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DISSERTATION

**FORMATION OF COMMUNICATIVE COMPETENCE IN FUTURE
PHYSICAL EDUCATION TEACHERS IN HIGHER EDUCATION
INSTITUTIONS**

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АНОТАЦІЯ

Лю Хань. Формування комунікативної компетентності майбутніх вчителів фізичної культури у закладах вищої освіти. – Кваліфікаційна наукова праця на правах рукопису.

Дисертація на здобуття ступеня доктора філософії за спеціальністю 011 Освітні, педагогічні науки. – Західноукраїнський національний університет МОН України, Тернопіль, 2025.

У дисертації викладено нове вирішення проблеми формування комунікативної компетентності майбутніх вчителів фізичної культури у закладах вищої освіти.

Актуальність теми підтверджується наявною низкою суперечностей, котрі перешкоджають формуванню комунікативної компетентності майбутніх вчителів фізичної культури у закладах вищої освіти. Так, це суперечності між: потребою суспільства у майбутніх вчителях фізичної культури, готових до сучасних освітніх викликів, та реально-існуючим станом їхньої професійної підготовки у ЗВО; високими вимогами до професійно-педагогічної підготовки в межах формування комунікативної компетентності майбутніх вчителів та недостатнім рівнем сформованої у ЗВО комунікативної компетентності у здобувачів фізичної культури для здійснення ними фахової діяльності; потребами закладів загальної середньої освіти у вчителях фізичної культури, спроможних під час проведення занять фізичної культури ефективно зреалізовувати педагогічну взаємодію та існуючим недостатньо-організованим у цьому напрямку навчанням студентів у ЗВО до такої діяльності; об'єктивною необхідністю визначення з наукових позицій та впровадження певних дієвих педагогічних умов і науково-методичного забезпечення з формування комунікативної компетентності майбутніх вчителів у процесі професійної підготовки та емпіричним характером їх зреалізування за традиційної організації навчання майбутніх педагогів у ЗВО.

Відтак у сучасних умовах важливого значення як в Україні, так і за її межами набуває якість фахової підготовки майбутніх педагогів фізичної

культури у ЗВО. Виклики сьогодення спричинили зростаючу потребу у формуванні в процесі організації навчання майбутніх педагогів фахових компетентностей, оскільки нині недостатньо мати професійні знання. Майбутній фахівець повинен вміти та бути здатним і готовим виконувати належним чином професійні обов'язки. Велике значення для професії вчителя фізичної культури має компетентність, пов'язана із професійним комунікуванням та з розширенням досвіду комунікативної взаємодії. Саме набуття майбутніми вчителями фізичної культури комунікативної компетентності у ЗВО дозволяє підтримати необхідні контакти та налагодити ефективну комунікативну взаємодію з учнями, їхніми батьками, колегами й результативно здійснювати педагогічну діяльність.

Основними вимогами, що ставляться до формування комунікативної компетентності майбутніх вчителів фізичної культури у вищій школі є зреалізування ними освітніх стандартів щодо дієвого здійснення у майбутньому навчальної та, разом з тим, виховної роботи у закладах загальної середньої освіти (за допомогою налагодження належної комунікації); оволодіння фундаментальними теоретичними знаннями в царині ефективного комунікування, практичними вміннями і навичками професійно-міжособистісного спілкування; дотримання високого рівня комунікативної взаємодії та неконфліктної поведінки під час проведення з учнями занять фізичної культури.

Визначено, що сформованість комунікативної компетентності майбутніх вчителів фізичної культури у ЗВО є складним, структурованим особистісно-професійним утворенням, що характеризується активно-усвідомленою здатністю до співпраці, командною взаємодією, підтримуванням зворотного взаєморозуміючого зв'язку із особами, задіяними до освітнього процесу, конструктивним вирішенням фахових завдань і конфліктних ситуацій, належним керуванням власними діями з ефективною передачі інформації та досягненням спільних навчальних цілей в освітньому процесі. Сформована у ЗВО комунікативна компетентність (включає мовну, емоційну, соціокультурну та психолого-педагогічну компетентності) є важливим чинником професійного

становлення майбутніх вчителів та результативною умовою їхнього особистісного зростання.

До складових комунікативної компетентності майбутніх вчителів фізичної культури віднесено: системне сприйняття професійної реальності та відмінне здійснення конструктивного діалогу; створення комфортного асептивного освітнього середовища для навчання і досягнення високих результатів у фізичній культурі; вільне володіння предметною галуззю та інформаційно-комунікаційними технологіями для ефективного передавання знань, розв'язання педагогічних ситуацій, підтримування мотивації учнів і здійснення позитивного комунікативного впливу на поведінку здобувачів освіти; адаптація стилю комунікації відповідно до педагогічної ситуації; розуміння і регуляція власних емоцій та емоцій інших учасників освітнього процесу; результативне здійснення вербальної та невербальної міжособистісної взаємодії з учнями за різних освітніх обставин; відповідна комунікативна організація групової діяльності на заняттях фізичної культури; розуміння індивідуальних потреб кожного школяра в межах його фізичного розвитку; розвиток потребнісної сфери учнів щодо важливості фізичних навантажень та підтримування ними здорового способу життя; реалізацію власної рефлексії та спрямованість майбутнього педагога на професійний саморозвиток в межах набуття ним комунікативної компетентності.

Сформована у ЗВО комунікативна компетентність є засадничо-особистісною основою спроможності майбутнього вчителя фізичної культури до пошукування результативних способів вирішення складних педагогічних завдань (теоретичних, науково-методичних, практичних та морально-психологічних), що потребують результативної співпраці і ефективного взаєморозуміння із усіма учасниками освітнього процесу та індивідуальної відповідальності.

Здійснення розгляду сучасних психолого-педагогічних досліджень у царині педагогічної комунікації та надбаний професійний досвід стосовно змісту та структури формування комунікативної компетентності майбутніх вчителів за умов їхньої фахової підготовки у ЗВО уможливило встановлення вагомих для

дослідно-експериментального дослідження структурних компонентів даного формування: стимулюючого когнітивного, організаційно-комунікативного, здоров'язбережувального.

Зазначеним компонентам властиві чітко визначені критерії (мотиваційний, знаннєвий, комунікативний, здоров'язбережувальний) та конкретні показники, комплексне окреслення яких сприяло виокремленню рівнів сформованості комунікативної компетентності майбутніх вчителів фізичної культури (високий, достатній (оптимальний), задовільний (продуктивний), низький (базовий)). Із врахуванням різнобічності проблеми формування комунікативної компетентності майбутніх вчителів фізичної культури у ЗВО застосовано комплекс взаємопов'язаних методологічних підходів (системного, компетентнісного, особистісно-орієнтованого, діяльнісного).

