of the problem of interdisciplinary relations in the modern conditions of education development. The article substantiates the expediency of establishing interdisciplinary relations in order to increase the effectiveness of professional training of future multimedia designers. The relations between the disciplines in the field of design education are analyzed. The content of interdisciplinary relations, their structure and functions are revealed. The forms of training organization with the use of interdisciplinary relations are defined and described, namely: integrated and binary classes. The types of intradisciplinary and interdisciplinary relations in the scientific and methodological support of the discipline "Design" are established.

3.7. Nataliia Ishchuk. BUILDING COMMUNICATIVE COMPETENCE IN BUSINESS DISCOURSE IN LEARNING ENGLISH FOR SPECIFIC PURPOSES

The paper deals with the modern approaches to building communicative competence in business discourse when learning English for specific purposes. The concept of "communicative competence" is studied, its content is scrutinized to find out that communicative competence includes linguistic, sociolinguistic and pragmatic competences. Analyzed are the advantages of using of such teaching methods as discussion and debate to build communicative competence in business discourse.

3.8. Olena Karanfilova, Viktoriia Kryvoruchko. ARCHITECTURE DESIGN AS A METHOD OF MODELING IN THE EDUCATIONAL ENVIRONMENT

The purpose of this work is to familiarize, as well as study the influence of the design of the architectural environment on the psychological and spiritual component of the human mind and, directly, the architectural and design environment surrounding us as a way of modelling the socio-cultural space. But it was the XX and the beginning of the XXI century that became a period of radical reincarnation of the socio-cultural environment of human life. The work presents the consequences and outcome of studying the system of factors of development and formation of social and cultural space and subspace of a person from the point of view of the principles of organizing the design of the architectural environment.

3.9. Mykhailo Koziy, Oleg Dubachinsky. THE USE OF THE LATEST HISTOLOGICAL TECHNIQUES FOR THE DIAGNOSIS OF PATHOLOGICAL CHANGES OF THE LIVER HYPOPHTALMICHTHYS MOLITRIX IN TRANSFORMED LIVING CONDITIONS

The effect of high concentrations of the water-soluble toxicant «BULLDOG» ES on the liver parenchyma of silver carp was studied using an optimized method of combined embedding of fish tissues. The data of pathological changes in the medial zone of the organ are presented. The possibility of using factual material in histology, comparative, functional and clinical morphology is shown.

Histological analysis of fish liver showed adaptive responses of organs, disturbances of blood microcirculation, dystrophic changes in the parenchyma. Compensatory changes in hepatocytes are morphologically indistinguishable from the processes of adaptive cellular rearrangement. The form of functional adaptation is cell dedifferentiation, both under normal conditions of tissue development and under the influence of damaging factors.

3.10. Marta Kondratyuk. WHOLE-LANGUAGE APPROACH TO TEACHING ENGLISH VIA THE INTERNET

Current university learning methods are being transformed under the pressure of Internet. Learning development goes abreast with technological developments that use internet-based electronic devices. The whole language approach is developed via comprehensive thematic units. Spelling, reading, writing, speaking, and grammar are integrated into the instruction and are not taught as separate components. One of the methods for whole language approach is a web-quest that develop students critical thinking at the levels of analysis, synthesis, and evaluation.

3.11. Zoia Kornieva, Yuliia Baklazhenko. THE ROLE OF THE ENGLISH LANGUAGE TEACHING IN HIGHER EDUCATION INSTITUTIONS OF UKRAINE FOR THE IMPLEMENTATION OF EDUCATION FOR SUSTAINABLE DEVELOPMENT

The article is devoted to the role of the English language teaching in higher education institutions of Ukraine for the implementation of educational goals for sustainable development. In particular, the authors analyse the global trends and Ukrainian experience in implementing education for sustainable development, track the origin and the development of the definition of education for sustainable development, the place of such education and its objectives among the goals of sustainable development for 2030. Particular attention is paid to teaching English in higher education in Ukraine in the light of the concept of education for sustainable development. The characteristic principles, content, technology, forms of work of English teaching for sustainable development goals is analysed. The authors conclude that learning English is crucial to promoting the idea of "global citizenship", educating a citizen who takes an active role both locally and globally, who is able to meet and address global challenges, and ultimately – actively promote a more just, peaceful, tolerant, inclusive, secure and sustainable world.

3.12. Julia Kushnir. PECULIARITIES OF MOTIVATION OF PROFESSIONAL ACTIVITY OF A MODERN TEACHER

The article presents the results of a study of teacher motivation in the modern educational space. The urgency of studying the motivation of teachers of educational institutions is indicated. With the help of methods the characteristics of emotional and professional burnout and features of professional motivation were determined. After receiving the results of the study, it was found that subjects with different motivational components have different levels of emotional and professional burnout.

3.13. Olha Lebedynets, Oleksandr Bashura, Svitlana Kovalenko. THE MAIN ACHIEVEMENTS OF UKRAINE ON THE WAY TO IMPLEMENTING THE PRINCIPLES OF EDUCATION FOR SUSTAINABLE DEVELOPMENT

The role of education for the balanced development of society, overcoming the ecological crisis is quite important, as only it can create a foundation for the formation of a new worldview, values of environmentally conscious person, who can realize powerful domestic opportunities for the benefit of their people and the world community. The article presents the stages of formation of sustainable development in Ukraine, the complexity of implementing the basic principles of the strategy. Education is a major factor in shaping the environmental culture of society, so it is necessary to implement the basics of the Strategy at all levels of education. The main appeals, intentions and framework for the implementation of activities in the field of education for sustainable development until 2030 are also presented. The problems faced by the country at the stage of introduction of this system and the results of its implementation in the field of education are analyzed.

3.14. Vladislav Lutsenko. INNOVATIONS IN THE DESIGN WORK OF STUDENTS OF THE DEPARTMENT OF RADIO-ELECTRONIC AND BIOMEDICAL COMPUTERIZED MEANS AND TECHNOLOGIES OF THE ZHUKOVSKY NATIONAL AEROSPACE UNIVERSITY (KHAI), AS A MECHANISM FOR IMPROVING THE EFFICIENCY OF THE EDUCATIONAL PROCESS – THE BASIS OF SUSTAINABLE DEVELOPMENT OF SOCIETY

The purpose of the study is to analyse the use of innovative technologies in the design work of students of the Department of Electronic and Biomedical Computerized Tools and Technologies of the Zhukovsky National Aerospace University (KHAI), to increase the efficiency of the educational process.