Результативне формування комунікативної компетентності майбутніх вчителів фізичної культури пов'язуємо із виокремленням, конкретизацією та застосуванням в освітньому процесі ЗВО таких педагогічних умов: проектування освітнього середовища, що забезпечує широкі можливості для розвитку комунікативної активності кожного майбутнього вчителя фізичної культури; реалізація активних форм та методів навчання, що спрямовані на поглиблення та систематизацію знань з формування комунікативної компетентності майбутніх вчителів фізичної культури; формування загальних та фахових компетентностей (в тому числі комунікативної компетентності) в контексті міждисциплінарного підходу до професійної підготовки майбутніх вчителів; розвиток організаційно-комунікативних умінь і навичок майбутніх вчителів фізичної культури.

Авторська структурно-функціональна модель формування комунікативної компетентності майбутніх вчителів фізичної культури розроблена із урахуванням вимог Стандарту вищої освіти за спеціальністю 014.11 Середня освіта (Фізична культура) першого (бакалаврського) рівня й охоплює стратегічний, концептуально-методичний та критеріально-діагностичний блоки. Впровадження структурно-функціональної моделі в освітньому процесі здобувачів освіти здійснюється з урахуванням науково-педагогічних принципів

(науковості, професійної спрямованості, врахування індивідуальних особливостей, варіативності та інноватики).

Встановлені педагогічні умови та структурно-функціональна модель упроваджувалися в експериментальну роботу на основі авторської Програми формування комунікативної компетентності майбутніх вчителів фізичної культури із зазначенням у ній мети, завдань, форм і методів організації освітнього процесу та видів діяльності майбутніх вчителів експериментальних груп. Програма реалізовувалася здобувачами освіти II-IV курсів у процесі вивчення дисциплін "Теорія і методика фізичної культури", "Теорія і методика дитячого та юнацького спорту" та "Професійна майстерність (за професійним спрямуванням)" у шість взаємопов'язаних етапи: підготовчий, мотиваційно-стимулюючий, знаннєво-змістовий, діяльнісно-комунікативний, здоров'язбережувальний, аналітико-заключний.

Результативність проведеної наукової та пошуково-дослідницької роботи із формування комунікативної компетентності майбутніх вчителів фізичної культури підтверджено отриманими експериментальними даними. Порівняльні показники пошуково-констатувального та узагальнювального етапів експериментального дослідження є свідченням позитивної динаміку рівнів сформованості компонентів (стимулюючого, когнітивного, організаційно-комунікативного та здоров'язбережувального) сформованості комунікативної компетентності майбутніх вчителів фізичної культури та показників їхнього цілковитого приросту, що відображають динаміку рівнів досліджуваної комунікативної компетентності.

Уперше визначено і теоретично-методично обґрунтовані педагогічні умови формування комунікативної компетентності майбутніх вчителів фізичної культури у ЗВО, розроблено дієву методику їхнього впровадження у викладання дисциплін професійної підготовки та створену авторську Програму з формування комунікативної компетентності у здобувачів освіти в ЗВО; розроблено структурно-функціональну модель формування у майбутніх вчителів фізичної культури комунікативної компетентності як сукупність стратегічного

(соціальне замовлення на вчителів фізичної культури, цілі, завдання, науково-педагогічні принципи дослідження), концептуально-методичного (методологічні підходи, інформаційне і змістове наповнення процесу формування комунікативної компетентності майбутніх вчителів фізичної культури під час вивчення дисциплін професійного циклу, педагогічні умови і технологічне забезпечення навчання здобувачів освіти (етапи, види освітньої діяльності, засобове забезпечення, методи, форми, програма факультативу "Розвиток комунікативної компетентності у майбутніх вчителів фізичної культури") та критеріально-діагностичного (компоненти, критерії, рівні сформованості) блоків, що разом дають змогу врахувати динамічно мінливі вимоги до формування комунікативної компетентності у майбутніх вчителів фізичної культури в ЗВО.

Удосконалено змістове наповнення і сутність понять "професійна підготовка вчителів фізичної культури", "компетентність майбутніх вчителів фізичної культури", "комунікативна компетентність майбутніх вчителів фізичної культури", "соціально-комунікативна активність майбутніх вчителів фізичної культури", обґрунтовано критерії (мотиваційний, знаннявий, комунікативний, здоров'язберезувальний) і рівні (високий, достатній (оптимальний), задовільний (продуктивний), низький (базовий)) сформованості комунікативної компетентності майбутніх вчителів фізичної культури у ЗВО. Подальшого розвитку набули змістове наповнення професійної підготовки в межах формування у майбутніх учителів фізичної культури комунікативної компетентності в ЗВО, форми і методи формування даної компетентності здобувачами вищої освіти.

Ключові слова: майбутні вчителі, формування комунікативної компетентності, освітній процес, професійна підготовка, професійна діяльність, комунікативна компетентність, фізична культура, ЗВО.

ANNOTATION

Liu Han. FORMATION OF COMMUNICATIVE COMPETENCE IN FUTURE PHYSICAL EDUCATION TEACHERS IN HIGHER EDUCATION INSTITUTIONS. – Qualifying scientific work as a manuscript.

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The dissertation presents a new solution to the problem of forming communicative competence in future physical education teachers in higher education institutions.

The relevance of the topic is confirmed by the existing number of contradictions that hinder the formation of communicative competence in future physical education teachers in higher education institutions. These are the contradictions between: the need of society for future physical education teachers who are ready for modern educational challenges, and the existing state of their professional training in higher education institutions; high requirements for professional and pedagogical training within the framework of the formation of communicative competence of future teachers and the insufficient level of formation of communicative competence for the professional activities in physical education students of higher education institutions; the needs of general secondary education institutions for physical education teachers who are able to effectively implement pedagogical interaction during physical education classes and the existing insufficiently organized training of students in higher education institutions for such activities; the objective necessity of determining from a scientific standpoint and implementing certain effective pedagogical conditions and scientific and methodological support for the formation of communicative competence of future teachers in the process of professional training and the empirical nature of their implementation under the traditional organization of training of future teachers in higher education institutions.

Therefore, in modern conditions, the quality of professional training of future physical education teachers in higher education institutions is of great importance both

in Ukraine and abroad. Today's challenges have caused a growing need to form professional competencies in the process of organizing the training of future teachers, since it is not enough to have professional knowledge. A future specialist must be ready and able to properly perform professional duties. The competence associated with professional communication and the expansion of experience in communicative interaction is of great importance for the profession of a physical education teacher. It is precisely the acquisition of communicative competence by future physical education teachers in higher education institutions that allows them to maintain the necessary contacts and establish effective communicative interaction with students, their parents, colleagues, and effectively carry out pedagogical activities.

The main requirements for the formation of communicative competence in future physical education teachers in higher education institutions are their implementation of educational standards for the effective conduct of educational work in general secondary education institutions (by establishing proper communication); mastering fundamental theoretical knowledge in the field of effective communication, practical skills and abilities of professional and interpersonal communication; maintaining a high level of communicative interaction and non-conflict behavior when conducting physical education classes with students.