3.15. Tetiana Marieieva. METHODOLOGICAL APPROACHES OF PREPARATION OF FUTURE EDUCATORS OF PRESCHOOL EDUCATION INSTITUTIONS FOR CREATION OF POSITIVE PROFESSIONAL FOR SUSTAINABLE DEVELOPMENT

The article represents the problem of future preschool education institution teachers' training to create a positive professional image as an aspect of the implementation of education for sustainable development. The analysis of interpretation of the concepts "sustainable development", "teacher's image", "professional training", "methodological approach" in the scientific literature is given. The essence of the concept of preschool teacher's professional image and its structure are revealed. The characteristic of methodological approaches (systemic, synergetic, competence, contextual, activity, personality-oriented, acmeological, axiological, culturological) of future preschool institutions educators' training to create positive professional image is given.

3.16. Vlada Markova, Mariia Mefanik. FORMATION OF DIGITAL COMPETENCE FUTURE ENGINEERS-TEACHERS IN PROCESS PROFESSIONAL TRAINING

The article considers the peculiarities of the formation of basic competencies in the conditions of higher education institution. The organizational and pedagogical conditions for the formation of basic competencies of future engineers-teachers are highlighted.

3.17. Oleksandra Marmaza. MANAGEMENT OF EDUCATIONAL INSTITUTION DEVELOPMENT ON THE BASIS OF THE RESULTS-BASED APPROACH

Spelling competence is an integral part and the main basis for mastering spelling, which is a starting platform for mastering and mastering spelling by students. The article reveals the difficulties encountered by junior students with special speech needs in the New Ukrainian School, presents the stages, directions of formation of spelling competence.

3.18. Zoryana Martyniuk. MODELING OF SPELLING COMPETENCE IN JUNIOR HIGH SCHOOL STUDENTS WITH SPECIAL SPEECH NEEDS

The article presents the results of the using of project activities in older preschool children`s environmental education. Based on the analysis of scientific and pedagogical literature, the types, tasks and structure of projects for preschoolers are determined. Plans for two projects have been developed and their implementation in experimental groups of older preschool children has been described. According to the results of the inspection, an increase in the level of children`s environmental education after their participation in project activities was proved.

3.19. Alina Martin. SUSTAINABLE DEVELOPMENT OF SOCIETY IN THE CONTEXT OF GENESIS INDICATORS, DIRECTIONS OF DEVELOPMENT OF SOCIAL PROCESSES AND TENDENCIES OF ESTABLISHMENT OF THE PRIMARY NATURAL EDUCATION AS AN INDICATOR OF CHANGES IN THE SYSTEM "MAN – NATURE"

The theory of sustainable development is the presented as a dynamic social formation, which reflects the social processes from ideas to the process of their implementation. The key ideas of the theory of sustainable development are presented in the context of the development of social processes in Ukraine and globalization processes in the world. The essence of the tendencies of formation of primary natural education as an indicator of changes in the system "man – nature" considered in the following periods: 1950-1967; 1968-1989; 1992-2012. Based on the analysis of the content of primary natural education, it is established that the older generation passed on to the younger generation such public opinion about the interaction of man with nature: man – the conqueror and converter of nature (1950-1967) → man uses and protects nature (1968-1989) → man knows nature, understands its significance for his own life, treats nature with care, protects it (1992-2012).

3.20. Tetiana Miyer, Larysa Holodiuk. LEARNING PROCESS FOCUSED ON PROMOTING SUSTAINABLE DEVELOPMENT: ESSENCE, DIDACTIC TRIAD STRUCTURE, INNOVATIVE BASIS

The phenomenon of "sustainable development" is considered in the context of scientific and educational changes, which are constantly growing positively. Attention is drawn to the educational process, which is the formation of society, functions and develops due to modernization phenomena and innovative achievements of scientists around the world and Ukraine in particular. Education as an "indicator, factor and driver of sustainable development" (according to V. Ogneviuk) is characterized in terms of the learning process focused on promoting sustainable development. This learning process is characterized by a triad structure (learning – teaching – management) and provides for the functionality of the triad as a whole. The analysis of the learning process focused on promoting sustainable development is carried out in the context of modern innovations. We are talking about such new scientific phenomena as: "dyad base" approach (according to V. Savosh), "integration of different activities" approach (according to T. Miyer), "ecointegration" approach (according to L. Holodiuk).

3.21. Olena Muraviova, Viktoriia Arkhypova. INTRODUCTION OF A COMMUNICATIVE APPROACH (CLT) TO FOREIGN LANGUAGES TEACHING FOR BLENDED LEARNING DURING QUARANTINE PERIOD

The article deals with research in the field of training the students of technical specialties adopting blended learning through the Communicative Language Teaching (CLT) approach with the use of such cloud platforms for video and audio conferencing as Zoom and Google Meet. It concerns the development of CLT tasks in the period of COVID-19 quarantine. The authors outline the teaching context, explain the rationale for developing professional competence through the CLT approach and the challenges of adopting CLT with distance pedagogic practices where face-to-face

sessions were not possible. The authors gave practical recommendations for teachers who try to overcome the difficulties of using the hybrid method to improve student participation, preparation, and understanding of programme material.

3.22. Jevgenija Nevedomsjka. METHODS OF FORMATION OF SCIENTIFIC CONCEPTS IN HIGHER SCHOOL

The problem of formation of scientific concepts remains the main one in higher school. The analysis of university practice gave grounds to reveal contradictions between the growing need for educated representatives of modern society and the importance of scientific concepts and the inconsistency of existing methods for their formation. The article reveals the methodology of motivational and actualization stages in preparation for the formation of scientific concepts in students. The formation of scientific concepts in students occurs during a long process of cognition. Therefore, the article focuses on the disclosure of methods of forming scientific concepts. Examples of some methodical receptions during formation of scientific concepts are given.

3.23. Yurii Otrosh, Alexander Chernenko, Eduard Shcholokov. MODELING AND NUMERICAL ANALYSIS OF REINFORCED CONCRETE BEAMS UNDER FORCE AND HIGH TEMPERATURE INFLUENCES

The results of numerical modeling and calculations according to the developed methods are given. Given the advanced capabilities of ANSYS, this package was chosen for modeling structures in conditions close to fire, and their subsequent calculation by the finite element method. The most promising way to verify the experiment is computer simulation of the structure during a fire, which was performed in ANSYS Workbench. The results of experimental studies and numerical analysis of reinforced concrete beams in the program ANSYS Workbench 17.1. for the first 10-30 minutes are quite significantly different at all control points, but later this difference is stabilized, and until the end of the experiment does not exceed 10.0%, which can be considered quite acceptable. In general, the obtained results confirm that the method of computer modeling with subsequent numerical analysis can be recommended for practical application.