The analyzed theoretical and didactic potential of the formation of communicative competence in future physical education teachers in higher education institutions allowed us to establish that the formation of communicative competence in applicants is a necessary attribute of their professionalism and serves to fulfill professional duties and implement pedagogical tasks as intended.

It has been determined that the formation of communicative competence in future physical education teachers in higher education institutions is a complex, structured personal and professional formation, characterized by an active and conscious ability to cooperate, team interaction, maintaining a reciprocal and mutually understanding relationship with persons involved in the educational process, constructively solving professional tasks and conflict situations, proper management of one's own actions for the effective transfer of information and achieving common

educational goals in the educational process. Communicative competence formed in higher education institutions (including linguistic, emotional, sociocultural and psychological and pedagogical competence) is an important factor in the professional development of future teachers and an effective condition for their personal growth.

The components of the communicative competence in future physical education teachers include: a systematic perception of professional reality and excellent implementation of constructive dialogue; creation of a comfortable aseptic educational environment for learning and achieving high results in physical education; fluency in the subject area and information-communication technologies for effective knowledge transfer, solving pedagogical situations, maintaining student motivation and exercising a positive communicative influence on the behavior of students; adaptation of communication style in accordance with the pedagogical situation; understanding and regulation of one's own emotions and the emotions of other participants in the educational process; effective implementation of verbal and non-verbal interpersonal interaction with students in various educational circumstances; appropriate communicative organization of group activities in physical education classes; understanding of the individual needs of each student within the framework of their physical development; development of the needs of students regarding the importance of physical activity and their maintenance of a healthy lifestyle; implementation of one's own reflection and the future teacher's focus on professional self-development within the framework of acquiring communicative competence.

The communicative competence formed in higher education institutions is the fundamental-personal basis of the ability of a future physical education teachers to search for effective ways to solve complex pedagogical tasks (theoretical, scientific and methodological, practical and moral and psychological), which require effective cooperation and mutual understanding between all participants in the educational process and individual responsibility.

The review of modern psychological and pedagogical research in the field of pedagogical communication and the acquired professional experience regarding the content and structure of the formation of communicative competence of future teachers

under the conditions of their professional training in higher education institutions made it possible to establish the structural components of this formation that are significant for research and experimental research: stimulating, cognitive, organizational-communicative; health-preserving.

The specified components are characterized by clearly defined criteria (motivational, knowledge, communicative, health-preserving) and specific indicators, the comprehensive description of which contributed to the identification of the levels of formation of communicative competence in future physical education teachers (high, sufficient (optimal), satisfactory (productive), low (basic)). Taking into account the versatility of the problem of forming communicative competence in future physical education teachers in higher education institutions, a complex of interrelated methodological approaches (systemic, competency-based, personality-oriented, activity-based) was applied.

We associate the effective formation of communicative competence in future physical education teachers with the isolation, specification and application in the educational process of higher education institutions of the following pedagogical conditions: designing an educational environment that provides broad opportunities for the development of communicative activity in future physical education teachers; implementing active forms and methods of teaching aimed at deepening and systematizing knowledge on the formation of communicative competence in future physical education teachers; forming general and professional competencies (including communicative competence) in the context of an interdisciplinary approach to the professional training of future teachers; developing organizational and communicative skills and abilities of future physical education teachers.

The author's structural-functional model of the formation of communicative competence of future physical education teachers is developed taking into account the requirements of the Higher Education Standard for the specialty 014.11 Secondary Education (Physical Education) of the first (bachelor's) level. It covers strategic, conceptual-methodical and criterion-diagnostic blocks. The implementation of the structural-functional model in the educational process of students is carried out taking

into account scientific and pedagogical principles (scientificity, professional orientation, taking into account individual characteristics, variability and innovation).

The established pedagogical conditions and structural-functional model were implemented in experimental work on the basis of the author's Program for the formation of communicative competence in future physical education teachers, indicating in it the goal, tasks, forms and methods of organizing the educational process and types of activities of future teachers of experimental groups. The program was implemented by students of the 2nd-4th courses in the process of studying the disciplines

"Theory and methodology of physical education", "Theory and methodology of children's and youth sports" and "Professional mastery (by professional direction) " in six interconnected stages: preparatory, motivational-stimulating, cognitive-content, activity-communicative, health-preserving, analytical-final.

The effectiveness of the scientific and research work carried out on the formation of communicative competence in future physical education teachers is confirmed by the experimental data obtained. Comparative indicators of the search-confirmation and generalization stages of the experimental study are evidence of the positive dynamics of the levels of formation of the components (stimulating, cognitive, organizational-communicative and health-preserving) of the formation of communicative competence in future physical education teachers and indicators of their total growth, which reflect the dynamics of the levels of the studied communicative competence.

For the first time, pedagogical conditions for the formation of communicative competence of future physical education teachers in higher education institutions have been determined and theoretically and methodologically substantiated, an effective methodology for their implementation in teaching professional training disciplines has been developed and an author's Program for the formation of communicative competence in students of higher education institutions has been created; A structural-functional model of the formation of communicative competence in future physical education teachers has been developed as a set of strategic (social order for physical education teachers, goals, objectives, scientific and pedagogical principles of research),

conceptual and methodological (methodological approaches, informational and content of the process of forming communicative competence in future physical education teachers during the study of professional cycle disciplines, pedagogical conditions and technological support for the training of education seekers (stages, types of educational activities, financial support, methods, forms, program of the elective course "Development of communicative competence in future physical education teachers") and criterion-diagnostic (components, criteria, levels of formation) blocks, which together make it possible to take into account dynamically changing requirements for the formation of communicative competence in future physical education teachers in higher education institutions.

The content and essence of the concepts of "professional training of physical education teachers", "competence of future physical education teachers", "social-communicative activity of future physical education teachers", "communicative competence of future physical education teachers" have been improved, the criteria (motivational, knowledge, communicative, health-preserving) and levels (high, sufficient (optimal), satisfactory (productive), low (basic)) of the formation of communicative competence in future physical education teachers in higher education institutions have been substantiated. A substantive content of professional training within the framework of the formation of communicative competence in future physical education teachers in higher education institutions, forms and methods of forming this competence by higher education applicants have acquired further development.

Keywords: future teachers, formation of communicative competence, educational process, professional training, professional activity, communicative competence, physical education, higher education institutions.

LIST OF THE APPLICANT'S PUBLICATIONS ON THE DISSERTATION TOPIC

Scientific works presenting the main scientific results of the dissertation

Rebukha, L., & Liu, H. (2023). Comparative analysis of the physical culture and sports specialists training for the future professional activities in Ukraine and abroad. *Humanitarian studies: history and pedagogy*, 2, 102–112.

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Liu, H. (2024). Peculiarities of formation of the future physical education and sports specialists` communicative readiness for professional activity. *Bulletin of Science and Education*, 6(24), 417–427.