Part 4. EDUCATION FOR SUSTAINABLE DEVELOPMENT: AN INTERDISCIPLINARY APPROACH

4.1. Natalia Panhelova, Tatiana Trotsenko, Tatiana Kravchenko. OPTIMIZATION OF THE PSYCHOPHYSICAL CONDITION OF PRIMARY SCHOOL STUDENTS IN BOARDING SCHOOLS

Currently in Ukraine there is a negative trend of increasing the number of children in difficult life situations. These are orphans; children left without parental care; children from antisocial families (alcoholics, drug addicts); children from families of migrants, the unemployed, children who have become victims of armed conflicts, etc. Such children are most often a contingent of orphanages and boarding schools of various types. In Ukraine, the number of children raised in boarding schools is one of the highest in Europe - more than 90 thousand. The state of physical and mental health of children raised in boarding schools is much lower than that of "home" children, which requires finding new approaches to the organization of the process of physical education of boarding school students. The article presents and defines the effectiveness of the program of rational use of physical culture and health measures aimed at correcting the psychophysical condition of children aged 7-10 in a boarding school.

4.2. Valentina Podshyvalkina. METHODOLOGICAL PROBLEMS OF SUSTAINABLE DEVELOPMENT OF SOCIETY AND HIGHER EDUCATION SYSTEM

The article is devoted to methodological problems of sustainable development of society and the system of higher education. Emphasis is placed on the differences between methodological approaches to a static and dynamic understanding of sustainable social development. The limitations of the system vision of the stability of social processes are shown. The specifics and role of transformation processes in ensuring sustainable development of society are revealed. The factors influencing the development of society are discussed. The problems of the modern system of higher education as a guarantor of sustainable development of our societies are considered. Modern problems of higher education in Ukraine are shown. Possibilities of the diatropic approach to the maintenance of sustainable development of modern society are discussed.

4.3. Artem Ruban, Olexandra Tkachenko, Victoria Otrosh. EXPERIMENTAL DETERMINATION OF RESIDUAL RESOURCE OF REINFORCED CONCRETE BEAMS AFTER FORCE AND HIGH TEMPERATURE INFLUENCES

Nowadays, there is a need for inspection, assessment of the technical condition of reinforced concrete structures and restoration of serviceability of existing reinforced concrete structures after exposure to high temperatures. At the same time, the problem of ensuring long-term and reliable operation of building structures after power and high-temperature influences due to the adoption of appropriate materials or protective measures remains unresolved. The paper presents experimental studies of reinforced concrete beams at high temperatures. The most promising way to verify the data of experimental studies is computer modelling of structures, including during a fire. The proposed technique allows you to effectively predict the residual life of reinforced concrete beams, increase human safety, ensure the safety of material values.

4.4. Yuliia Semeniako. PREPARING FUTURE EDUCATORS TO FOSTER SUSTAINABILITY SKILLS IN PRE-SCHOOL CHILDREN THROUGH MEDIA PRODUCTION

The article deals with the problem of training future educators on the principles of sustainable development. Psychological and pedagogical studies on the problem of skills formation focused on sustainable development in preschool children and the preparation of future educators for their implementation are analysed. The features of teaching the course "Technology of formation of ecological culture of preschool children" are revealed, in which special attention is paid to the preparation of future educators for the formation of skills focused on sustainable development in preschool children by means of media production.

4.5. Halyna Synorub, Natalia Dragan-Ivanets. YOUTUBE STREAMING AS AN INTERACTIVE PRESENTATION OF STUDENT'S PROJECTS (AS AN EXAMPLE OF THE SUBJECT "SPECIALIZATION: INTERNET, TV")

The specificity of the educational process in the distance learning environment is considered, as well as features of the use of the YouTube channel as an interactive platform for the presentation of creative journalistic projects. The selection of projects for individual educational-research tasks in the discipline «Specialization: Internet, TV» students of specialty «Journalism» in the form of direct broadcasts is justified. The topics of work, the content of reports, specifics of the creation of presentations, and use of technical programs are described. The advantages and disadvantages of conducting and organizing live broadcasts on YouTube channels are highlighted.

4.6. Iryna Sitak, Sergii Volkov, Tetiana Mateiko. THE ORGANIZATIONAL STRUCTURE OF MASSIVE OPEN ONLINE COURSES MANAGEMENT

The study considers modern approaches to building an optimal management model of an open educational online platform on the example of the "Higher School Mathematics Teacher" platform. The process of creation and functioning of the platform online courses, which corresponds to the five-stage ADDIE (Analysis, Design, Development, Implementation and Evaluation) pedagogical model of online course preparation, is described; the organizational structure of online platform management is modeled.

4.7. Olena Sotska. ECOLOGISATION OF THE EDUCATIONAL SPACE OF A PRE-SCHOOL INSTITUTION IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT

The leading role of the principle of health promotion in the process of ecologisation of the educational environment of pre-school education establishments is revealed. The content of ecologisation of the educational space of preschool education institutions is considered through the prism of modern requirements for the creation of a health-preserving image.

4.8. Kateryna Stepaniuk. FORMATION OF RESEARCH SKILLS OF FUTURE PRIMARY SCHOOL TEACHERS IN THE CONTEXT OF EDUCATION FOR SUSTAINABLE DEVELOPMENT

The article reveals the problem of formation of research skills of the future teachers of Primary school. It is proved that the formation of the mentioned skills it is advisable to realize according to such stages of the professional training of the future teachers of the Primary school: the preparatory, project-research and educational-professional. It is grounded the relevance of the author's educational textbooks (tutorials) for the training of the primary school's future teachers in order of the formation of their research skills. The content of the course "The Technology of Projecting (Designing) within the Primary School" which is revealed in the educational tutorial, is oriented on the development of different groups of research skills with the help of the performing of tasks with research characteristics, which have different level of complexity.

4.9. Yuri Tarasenko, Iurii Savchenko, Victoria Klym. MODELING PARADIGM: FROM VISUAL LAYOUTING TO VIRTUAL 3D

Using the methodology "from simple to complex" with the implementation of the principle "do as I do", it is advisable to directly involve students, as co-authors, in the cognitive process of forming their professional competence. A clear confirmation of this is the introduction in the educational process of technical teaching aids in the form of mock-ups developed jointly with the students. To date, the direct modeling process using computer technology has proven itself well. Using the example of physical prototyping of the principle of uncertainty in radar, the significance of technical prototyping with subsequent analytical comparison of the results of computer modeling is shown and predetermines the expediency of attracting the student community to a creative pedagogical environment that successfully works in the field of virtual modeling, using, for example, fairly modern and not complex software products of the LabView type.

4.10. Olha Temchenko, Iryna Diakova, Liliia Makarenko. DEVELOPMENT OF THE INTERNAL SYSTEM OF EDUCATION QUALITY ASSURANCE: THEORETICAL AND APPLIED ASPECT

The article discovers theoretical and applied aspects of education quality assurance system in secondary education establishment. The necessity of its implementation was proved for improvement of school work. Also, the concepts "education quality", "quality of educational activity" were specified.

Education quality was determined as the relevance of studying results to the requirements, which are set by legislation, educational standard and/or an agreement about educational services. Quality of educational activity is presented via the content of educational system processes.

The example of particular educational establishment presented the mechanism of development and content of the Development Strategy and Statute of internal system of education quality assurance.

4.11. Olena Tryhub. CONDITIONS OF THE FORMING WILLINGNESS TO SELF-EDUCATION OF FUTURE FASHION DESIGNERS

The article discusses the developed organizational and methodological conditions for the implementation of an interdisciplinary approach to the formation of the willingness of future fashion designers for self-education in art institutions of higher education. The following conditions define and substantiate: interdisciplinary integration and structuring of the content of special disciplines for the systematic organization of independent work of student-designers; organization of the process of forming the willingness of future designers for self-education along an individual educational route and based on personal and creative potential; organization of the dynamic nature of educational and pedagogical interaction in the formation of willingness for self-education of future fashion designers in art institutions of higher education; ensuring interdisciplinary communication of classroom and extracurricular independent work of future fashion designers.

4.12. Vasil Khiminets, Marianna Ostrovska. ECOLOGICAL AND ECONOMIC AND HUMANITIES EDUCATION – THE BASIS OF SUSTAINABLE DEVELOPMENT

The article shows that the urbanized path of development of science and technology, due to consumer interests of society, focused only on the growth of production capacity and economic growth, is hopeless, leading to a comprehensive deepening of the ecological and economic crisis. Emphasis is placed on the fact that the emphasis in the development of scientific and technological progress should be shifted from technogenic-economic to humanistic-ecological direction, and natural resources should be considered not only as a means of developing productive forces, but also as a factor in the environment in which humanity lives. The main role in implementing the ideas of sustainable development is given to changing the paradigm of the educational process, its reorientation from the mechanical transfer of knowledge to the formation of human innovative humanistic

4.13. Yuliia Kholostenko, Tetiana Borozentseva, Vitaly Melchenko. TO THE PROBLEM OF STUDYING OF THE INTELLECTUAL CHARACTERISTICS AND PECULIARITIES OF THE ORGANIZATION OF COGNITIVE ACTIVITY OF STUDENTS

The article presents the analysis of scientific concepts of studying of the peculiarities of the development of cognitive style of a personality. The essence of this concept, its basic parameters are defined, the connection with individual style of activity is revealed. The advantages of the work are a detailed analysis of the similarities and differences between individual activity style and cognitive personality style. The connection between cognitive style and intelligence is considered, the role and place of cognitions in the structure of students' intellectual abilities are determined. On the basis of generalization of empirical researches of scientists, it is determined that the study of the relationship of cognitive style with the level of intelligence and learning ability to study give the opportunity to understand better the mechanism of mental activity, to distinguish abilities and instrumental peculiarities of personality: strategies, tactics and styles of information processing. Identifying the links between cognitive styles and learning characteristics can be the basis for individualizing this process in order to increase its effectiveness.

4.14. Liliia Chervonska. INTERDISCIPLINARY APPROACH IN THE SYSTEM OF PROFESSIONAL TRAINING OF STUDENTS-CHOREOGRAPHERS OF HIGHER EDUCATION INSTITUTIONS

The study considers the features of professional training of students-choreographers of higher education institutions. Emphasis is placed on improving the professional training of choreographers, which is characterized by the orientation of the educational process on an interdisciplinary and competency approach. The essence of the concepts "professional training", "competence approach", "interdisciplinary approach" is revealed. The main directions of professional choreographic activity – performing, pedagogical, choreographic – are defined and characterized.

4.15. Bohdan Cherniavskiy. PEDAGOGICAL TERMS OF REALIZATION OF PROFESSIONAL PREPARATION OF FUTURE TEACHERS OF FINE ART WITH THE USE OF COMPUTER TECHNOLOGIES OF TEACHING

In the article the problems of computerizing of educational-educate process of rural schools are considered, the state of informatization of general educational establishments is lighted, information and modern educational technologies are offered for introduction, in particular integration of fine art and computer technologies.

4.16. Nataliia Chorna. SOCIO-PSYCHOLOGICAL SUPPORT OF PUPILS WITH INCREASED LEVEL OF SCHOOL ANXIETY

Theoretical analysis of scientific concepts of studying the phenomenon of anxiety and the problem of psychological support of children with increased level of school anxiety in the educational process is presented in this article.

The theoretical approaches to the issue of anxiety of personality in the historical and psychological context and school anxiety as a sign of emotional distress of pupils are considered.

Detailed theoretical analysis of the main factors of school anxiety is a preference of the work.

The article also reveals the features of psychological support of children with the increased level of anxiety in educational process.

It was consequently found that the psychological support of children with increased level of school anxiety in the educational process is the creation of a socio-psychological school environment, which aims to form a successful, self-sufficient, confident personality of the pupil.

4.17. Kateryna Shalvarova, Olha Sova. PROFESSIONAL TRAINING OF FUTURE ARTISTS-EDUCATORS IN THE CONTEXT OF REALIZING THE SUSTAINABLE DEVELOPMENT TASKS

The article discusses the role of culture and arts education in addressing the concept of sustainable development. Factors that influence the quality of professional training of fine arts teachers in the context of this concept are explored. Opportunities are created for students to develop experience of creative, communicative and educational activity in accordance with the contemporary demands of society.

4.18. Valentyna Yuskovych-Zhukovska. THE ROLE OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN THE DEVELOPMENT OF THE DIGITAL EDUCATIONAL SPACE

The creation and implementation of the latest information and communication technologies in the educational process of higher education institutions automatically affects the content of higher education, the formation of digital professional competencies, the reform of the education sector and the demand for new IT professionals. The application of new modern approaches in higher education is associated with the implementation of national programs and strategies for the development of the information society in Ukraine. The digital order highlights the special role of information and communication technologies, aimed at providing, improving and maintaining the digital educational space in higher education institutions.

4.19. Vasyl Yahupov, Iliia Bielikov. ORGANIZATIONAL COMPETENCE OF SPECIALISTS IN PHYSICAL CULTURE AND SPORTS OF THE ARMED FORCES OF UKRAINE: CONCEPT, CONTENT AND STRUCTURE

The article describes the increasing role of professional and organizational activities of specialists in physical culture and sports in the Armed Forces of Ukraine. Attention is drawn to the role and importance of specialists in physical culture and sports of the Armed Forces of Ukraine as a subject of military activity. The analysis of the main methodological approaches to understanding the concept of "organizational competence" of specialists is carried out. The author takes into account the complexity and versatility of the studied competence and proposes the definition of "organizational competence of specialists in physical culture and sports of the Armed Forces of Ukraine." Based on the analysis of scientific sources and dissertations, its structure is determined, which contains value-motivational, cognitive, managerial, managerial, control-corrective, reflexive-evaluative or subjective components.