DOI: [https://doi.org/10.52058/2786-6165-2024-6\(24\)-417-427](https://doi.org/10.52058/2786-6165-2024-6(24)-417-427)

Liu, H. (2024). Training of Future Physical Education and Sports Teachers in Higher Education Institutions: Modern Trends. *Pedagogical Discourse*, 35, 86–91.

DOI: <https://doi.org/10.31475/ped.dys.2024.35.13>

Liu, H. (2024). Pedagogical conditions for forming the readiness of future specialists in physical culture and sports for professional activity. *Proceedings. Series: Pedagogical sciences*, 11, 135–140.

DOI: https://doi.org/10.59694/ped_sciences.2025.11.135

Scientific works certifying the approbation of the dissertation materials

Liu, H. (2022). Main management activities of teaching institutions in distance learning. *Innovations in education: realities and prospects for development: materials of the III International Scientific-Practical Conference Ternopil* (pp. 157–162). ZUNU.

Liu, H. (2022). Sharing method of non-professional sports training information resources based on private cloud. *Innovations in education: realities and prospects for development: materials of the IV International Scientific-Practical Conference Ternopil* (pp. 66–72). ZUNU.

Liu, H. (2023). Innovative technologies in education: Application and their significance. *Innovations in education: realities and prospects for development:*

materials of the V International Scientific-Practical Conference Ternopil (pp. 119–121). ZUNU.

- Liu, H. (2024). Modern approaches to the training of physical culture and sports future teachers in higher education. *Current problems of development of pedagogical education: innovations, challenges, prospects*: materials of the International Scientific-Practical Conference Mukachevo (pp. 258–259). MDU.
- Liu, H. (2024). Essence of the peculiarities of communicative competence of future specialists in physical education and sport. *Transformational processes of social and humanitarian education in modern Ukraine in conditions of war: challenges, problems and prospects*: materials of the II International Scientific and Practical Conference Ternopil (pp. 129–130). ZUNU.
- Liu, H. (2024). Communicative Culture as an Important Component of the Professional Activity of the Future Teacher of Physical Education and Sports. *Innovative approaches to the development of technologies and economics*: materials of the scientific and practical conference. Svalyava (pp. 191–193). ZUNU.
- Liu, H. (2024). The personal and professional development of managers in educational institutions under the background of decentralization. *Development of professional skills of a teacher in the conditions of a new socio-cultural reality*: materials of the VII International Scientific-Practical Conference in Ternopil (pp. 336–337). TOKIPPO.
- Liu, H. (2024). To cultivate the communicative competence of future sports experts in the process of learning in colleges and universities. *Development of professional skills of a teacher in the conditions of a new socio-cultural reality*: materials of the VII International Scientific-Practical Conference in Ternopil (pp. 337–339). TOKIPPO.
- Liu, H. (2024). Cultivation of intercultural communication ability in physical education. *Innovative processes in the educational sphere of Ukraine and the countries of Central Europe: state, problems and prospects*, materials of the International Scientific and Practical Conference, Ternopil (pp. 162–164). ZUNU.

Scientific works additionally reflecting the research results of the dissertation

- Zhang, J., Liu, H., & Dai, W. (2024). Physical exercise and positive coping styles of Chinese college students: Psychological resilience as a mediator. *Social Behavior and Personality: an international journal*, 52(5), 13098E–13106E(9). DOI: <https://doi.org/10.2224/sbp.13098>
- Cao, X., & Liu, H. (2024). Preference Evaluation and Recommendation of Athletes for National Traditional Sports Training Using an Intelligent Method Based on Picture Fuzzy Knowledge. *IEEE Access*, 12, 164444–164461. DOI: <https://doi.org/10.1109/ACCESS.2024.3490652>

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LIST OF SYMBOLS

CC – communicative competence;

CG – control group;

EG – experimental group;

ER – experimental research;

FC – final control;

FT – future teachers;

GSEI – general secondary education institutions;

HEI – higher education institution;

IC – input control;

ICT – information and communications technology;

PA – professional activity;

PE – physical education;

PT – professional training

INTRODUCTION

Justification of the choice of the research topic. The need to study the formation of communicative competence in future physical education teachers in higher education institutions (HEIs) is conditioned by a number of factors.

First, physical education, as a component of the general culture of society, currently serves as part of the fundamental pedagogical system aimed at strengthening health, harmonious development of physical, moral-volitional and intellectual qualities of the individual. This requires future teachers to be able to effectively conduct pedagogical activities and establish constructive communicative relations with students, parents, colleagues and other participants in the educational process.

Second, the implementation of innovative teaching methods, modern methodologies, and integrated educational and innovative technologies in the educational process of students requires both appropriate fundamental knowledge and communicative and pedagogical abilities, which, along with didactic, organizational, perceptive, expressive, etc., make communicative competence important for the professional formation and development of a teacher and the fulfillment of their professional duties.

Third, a high level of development of communication skills forms a positive attitude towards physical activity, a healthy lifestyle and contributes to the effective organization of the process of teaching and educating schoolchildren of the physical education teacher. This is important for the successful implementation of educational programs and improving the quality of education.

Fourth, effective communication ensures mutual understanding in the learning process and adapts students to the conditions of the educational environment, therefore, a physical education teacher, possessing a high level of communication, effectively transfers knowledge and successfully exerts a positive influence on the behavior of students, which is crucial for creating a favorable and stimulating atmosphere for learning, forming parity interpersonal relationships, developing students' social skills, and thus successfully achieving pedagogical goals.

The relevance of solving the scientific problem of improving the quality of the formation of communicative competence in physical education teachers in higher education institutions is enhanced by the requirements of regulatory documents regulating this process. In particular, the Law of Ukraine "On Higher Education" states that the quality of higher education directly reflects the professional readiness of the teacher, their value orientation and social orientation. Therefore, the effectiveness of physical education classes depends on the qualitative characteristics of the teacher, their formed competencies (including communicative), pedagogical skills and managerial abilities (Law of Ukraine "On Higher Education", 2024).

The basic requirements for the organization of the educational process, the content of educational programs, and the professional competencies of students are defined in the Laws of Ukraine "On Higher Education" (Law of Ukraine "On Education", 2017) and "On physical education and sports" (Law of Ukraine "On Physical Education and Sports", 2007).

The roadmap for improving the communicative competence of future physical education teachers is the Standard of Higher Education of Ukraine (for the specialty 014.11 Secondary Education (Physical Education)), which defines mandatory general (ability to interact and work in a team, the ability to communicate with specialists of different levels, the ability to successfully use information and communication technologies (3K6, 3K7, 3K8, 3K17)) and professional (the ability of teachers to form and develop language and communication skills in students, constructive and safe interaction with all participants in the educational process, subject-subject (equal and personality-oriented) interaction with students during classes (ΦK2, ΦK15, ΦK16)) competencies of bachelor's level physical education applicants, which reflect modern trends in training (in the direction of improving communicative knowledge, skills and interpersonal communication skills) of future physical education teachers.