Part 5. SOCIAL AND HUMANITARIAN DIMENSIONS OF SUSTAINABLE DEVELOPMENT

5.1. Nadiia Advokatova. CURRENT TRENDS IN THE DEVELOPMENT OF THE SHARING ECONOMY

In today's global economy, the interdependence of subjects at all levels is increasing. In these conditions, there is a need for mutually beneficial cooperation. With the processes of globalization of international trade, the development of logistics networks, increasing the volume and diversification of financial transactions, the development of market liberalization, and, of course, with the rapid spread of social networks and virtual technologies, national economies become more open and vulnerable to external influences. That is why there is a qualitative transformation of traditional foreign economic relations and the search for alternative models of economic cooperation between countries on the basis of sustainable development, which simultaneously solves global problems.

The study identified that the sharing economy is an economic model of relationships in which people can receive or lease assets without transferring ownership and at the same time obtaining mutual financial benefits. This type of economic relationship is not new, but the sharing of resources in the model of "business" (B2B), as well as in the model of "business consumer" (B2C) – these are the basic principles that make the model of joint participation new and necessary in modern global conditions, which ultimately gives results for all parties.

5.2. Julia Kharchenko. THE ROLE OF MODERN KNOWLEDGE IN THE FORMATION OF INNOVATION SPACE. VERGENCE OF "NEW" AND "OLD" (ONTOLOGICAL APPROACH)

In this study, the conceptualization of the phenomenon of modern knowledge in a changing reality is carried out in the "collision" of a multitude of "logics" and "rationalities" taking into account the inconsistency of ontological and innovation spaces. The mechanism of vergence is analyzed as a factor that ensures the synchronization of processes and phenomena in simple and complex systems, as well as points of intersection of divergent and convergent processes or the "third", middle state of the system. An ontological correlation of the "old" and "new" phenomena in the innovation space is carried out.

5.3. Nadiia Babarykina, Tetiana Sergiienko. SUSTAINABLE DEVELOPMENT OF CIVIL SOCIETY IN THE PERIOD HYBRID WARFARE

In this study, based on the analysis of scientific literature, both domestic and foreign researchers, the analysis of the features of sustainable development of civil society during the period of hybrid wars is carried out. The definition of the conceptual-categorical apparatus «civil society» and «hybrid wars» is given. A holistic vision of the place and role of civil society institutions is presented. The development of civil society in Ukraine is analyzed. The prospects for the formation of civil society in the period of hybrid wars are considered. It is substantiated that through the use of information technologies in modern conditions, the consciousness of civil society is manipulated. As a result of the study, comprehensive conclusions were formulated.

5.4. Julia Bobrikova. WAYS OF FORMING AND STIMULATING A HEALTHY LIFESTYLE OF MODERN YOUTH

The article considers the ways of forming a healthy lifestyle in the younger generation; conditions for developing a healthy lifestyle; age features of the formation of a healthy lifestyle, as well as forms of work with young people to promote a healthy lifestyle.

The article substantiates the approach to promoting a healthy lifestyle in young people.

Various forms of negative reactions of children to stimulating methods for the formation of a healthy lifestyle are considered. The role of humor in the formation of children's and young people's psychological attitude to a healthy lifestyle is considered.

5.5. Lidiia Butska, Oksana Drevitska, Evelina Lenha. APPLICATION OF THE MULTILEVEL MULTIDISCIPLINARY APPROACH AT REHABILITATION OF THE PERSONS WORKING IN THE CONDITIONS OF HIGH PSYCHOPHYSICAL LOADINGS AND SUFFERING FROM PAIN SYNDROMES

The article, based on modern psychophysical views on the causes, mechanisms of development, types of pain syndromes, the relationship of physiological and mental components in their occurrence and development, describes the clinic and basic methods of treatment and results of psychophysical research in pain syndromes, indicates the feasibility of non-drug methods of correction of pain syndromes. Among non-drug methods, the authors recommend the use of the following: reflexology, physiotherapy, biological feedback, a number of psycho-correctional techniques, including self-training, meditative practices.

In conclusion, the authors emphasize the need for a multidisciplinary, multilevel approach in the prevention, correction and rehabilitation of pain syndromes.

5.6. Natalia Vekua. ADJECTIVE INNOVATIONS WITH THE PREFIX ANTI- IN THE MODERN UKRAINIAN LANGUAGE

The article reveals the influence of extralinguistic factors on the choice and implementation of word-forming resources of modern Ukrainian nomination of adjectives with the prefix anti-, analyses the emergence of adjective innovations with evaluative semantics, as well as their use without evaluative connotations in terminologizing adjectives due to their determination.

5.7. Ekaterina Verbickaya, Natalia Moskvina. THE INFLUENCE OF HARDINESS ON HUMAN BEHAVIOR

The article is devoted to the study of the influence of hardiness on the behavioral strategies of adolescents. Every day we experience stress, because we usually do not know what lies ahead, and the events of our lives do not always go according to plan and the way we want. And our further behavior depends on our reaction to a certain situation. Sustainability as the main internal resource for overcoming stress plays an important role in this.

The most important result of our work is that we have found that vitality affects the behavior of adolescents. This means that if a person learns to respond properly to stress, is able to perceive difficulties as an experience and analyze the situation, he will be able to change his behavior.

5.8. Olena Hauriak. DEVELOPMENT OF PHYSICAL QUALITIES BY MEANS OF GYMNASTICS IN CHILDREN OF SENIOR PRESCHOOL AGE IN THE CONDITIONS OF PRESCHOOL EDUCATION INSTITUTION

An important component of education and upbringing of older preschool children in preschool institutions is physical education, main task is to ensure normal physical development, promote the development of physical qualities and strengthen the health of the child. The successful solution of the problems of physical education of preschoolers depends on a combination of various means, important among which is given to the means of gymnastics. In this scientific research the expediency of using gymnastics in physical education of senior preschoolers is experimentally proved, the means of gymnastics and methodical features of their application for development of physical qualities are characterized, formation of correct posture and prevention of flat feet in preschool children in the process of physical education.

5.9. Viktoriia Horoshko, Olena-Ivanna Horoshko. GLOBAL PROBLEMS OF THE SOCIAL SECTOR CAUSED BY DIGITALIZATION; TRENDS AND CHALLENGES

The research considers the problems and prospects for the development of the educational process in the field of health care. The article provides evidence of the need for continuing professional education and shows that physical therapists and occupational therapists should be aware of ongoing research in several areas of continuing education. For quality patient care, the content of continuing professional education should be aimed at strengthening the role of physical therapists and improving their abilities (both clinical skills and theoretical knowledge). Major innovations are changing the concept and method of health care, and health professionals should implement these innovations through appropriate continuing professional education. Similarly, health professionals are constantly confronted with new ethical requirements and factors of socio-economic development, and each doctor must take on a new role. The role of education in ensuring the quality and quality development of the health care system is becoming increasingly important.

5.10. Sergii Guzii. FEATURES OF FIRE PROTECTION OF PRODUCTS AND STRUCTURES MADE OF WOOD WITH ENVIRONMENTALLY FRIENDLY GEOCEMENT MATERIALS

Taking into account the concept of sustainable development, the features of fire protection of products and structures made of wood with environmentally friendly geo-cement materials have been identified. As a result of optimization, the optimal composition of the fire-retardant heat-insulating coating based on geocement was obtained: geocement – 67%; perlite – 25%; marble flour – 8%, which is used for research on flammability and fire efficiency. Mathematical modeling of thermal processes in the mathematical environment Maple 13, occurring in the system "wooden lining – geocement material capable of swelling", has been carried out. A one-dimensional model that describes the thermal state of the system under study allows you to determine the minimum thickness of the fire-retardant material, which ensures the fire resistance of wood structures for 30 minutes or more. With a thickness of 0.0065 m, the material, after exposure to a heat flow with an average temperature of 1273 K, is characterized by a swelling coefficient $k_{sw} = 7.8$, a thermal conductivity coefficient $\lambda = 0.175 \text{ W m}^{-1} \text{ K}^{-1}$ and a volumetric specific heat at constant pressure $c_p = 1.75 \cdot 10^{-6} \text{ J m}^3 \text{ K}^{-1}$. It is shown that the processing of wood with a geocement coating reduces the rate of charring of the working section and increases the fire resistance of wooden structures by almost three times.

5.11. Larisa Dunayeva, Anatoliy Kononenko, Oksana Kononenko. PSYCHOLOGICAL FEATURES OF STUDENTS' IDEAS ABOUT THE IMAGE OF A POLITICIAN

The article reveals the features of the formation of ideas about the image in the political consciousness of a young person. This problem is relevant in the modern period of crisis phenomena, when value systems are destroyed and apolitically is formed, disbelief in the future, in the fact that human efforts can change anything, that is, a person deletes himself from the circle of political life – thus it gradually loses political consciousness. Student youth is at the stage of its formation, so they need professional help. The existing significant differences in the electoral preferences of student youth in the group of students of 18-20 years old are determined; such features of the image of the politician are self-control, leadership qualities, empathy, altruism, the desire for competition, leveling of family values; and in groups of students aged 21-23, the idea of a politician's image is characterized within the manifestation of his strong-willed, business and leadership qualities: the ability to take care of voters, good command of public speaking, the ability to dress beautifully and stylishly.

5.12. Yuliia Iliina, Kateryna Cherkasova. PSYCHOLOGICAL RELATIONS IN A TEAM AND THEIR IMPACT ON THE DESIRE FOR CAREER GROWTH

The article reveals the concept of "psychological relations" as a constituent element of society. The emphasis is placed on the emotional and sensual aspects of interaction between people. It is defined that interpersonal relations in the organization act as the base, the catalyst and the prerequisite, providing direct favorable influence on career growth of its employees, which depends on their desire and aspiration on the basis of certain principles of interaction and communication with colleagues on service to build a career.

5.13. Tetiana Koliada-Berezovska, Olga Romanova. INNOVATION AS A TOOL ENSURING SUSTAINABLE DEVELOPMENT (LINGUODIDACTICAL VIEW OF THE PROBLEM)

In the sustainable development strategy context innovations are considered from the linguodidactics standpoint as an inherent component of the education system modernization, with the innovation terminological and typological aspects analysis. A particular attention is paid to social process innovations related to pedagogy that determine the person's sustainable development by changing priorities in language teaching; emphasized is the role of the course's linguistic and cultural component which contributes to the formation of multilingual multicultural personality. The emphasis is placed on the fact that the teacher as a researcher-analyst while foreign language teaching should promote, based on the integrated use of traditional and modern computer and information technologies as well as technological innovations, a sustainable development of independent, extracurricular activities, as these educational activities types do embody the developmental, stimulating and research functions, meanwhile that the distance classes format allows speaking about a fundamentally new organization of educational activities.

5.14. Olena Kuts. CONJUNCTIONS AND PREPOSITIONS IN THE TRANSPOSITIONAL PARADIGM OF THE SENTENCE

The article deals with the grammatical interaction between prepositions and conjunctions in the transpositional paradigm of the sentence. According to the nature of the paradigmatic and syntagmatic relations of language units, propositional predicates, which are paradigmatic synonyms, and propositional predicates, which function as syntagmatic synonyms, are distinguished. Syntactic synonyms in the transpositional paradigm are studied as syntactic constructions, which are united by common invariant semantics and generalized grammatical meanings. In consideration of the degree of syntactic transformation conjunctions are qualified as propositional predicates of the I degree, prepositions - propositional predicates of the II degree.

5.15. Natalia Lapshova. THE SPECIFICS OF THE SOCIAL STATUS OF THE INDIVIDUAL IN SOCIAL PSYCHOLOGY

The article presents the main results of an empirical study of social status in social psychology. It was found that social status exists in three main dimensions: group processes, social conditions and personal characteristics. An attempt is made to fill the concept of social status with psychological content. The structure of the social status of the individual is established.

5.16. Natalia Moskvina, Valeria Sechko. ATTITUDE OF MODERN TEENAGERS TO THE LGBT COMMUNITY

The article is assigned to the research of attitude of modern teenagers to the LGBT community. Nowadays we can see that someone perceives people with homosexual or bisexual orientation normally, but another didn't use to do it yet. Our chosen topic displays the desire to research not only the LGBT community of Ukraine, but first of all the attitude to it of generation of young people – teenagers.

The most important result of this research is our declaration, that modern teenagers have most neutral or positively attitude towards LGBT community, support the idea of the same-sex marriage, do not feel the hatred or aggression to LGBT+, and also attitude with understanding and respect to people with bisexual or homosexual orientation.

5.17. Viktoriya Overchuk. ANALYSIS OF SCIENTIFIC APPROACHES IN THE FORMATION OF THE SOCIAL POLICY OF THE STATE

The article analyses different types of welfare state and approaches to the definition of social policy, which allowed the author to formulate a general definition of "social policy" as one that takes into account the interests of persons with disabilities. Social policy is considered by the author as a human-centered institution, and the main purpose of such a policy is to protect and ensure the rights and freedoms of the individual regardless of age, gender, health, social status or nationality by mobilizing efforts, coordinating actions and encouraging the participation of state institutions, enterprises, organizations and society as a whole. In the article the author considers the welfare state and social policy through the prism of human rights and freedoms.