Summarizing the results of the analysis of the regulatory framework of modern higher education and the works of scientists on the research problem made it possible to determine the goal of professional education, which is to form the personality of a physical education teacher with a high level of communicative activity, which

significantly increases the effectiveness of teaching and has a positive effect on the comprehensive solution of pedagogical problems.

Therefore, the proper formation of communicative competence in future physical education teachers is an important component of their professional training in higher education institutions.

The relevance of the outlined topic of scientific research work is enhanced by the insufficient level of its theoretical and methodological substantiation. The results of the analysis of scientific sources on the formation of communicative competence in future teachers in higher education institutions are evidence that the issues of such formation have not been sufficiently studied by the scientific community. In the works of national scientists on the theory and practice of professional training (O. Vyala (Vyala O. M., 2019), N. Denysenko (Denysenko N. G., 2021), O. Ivanenko (Ivanenko O. O., 2024), V. Klymnyuk (Klymnyuk V. Ye., 2018), N. Kovaleva (Kovalyeva N. I., 2022), A. Koshura (Koshura A. V., 2021), I. Kryvoruchko, L. Titova (Kryvoruchko I. I., & Titova L. O., 2024), O. Pekhota (Pekhota O. M., 2020), O. Pyekhota, A. Staryeva (Pyekhota O. M., & Staryeva A. M., 2005), A. Struk (Struk A., 2022), O. Sukhomlynska (Sukhomlynska O., 2008), L. Sushchenko (Sushchenko L. P., 2020), V. Tolochny (Tolochny V. M., 2012), N. Yeremenko, N. Kovaleva, O. Sadovsky (Yeremenko, N. P., Kovaleva N. V., & Sadovsky O. O., 2023), and others) and issues of communicative training of future specialists (O. Vasko, A. Krugova (Vasko O., & Krugova A., 2016), T. Dutkevych and V. Tereshchenko (Dutkevych T. V., & Tereshchenko V. A., 2010), O. Radionova (Radionova O. L., 2022), K. Prusik, S. Iermakov, Z. Kozina (Prusik K., Iermakov S., & Kozina Z. L., 2010), I. Tkachivska (Tkachivska I. M., 2024), L. Sheludchenko (Sheludchenko L. S., Komarnitsky S. P., Firman Yu. P., & Melnyk V. A., 2024) and others) only some aspects of solving the problems of scientific research outlined by us are presented.

At the same time, the communicative training of future teachers for conducting and providing content for physical education classes has become the subject of research by foreign scientists: B. Dyson (Dyson B., 2014), A. Casey, T. O'Donovan (Casey A.,

& O'Donovan T., 2015), G. Graham (Graham G., 2018), L. Shulman (Shulman L. S., 1987), H. Chen, N. Wu (Chen H., & Wu N., 2024), Q. Li, W. Qin (Li Q., & Qin W., 2022), H. Lu (Lu H., 2018), Z. Yan, X. Tian (Yan Z., & Tian X., 2018), S. Yu (Yu S., 2017), etc.

The results of the study of regulatory, legal, scientific and pedagogical sources on the research problem allow us to state that there is currently an acute social and educational need for the formation of communicative competence in future physical education teachers in higher education institutions.

The situation is complicated by a number of **contradictions** that we identified during the research process between:

- society's need for future physical education teachers who are ready for modern educational challenges, and the current state of their professional training in higher education institutions;

- high requirements for professional and pedagogical training within the framework of the formation of communicative competence of future teachers and the insufficient level of communicative competence formed in higher education institutions among physical education students for their professional activities;

- the needs of secondary education institutions for physical education teachers who are able to effectively implement pedagogical interaction during physical education classes and the existing insufficiently organized training of students in higher education institutions for such activities in this direction;

- the objective necessity of determining from a scientific standpoint and implementing certain effective pedagogical conditions and scientific and methodological support for the formation of communicative competence of future teachers in the process of professional training and the empirical nature of their implementation under the traditional organization of training of future teachers in higher education institutions.

Thus, the relevance of the research topic, which reveals the urgent need of society for physical education teachers, its insufficient theoretical and practical development, and the need to overcome the outlined contradictions contributed to the

choice of the topic of scientific and research search "**Formation of Communicative Competence in Future Physical Education Teachers in Higher Education Institutions**".

The connection of work with scientific programs, plans, and topics.

The dissertation research was carried out in accordance with the research work of the Department of Educology and Pedagogy of the Western Ukrainian National University "Professional growth of a teacher of an educational institution: fundamental, theoretical-technological and practice-oriented aspects (state registration number 0121U110855).

The research topic was approved at a meeting of the Department of Educology and Pedagogy (protocol No.5 dated November 9, 2020).

The purpose of the study is to develop, theoretically substantiate, and experimentally verify the effectiveness of outlined pedagogical conditions and the effectiveness of the structural-functional model of the formation of communicative competence in future physical education teachers in higher education institutions.

The purpose of the study was to solve the following **tasks**:

1. To analyze the features, main conceptual ideas and modern scientific positions and approaches to the problem of forming communicative competence of future physical education teachers in higher education institutions.

2. To clarify the components, criteria, indicators and levels of formation of communicative competence of future physical education teachers in higher education institutions and their pedagogical and essential significance.

3. To identify and theoretically substantiate pedagogical conditions and develop an effective structural-functional model for the formation of communicative competence of future physical education teachers in higher education institutions.

4. To experimentally verify the effectiveness of substantiated pedagogical conditions and a structural-functional model of the formation of communicative competence of future physical education teachers in higher education institutions.

The object of research is the professional training of future physical education teachers in higher education institutions.

The subject of research is pedagogical conditions and a structural-functional model of the formation of communicative competence of future physical education teachers in higher education institutions.

The hypothesis of the study is that the formation of communicative competence in future physical education teachers in higher education institutions will be effective under the outlined pedagogical conditions:

- designing an educational environment that provides ample opportunities for the development of communicative activity of future physical education teachers;
- implementation of active forms and methods of learning aimed at deepening and systematizing knowledge on the formation of communicative competence in future physical education teachers;
- formation of general and professional competencies (including communicative competence) in the context of an interdisciplinary approach to the professional training of future physical education teachers;
- development of organizational and communication skills and abilities of future physical education teachers.

To solve the identified tasks, the following research **methods** were used: theoretical: generalization and systematization of the provisions of regulatory legal acts and documents, scientific psychological, pedagogical and methodological literature on the topic of the study, content analysis of basic concepts, synthesis, comparison, classification - to determine the current state of the theory and practice of the formation of communicative competence in future physical education teachers; modeling, generalization, systematization of the obtained data - to carry out a theoretical justification of pedagogical conditions and a structural-functional model of the formation of communicative competence in future physical education teachers in higher education institutions; empirical: questionnaires, testing, observation, self-observation, conversation, self-assessment, analysis of the results of the educational activities of future teachers, verbal and written surveys - to diagnose the state of the formed communicative competence in future physical education teachers in higher education institutions; pedagogical experiment: ascertaining - to determine the initial

level of formation of communicative competence in future physical education teachers; formative - to check the effectiveness of pedagogical conditions and the effectiveness of the structural-functional model of communicative competence of future physical education teachers; generalized - to conduct a comparative analysis and interpret the obtained results of experimental work; statistical - methods of mathematical statistics with the calculation of the Fisher criterion (F-criterion) - to process and display the obtained results of experimental work, establish numerical (quantitative) dependencies between the studied phenomena; calculation of the averaged results of the formation of communicative competence of future physical education teachers for all components - to determine the general level of formation of communicative competence in physical education students in higher education institutions.