5.18. Viktoriya Overchuk, Vladislava Bozhenko. ANALYSIS OF PSYCHOLOGICAL FEATURES OF DEVELOPMENT AND SOCIAL ADAPTATION OF STUDENTS WITH DISABILITIES

The article provides a theoretical analysis of research on the problems of psychological formation and adaptation of freshmen with disabilities, which are due to the new social situation of their development in free economic education, inadequate attitudes and self-acceptance of their disability, communication difficulties and relationships with classmates and teachers. The authors propose and scientifically substantiate the model of the process of social and psychological adaptation of disabled freshmen as a complex dynamic process of an individual's entry into a new situation of development, changes in personal states, behavioral reactions, personality traits. According to her, the authors claim that students' maladaptation is characterized by inadequate self-esteem, psychogenic reactions, emotional instability, anxiety, low motivation for achievement and academic success. The process of social and psychological adaptation of students with disabilities affects the change of motivational, cognitive, emotional and behavioral areas of personality.

5.19. Olha Pavlushenko, Lada Mazai. PSYCHOTECHNOLOGIES OF INFLUENCE ON PUBLIC CONSCIOUSNESS IN MODERN INTERACTIVE INFORMATION SPACE

The article raises the issue of the neurolinguistic programming, which is used by Russian propaganda Internet channels as a psychotechnology influence on the mass public consciousness. With the help of the content analysis method it was determined the linguistic means of implementation of manipulations in Russian and Ukrainian information space, that are made by the Internet resources "Pravda.RU" and "Russian Dialogue" and it was singled out the ideologemes used by propagandists to form a mass public consciousness and to manage public sentiments. It is also analyzed the application of certain neurolinguistic programming methods which are used by news Internet resources for propaganda, in particular reframing of the content and reframing of the context, copyright technology of negative-provocative materials distribution etc.

5.20. Svitlana Pidoprygora. UKRAINIAN FICTION: THE POSSIBILITIES OF THE DIGITAL AGE

The article examines contemporary Ukrainian fiction and the changes that are taking place in the digital age. The computer has been identified as one of the media tools that expands the way messages are conveyed, as well as means of creating digital literature. The analysis shows the most significant works of art that combine in a single semantic field text, sound, animation, images, controls, and become multimedia (multimedia project «Amnesia project»; «Facebook-novel» «Kagarlyk» O. Shynkarenko; interactive books involving the usage of AppStore, Google Play; video games «STALKER», «Forest Song», which represent the new textuality). The digital literature has been shown to demonstrate the desire of modern authors to break the limitations imposed by the printed page, to use the capabilities of the computer to create new generation of texts.

5.21. Roman Ponomarenko, Oleksandr Cherkashyn, Ivan Ponomarenko. GAME EXERCISES AND TRAININGS ON FIRE SAFETY AS A MEANS OF FORMING PSYCHOLOGICAL STABILITY OF PRIMARY SCHOOLCHILDREN DURING FIRES

The study deals with the modern forms and methods of forming knowledge about fire safety in primary schoolchildren. Emphasis is placed on the age characteristics of schoolchildren when performing dangerous tasks. Game exercises are offered, which can be used by teachers of secondary and specialized schools in the educational process during the training of primary schoolchildren of fire safety; in the system of postgraduate pedagogical education during seminars, conferences, round tables, trainings, meetings, in order to improve the quality of professional training of school principals, deputy principals of schools for educational work, primary school teachers; organization of scientific work of students and conducting pedagogical practice in primary school.

5.22. Boris Pospelov, Evgeniy Rybka, Mikhail Samoilov. EMERGENCY RESILIENCE TECHNOLOGY IS THE BASIS FOR SUSTAINABLE DEVELOPMENT

A systematic analysis of the process of emergencies has been carried out on the basis of the states of the physical environment of hazard transmission from the source to the object of impact in the environment. A technology has been developed to improve resilience to disasters based on current monitoring of the state of the physical environment of hazard transmission. The technology is based on the on-line calculation of recurrent diagrams and measures of recurrent states of the physical environment of hazard transmission in real time. The performance of the proposed technology has been checked using the example of alcohol and paper ignition in the modeling chamber.

5.23. Andrii Pruskyi, Roman Shevchenko, Anton Myroshnychenko. DEVELOPMENT OF METHODOLOGICAL BASES OF HUMANITARIAN DEMINING IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT OF THE STATE

The research is aimed at studying the issue of the emergency process in case of detection of a small improvised explosive device at a facility with a large number of people. The paper identifies a specific scheme of management influence on the spread of the emergency situation due to the use of small-scale improvised explosive device and developed a specific structural and logical model of emergency management of a terrorist situation at a facility with a mass presence of people.

5.24. Iryna Radziievska. INNOVATIVE APPROACHES TO VOCATIONAL TRAINING OF JUNIOR SPECIALISTS AND BACHELORS IN MEDICAL HIGHER AND ASSOCIATE EDUCATION INSTITUTIONS

Health of the nation is the highest value of society. The development of measures in health care, the identification of levels and criteria of the quality of medical services caused the necessity of scientific understanding, evaluation and development of medical vocational training forms and methods. Medical professionals are supposed to provide qualitative health care and ensure individual approach to dealing with patients. The creation of conditions for development and self-fulfilment of every person, shaping the generation that is able to study throughout their lives, produce and develop values of society have become the main directions of educational modernization.

5.25. Nataliia Savchenko. ACTIVITY APPROACH AS A COMPONENT OF THE THEORETICAL AND METHODOLOGICAL CORE OF THE SYSTEM OF CONCEPTUAL APPROACHES TO THE ORGANIZATION OF LEARNING

The article substantiates the theoretical foundations of the activity approach to the organization of education as a component of the theoretical and methodological core of the system of conceptual approaches (systemic, axiological, synergetic, competence approaches). The basic principles of the theory of activity are analyzed and the expediency of using the activity approach in teaching is shown. The essence and value of the activity content of education is revealed, which consists in resolving contradictions between the subject content and the form of education and is a methodological basis for developing theoretical provisions of various activities, including independent activity, in different types of educational institutions. transformative actions, the act of address, the act of imagination and reflection. Classifications of activity-oriented teaching methods are considered.

5.26. Nataliia Svitlychna, Anastasiia Ponomarenko. PECULIARITIES OF PROFESSIONAL MOTIVATION AND CAREER ORIENTATIONS OF EMPLOYEES STATE SERVICE OF SUPERVISED SITUATIONS

The article deals with the peculiarities of professional motivation and career orientations of employees state service of supervised situations. The relevance of this problem is due to the decisive influence of motivation on the success of extreme activity, psychological and functional states of the savior, the desire for professional self-realization, etc. The concept of professional motivation as a set of factors and processes, which, reflecting in the minds, prompts the personality to study and efficient implementation of future professional activities. Professional motivation acts as an internal driving factor for the development of personality professionalism, since only on the basis of its high-level formation is possible productive professional active.

5.27. Irina Sokolova, Tetiana Sapielnikova. THE RELATIONSHIP BETWEEN FEELINGS OF LONELINESS AND INDIVIDUAL TRAITS STUDENTS OF PSYCHOLOGISTS

The article presents the results of a study of the relationship between feelings of loneliness and individual personality traits. The analysis of the concept of loneliness in modern psychology is carried out. Empirical researches on definition of development of separate individual-personal qualities and presence of feeling of loneliness at students are carried out. The presence of feelings of different types of loneliness and the level of expression of this feeling in respondents was empirically investigated. As a result of the analysis of the obtained empirical data, it was concluded that there is a relationship between individual personal qualities and feelings of loneliness. The relationship between such indicators as introversion-extraversion, neuroticism-emotional stability, internality-externality and the severity of the experience of different types of loneliness in students. Based on the analysis of the results of the study, it was determined that the results provide a better understanding of the psychological mechanisms of emotional states and their relationship to individual personality traits, and can be the basis for further research in the context of psychological factors influencing loneliness.

5.28. Yaroslav Spivak, Liudmyla Spivak, Nina Girenko. INTERNATIONAL EXPERIENCE IN TRAINING SOCIAL PROFESSIONALS

The study examines modern international experience in social education and social work, the main models of state youth policy, the structure of training of social work professionals; the problem of training of social workers is covered, as well as the experience of solving this problem in foreign countries; the principles of the educational process in the conditions of distance learning and the leading and perspective forms of the organization of the educational process are determined.

5.29. Oksana Stupak. REFORMING THE EDUCATION SYSTEM IN UKRAINE: STATUS AND TRENDS

The study considers modern approaches to the processes of reforming and modernizing the education system, identifies the distinctive features of these concepts in relation to scientific research. The key areas of education reform, development of normative and legislative documents are described, presented comparative analysis of the education financing system during 2018 and 2019.

5.30. Tetiana Yarkho, Tetyana Emelyanova, Dmytro Legeyda. RESEARCH OF THE REQUIREMENTS FOR THE RESULTS OF MULTI-TIER MATHEMATICAL PREPARATION OF THE FUTURE SPECIALISTS OF A TECHNICAL PROFILE AT HIGHER EDUCATIONAL ESTABLISHMENTS IN THE CONTEXT OF DUBLIN DESCRIPTORS

The effective and targeted orientation of the requirements for multi-tier mathematical preparation of the future specialists of a technical profile at higher educational establishments in the context of Dublin descriptors is determined. The relevance of the research is due to the implementation of European norms and standards in education as well as in connection with the internal to introduce variability of forms of educations in the changed economic and social conditions.

ABOUT THE AUTHORS

Part 1. FINANCIAL AND ECONOMIC MECHANISMS FOR SUSTAINABLE DEVELOPMENT

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- 2.16. Valentyna Baranovska** – PhD of Pedagogical Sciences, Associate Professor, Khmelnytskyi Humanitarian-Pedagogical Academy, Khmelnytskyi, Ukraine
- 2.17. Liudmyla Berezovska** – Doctor of Pedagogical Sciences, Associate Professor, South Ukrainian National Pedagogical University named after K. D. Ushynsky, Odesa, Ukraine
- 2.18. Olha Vyshnyk** – PhD of Pedagogical Sciences, Senior Lecturer, Oleksandr Dovzhenko Hlukhiv National Pedagogical University, Hlukhiv, Ukraine
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- 2.23. Olha Donchenko** – PhD in Psychology, Senior Lecturer, Berdyansk State Pedagogical University, Berdyansk, Ukraine

Part 3. EDUCATION AS A FACTOR OF SUSTAINABLE DEVELOPMENT

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3.2. Mykola Dubinka – PhD of Pedagogical Sciences, Associate Professor, Volodymyr Vynnychenko Central Ukrainian State Pedagogical University, Kropyvnytskyi, Ukraine

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3.11. Zoia Kornieva – Doctor of Pedagogical Sciences, Professor, National Technical University of Ukraine «Igor Sikorskyi Kyiv Polytechnic Institute», Kyiv, Ukraine

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- 3.14. Vladislav Lutsenko** – Doctor of Physical and Mathematical Sciences, Professor, Senior Researcher, Zhukovsky National Aerospace University, KHAI, Kharkiv, Ukraine
- 3.15. Tetiana Marieieva** – PhD of Pedagogical Sciences, Senior Lecturer, Oleksandr Dovzhenko Hlukhiv National Pedagogical University, Hlukhiv, Ukraine
- 3.16. Vlada Markova** – PhD of Pedagogical Sciences, Associate Professor, Ukrainian Engineering Pedagogics Academy, Kharkiv, Ukraine
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- 3.17. Oleksandra Marmaza** – PhD of Pedagogical Sciences, Professor, H. S. Skovoroda Kharkiv National Pedagogical University, Kharkiv, Ukraine
- 3.18. Zoryana Martyniuk** – PhD of Pedagogical Sciences, Senior Researcher, Institute of Special Pedagogy and Psychology named after Mykola Yarmachenko of the National Academy of Pedagogical Sciences of Ukraine, Kyiv, Ukraine
- 3.19. Alina Martin** – PhD of Pedagogical Sciences, Associate Professor, Volodymyr Vynnychenko Central Ukrainian State Pedagogical University, Kropyvnytskyi, Ukraine
- 3.20. Tetiana Miyer** – Doctor of Pedagogical Sciences, Associate Professor, Borys Grinchenko Kyiv University, Kyiv, Ukraine
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- 3.21. Olena Muraviova** – Senior Lecturer, Kharkiv State University of Food Technology and Trade, Kharkiv, Ukraine
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- 3.23. Yurii Otrosh** – Doctor of Technical Sciences, Professor, National University of Civil Defence of Ukraine, Kharkiv, Ukraine
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Part 4. EDUCATION FOR SUSTAINABLE DEVELOPMENT: AN INTERDISCIPLINARY APPROACH

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Part 5. SOCIAL AND HUMANITARIAN DIMENSIONS OF SUSTAINABLE DEVELOPMENT

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5.29. Oksana Stupak – PhD of Pedagogical Sciences, Associate Professor, Donbas State Pedagogical University, Slovyansk, Ukraine

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