Experimental base of the study. The research and experimental work was carried out at the Khmelnytsky National University (Faculty of Health, Psychology, Physical Education and Sports, Department of Theory and Methods of Physical Culture and Sports), the State Higher Education Institution "Uzhhorod National University" (Faculty of Health and Physical Culture, Department of Theory and Methods of Physical Culture) and the Volodymyr Hnatyuk Ternopil National Pedagogical University (Faculty of Physical Education, Department of Theoretical Foundations and Methods of Physical Education). At different stages of the study, 69 higher education applicants participated in it.

The scientific novelty of the results obtained lies in the fact that:

- for the first time, pedagogical conditions for the formation of communicative competence in future physical education teachers in higher education institutions have been determined and theoretically and methodologically substantiated (including: designing an educational environment that provides broad opportunities for the development of communicative activity in future physical education teachers; implementing active forms and methods of teaching aimed at deepening and systematizing knowledge on the formation of communicative competence in future physical education teachers; forming general and professional competencies (including communicative competence) in the context of an interdisciplinary approach to the

professional training of future physical education teachers; developing organizational and communicative skills and abilities of future physical education teachers), an effective methodology for their implementation in teaching professional training disciplines has been developed and an author's Program for the formation of communicative competence in students of higher education institutions has been created; A structural-functional model of the formation of communicative competence in future physical education teachers has been developed as a set of strategic (social order for physical education teachers, goals, objectives, scientific and pedagogical principles of research), conceptual and methodological (methodological approaches, informational and content of the process of forming communicative competence in future physical education teachers during the study of professional cycle disciplines, pedagogical conditions and technological support for the training of education seekers (stages, types of educational activities, financial support, methods, forms, program of the elective course "Development of communicative competence in future physical education teachers") and criterion-diagnostic (components, criteria, levels of formation) blocks, which together make it possible to take into account dynamically changing requirements for the formation of communicative competence in future physical education teachers in higher education institutions;

- the content and essence of the concepts of "professional training of physical education teachers", "competence of future physical education teachers", "social-communicative activity of future physical education teachers", "communicative competence of future physical education teachers" have been improved, the criteria (motivational, knowledge, communicative, health-preserving) and levels (high, sufficient (optimal), satisfactory (productive), low (basic)) of the formation of communicative competence in future physical education teachers in higher education institutions have been substantiated;

- a substantive content of professional training within the framework of the formation of communicative competence in future physical education teachers in higher education institutions, forms and methods of forming this competence by higher education applicants have acquired further development.

The practical significance of the results obtained lies in the development and implementation of the following in the educational process of higher education institutions:

- the author's Program for the formation of communicative competence in future physical education teachers by making changes to certain topics of the content of the academic disciplines "Theory and Methods of Physical Education", "Theory and Methods of Children's and Youth Sports" and "Professional Mastery (by professional direction)" (specialty 014.11 Secondary Education (Physical Education), bachelor's level) and strengthening interdisciplinary connections between the specified subjects;
- author's elective course "Development of communicative competence in future physical education teachers", which was introduced and implemented within the framework of independent work of students of higher education institutions;
- a set of mind maps for information support in the study of the discipline "Professional mastery (by professional direction)" and schematization of intra-disciplinary and interdisciplinary connections.

The obtained results of scientific and research activities can be effectively applied in the system of professional training of future teachers in higher education institutions; during the preparation of educational-methodological support for the formation of communicative competence of educators and the development of educational components for the development of communicative qualities and abilities in future physical education teachers. In the future, the results of the study can be implemented in advanced training courses for teachers of general secondary education institutions, subject to the adaptation of the developed materials.

The research materials were implemented in the educational process of professional training of future physical education teachers of Khmelnytskyi National University (certificate of implementation dated 04/29/2025), State Higher Education Institution "Uzhhorod National University" (certificate of implementation dated 05/13/2025), Ternopil Volodymyr Hnatyuk National Pedagogical University (certificate of implementation dated 05/13/2025).

Personal contribution of the applicant. The scientific results described in the dissertation research were obtained by the author independently. In joint publications, the personal contribution of the applicant is that in the professional article (Rebukha L., & Liu H., 2023) a comparative analysis of the training of physical education specialists abroad was conducted; in the articles (Zhang J., Liu H., & Dai W., 2024; Cao X., & Liu H., 2024), which additionally reflect the scientific results, positive styles of overcoming difficulties in Chinese college students are described and the essence of using the intellectual method in the training of specialists in national traditional sports is revealed.

Approbation of research results. The main scientific and research results of the dissertation research were discussed and received a positive assessment during participation in scientific and practical conferences of various levels, namely:

- international conferences – "Innovations in education: realities and prospects for development" (Ternopil, 2022-2023), "Current problems of the development of pedagogical education: innovations, challenges, prospects" (Mukachevo, 2024), "Transformational processes of social and humanitarian education in modern Ukraine in conditions of war: challenges, problems and prospects" (Ternopil, 2024); "Development of professional skills of a teacher in conditions of a new socio-cultural reality" (Ternopil, 2024); "Innovative processes in the educational sphere of Ukraine and the countries of Central Europe: state, problems and prospects" (Ternopil, 2024).

- regional conferences – "Innovative approaches to the development of technologies and the economy" (Svalyava, 2024).

The main provisions and results of the dissertation research were discussed and approved at the meetings of the Department of Educology and Pedagogy of Western Ukrainian National University (Ternopil) (2021–2025).

Publications. The results of the study are covered in 15 publications by the author (12 are individual), of which 4 reflect the main scientific results of the dissertation (all publications in scientific professional publications of Ukraine category "B"), 9 are of an approbatory nature, 2 publications additionally reflect the scientific results of the dissertation.

Structure and scope of the dissertation. The dissertation consists of an introduction, three chapters, conclusions to them, general conclusions, a list of sources used (287 titles), appendices (9 on 34 pages). The total volume of the dissertation is 301 pages of printed text, the main content is set out on 198 pages. The work contains 10 figures and 34 tables.

CHAPTER 1

THEORETICAL BASIS OF PROFESSIONAL READINESS OF FUTURE PHYSICAL EDUCATION TEACHERS FOR PROFESSIONAL ACTIVITY

1.1 Conceptual and categorical apparatus for substantiating the research problem

During Ukraine's integration into European economic, socio-political and socio-cultural structures, the issues of training future physical education (PE) teachers who are able to successfully implement the process of Ukraine's cooperation with Europe and the world are of first priority. Readiness of future PE teachers for professional activity is one of the key problems of the modern education system. In connection with the growing requirements for the quality of the educational process and the health of students, PE teachers play an important role in shaping a healthy lifestyle of the younger generation. Their professional competence determines the effectiveness of the educational process aimed at physical development, health promotion and the formation of motivation for regular PE classes.

The training of the future PE teachers includes not only the acquisition of theoretical knowledge and practical skills, but also the development of personal qualities necessary for the successful socialization of each individual. This task becomes especially relevant in the context of constant changes in the education system and society in general.

PE, which is a component of the general culture of society, is researched in our work as a fundamental system of aspects and is aimed at strengthening health, developing physical, moral-volitional and intellectual qualities of the individual, which contributes to their harmonious formation. According to the Law of Ukraine "On Physical Education and Sports", PE is defined as "... activities in the field of PE and sports, focused on ensuring the motor activity of people with the aim of their harmonious, primarily physical, development and leading a healthy lifestyle..." (Law of Ukraine "On Physical Education and Sports, 2007). In general, the definition of

"physical education" is a key concept in scientific research related to human health, physical development and social integration. In scientific research, PE is considered as one of the components of the general culture of society, which is able to fully encompass the system of social practices aimed at the development and support of a person's physical abilities, health, as well as the holistic formation of moral and ethical universal values (Azhyppo O., 2013, p. 65).

In the works of scientists O. Azhyppo (Azhyppo O., Yu., 2013), S. Atamanyuk, Semenikhina, I. Shyshenko (Atamanyuk S., Semenikhina O., & Shyshenko I., 2021); A. Bogatov (Bogatov A. O., 2015), R. Vlasjuk (Vlasjuk R. A., 2016), R. Gurevich, M. Kademiya, N. Opushko, T. Ilnitska, G. Plahotniuk (Gurevich R., Kademiya M., Opushko N., Ilnitska T., & Plahotniuk G., 2021), G. Khomyak (Khomyak H. H., 2023, Khomyak H. H., 2024) and others, we observe that physical culture includes not only PE and sports, but also a set of activities that contribute to health improvement, rehabilitation and harmonious development of the personality. It is also considered an important factor of socialization, influencing the formation of behavioral norms and a person's lifestyle. Thus, physical culture in scientific works is interpreted as a multidimensional phenomenon that combines physical, social and cultural aspects, and is an integral part of the general culture of society, aimed at the comprehensive development of a person.

Undoubtedly, education provides opportunities for training specialists capable of professional growth and creative activity. These principles encourage the search for new ways to implement the educational and developmental goals of higher education institutions (HEIs), in particular, to ensure the personal development of the individual in accordance with their individual inclinations, abilities and needs based on the concept of lifelong learning. These guidelines are reflected in the order of the Ministry of Education and Science of Ukraine "On Approval of the Concept for the Development of Pedagogical Education" (On Approval of the Concept for the Development of Pedagogical Education, 2018), which is aimed at solving the problem of the deterioration of the quality of education that arises due to the inability of some teachers and students to master and practically use the latest methods of teaching,

upbringing and development. The concept emphasizes the need to improve pedagogical education to create a system for training new generation teachers and develop a modern model of the pedagogical profession that meets the needs of society, the prospects for the development of the national economy and global technological changes.

The Law of Ukraine "On Higher Education" defines the "quality of higher education" as "...a set of qualities that reflect professional readiness, value orientation, social orientation and determine the ability to satisfy both personal spiritual and material needs and the needs of society..." (The Law of Ukraine "On Higher Education", 2014). The effectiveness of the process of physical culture of students largely depends on the qualitative characteristics of the PE teacher, his general and professional competencies, pedagogical skills, professional abilities and managerial abilities. Therefore, in our opinion, it is important to define the key concepts of our study such as "physical education", "professional activity", "training for professional activity", "readiness for professional activity", "communicative competence". In general, the concepts of "physical culture" and "physical education" are interconnected, but they have specific goals, objectives and content.

Physical culture is a complex system of social practices aimed at preserving and improving physical health, developing physical abilities and strengthening the body, forming moral and ethical values and promoting a healthy lifestyle (Liu H., 2024h).

It includes numerous components, among which one can single out PE, sports, physical culture and health activities and other components that contribute to the overall development of the personality. Physical culture aims to ensure the harmonious development of the personality through the implementation of systematic motor activity, which has not only physiological, but also psycho-emotional and social effects. As an important component of general culture, PE actively influences the formation of a healthy lifestyle, which is the basis of well-being and development of society as a whole (Alyeksyeyev O., 2021; Alyeksyeyev O., 2022; Koshlyak M. A., 2024; Sutula V., Deyneko A., & Bulhakov O. I., 2016).

At the same time, PE in the educational process serves as an important component of physical culture and reflects its specialized aspect aimed at developing physical abilities, improving health and forming healthy lifestyle habits. It contributes to the development of the physical qualities of the individual and has a significant impact on the formation of moral and ethical values, such as discipline, responsibility, ability to cooperate, etc. This component is a key element of the general educational program, as it creates the basis for a healthy lifestyle, which is the basis of the overall well-being of the individual. The process of PE is carried out mainly in educational institutions, where participants in the educational process acquire knowledge, skills and abilities related to physical activity. In the context of modern realities, PE is an important element of preventing the development of chronic diseases that arise due to a sedentary lifestyle, and ensuring the harmonious development of the personality (Shamykh O. M., Serdyuk L. Z., & Ivannikova G. V., 2023).

The main goal of PE is to teach and develop physical qualities, such as strength, endurance, speed, coordination, as well as to form the moral and volitional qualities of the individual. Physical culture and PE are closely interrelated concepts: the first covers a general approach to physical activity in society, and the second focuses on educational activities aimed at developing physical qualities and forming a healthy lifestyle. An important role in this process is played by the teacher, who is the main subject of the educational process. His task is to organize the educational process, effectively transfer knowledge, develop personal and professional skills of students, as well as to educate universal human values, which contribute to the formation of a harmoniously developed personality. Accordingly, PE is important not only from a physiological, but also from a socio-pedagogical aspect, since it affects the moral and emotional health of the individual (Hrynchenko I. B., 2011).

A review of scientific sources shows that in national psychological and pedagogical science a number of scientific studies have been carried out, devoted to the study of the peculiarities of pedagogical activity in general and the activity of a PE teacher in particular. The research was carried out by scientists in the following main areas:

- analysis of personal development and professional self-determination (A. K. Abul'khanova-Slavs'ka (Abul'khanova-Slavs'ka K., Ball H., Kon I., Semychenko V., Tatenko V., & Tytarenko T., 2024), O. H. Kucheryavyy (Kucheryavyy O. H., 2021), L. Rebukha (Rebukha L. Z., 2019) et al.);
- determination of certain types of pedagogical abilities (O. Matlasevych (Matlasevych O., 2016), N. Myronchuk (Myronchuk N. M., 2024) et al.);
- features of pedagogical activity O. Dubaseniuk (Dubaseniuk O. A., 2016). O. Markova (Markova O. B., 2015) et al.);
- reflexive and activity training (T. Abramovych (Abramovych T. V., 2018)., R. Hurevych, M. Kademiya, N. Opushko, T. Il'nits'ka, H. Plakhotnyuk (Hurevych R., Kademiya M., Opushko N., Il'nits'ka T., & Plakhotnyuk H., 2021), I. Zyazyun (Зязюн І. А., 2011) et al.);
- application of a systemic approach in the study of professional abilities (S. Horokhov, S. Yaremenko (Horokhov S., & Yaremenko S., 2024 et al.).

Pedagogical communication is one of the basic components of professional training (PT) of future PE teachers, since its level directly affects the effectiveness of pedagogical activity and the ability to establish constructive communicative relations with students, parents, colleagues and other participants in the educational process. Scientific research by O. Matlasevych confirms that communicative interaction in the educational process is an integral part of the structure of pedagogical abilities, along with didactic, organizational, perceptual and expressive components (Matlasevych O. V., 2016, p.121).

The issue of the formation of communicative competence (CC) in the context of the implementation of innovative teaching methods and the integration of modern technologies into the educational process is of particular relevance. Modern research focuses on the need to develop social, emotional and professional skills, which are critically important for training of future PE teachers for the real conditions of future professional activity. Thus, the development of pedagogical communication is a

necessary condition for the professional development of future PE teachers, which determines the need for its purposeful formation in the higher education system.

Thus, the scientist O. Bida, Yu. Zaytseva, O., Donets', O. Kuchay, O. Sokohon', O. Shevchenko emphasizes that effective communication is one of the main components of the training of a modern teacher, while innovative teaching methods contribute to the development of the teacher's ability to effective pedagogical interaction, which is an important factor in the formation of high professional competence in them. The integration of modern methods into the educational process of PE allows creating conditions for the development of not only physical, but also social, psychological qualities of students, which contributes to the overall formation of a healthy lifestyle (Bida O. A., Shevchenko O. V., & Kuchay O. M., 2018; Zaytseva Yu. V., Taranenko I. V., & Kornosenko O. K., 2020; Sokohon' O. A., & Donets', O., 2023; Sokolenko L. S., 2018).

An important component of the teacher's CC is the ability to effectively interact with students of different ages and any participants in the educational environment. Scientist O. Sokolenko, researching the issues of professional competencies of future PE teachers, points out that communication is one of the main mechanisms by which an education seeker is able to organize the process of learning and education. In his opinion, the development of communication skills contributes to the formation of a positive attitude towards physical activity and a healthy lifestyle in students, which is one of the priority tasks of PE teachers (Sokolenko O. I., 2018, p. 55).

In the context of the formation of the readiness of FT for pedagogical activity, scientists V. Trotsenko and G. Dolinin believe that the development of pedagogical communication is a necessary condition for professional training. Since pedagogical activity includes interaction with students, parents, colleagues and administration, the ability to communicate effectively at different levels is critically important for the successful implementation of educational programs and improving the quality of education. A high level of communication skills allows teachers to create a favorable atmosphere for learning and maintain student motivation, which is especially important in the field of PE (Trotsenko V., & Dolinin H., 2023, p. 401).

According to the research of N. Stepanchenko, professional training of future PE teachers is aimed at the development of professional knowledge, as well as the development of effective communication skills. The author indicates that communication is necessary to ensure mutual understanding in the learning process, as well as for adaptation to the conditions of the educational environment. A teacher who has a high level of CC is able not only to effectively transfer knowledge, but also to exert a positive influence on the behavior of education seekers, which is crucial for achieving the goals of PE (Stepanchenko N., 2017, p. 211). Therefore, pedagogical communication is one of the key components of the training of the future PE teachers. It is not only a means of transferring knowledge, but also an important factor in the formation of social and emotional competence of students, which is the basis for their further professional development and implementation in professional activities.

The analyzed scientific studies confirm that the development of CC is one of the main directions of training of future PE teachers. Given the complexity and dynamism of the modern educational process, it is important not only to form a knowledge field, but also to focus on the formation and development of the ability to communicate in various educational situations. This allows to create a favorable atmosphere for learning and achieving high results in PE.

It should be noted that for the future PE teachers, understanding the structure of professionally significant qualities and abilities has both theoretical and practical importance. Analysis of this structure allows us to identify the relationship between aptitudes, special abilities, general pedagogical talent and creative potential of the individual. Having identified the most important qualities and finding out how they are interconnected and what psychological processes determine them, we can assess when professional training will be useless and when successful development can be expected (Concept of the New Ukrainian School, 2017).

We agree with the scientific position of T. Hura, who believes that a characteristic feature of pedagogical activity is such activity, which is complex in its content and form of organization, while having peculiar psychological features such as time constraints, the impossibility of being in inactive interpersonal relationships; the

teacher waits for many years for the effective consequences of pedagogical activity (Hura T. Ye., 2016, p. 23).

According to the Order of the Cabinet of Ministers of Ukraine (2016), one of the most important tasks today is the training of pedagogical workers of the new generation (On the approval of the Concept, 2018), which requires creating conditions for involving the best specialists from related professions in pedagogical activity in order to establish and develop modern alternative models of continuous professional and personal development of teachers.

The formation of the readiness of the future PE teachers for professional activity (PA) requires consideration of the basic concepts relevant to our study. Thus, in the "Big Explanatory Dictionary of the Modern Ukrainian Language" the word "to prepare" means providing the necessary stock of knowledge, transferring skills and experience in the process of learning or practical activity (Busel V. T., 2004, p. 1039). In pedagogical science, the concept of "training" is understood as an activity aimed at learning and providing the necessary knowledge (Honcharenko S. U., 1997, p. 293).

In our understanding, the concept of "training" includes the acquisition of the necessary competencies, knowledge, skills, abilities and practical experience by students. However, the concept of "training" is directly related to the concept of "professional training". The scientist K. Fomin believes that the preparation of a FT for professional training is a process of "...forming and developing a system of professional knowledge, skills, abilities, competencies, values, which will contribute to the proper organization of dialogical learning in the educational environment..." (Fomin K. V., 2020, p. 46–47).

N. Stepanchenko's scientific position on PT is determined by the understanding of this phenomenon as:

- process of "...ensuring a qualitatively new level of professionally oriented training, including pedagogical training, in higher education institutions..." (Stepanchenko N., 2017, p. 86);

- a meaningful component of "...the structure of the personality and professional activity of a future specialist, teacher" (Stepanchenko N., 2017, p. 87);

– integrative qualitative characteristics of a specialist as a complex-dynamic system of professionally important qualities of an individual, which determine success in performing professional duties (Stepanchenko N., 2017, p. 87).

At the same time, the scientist N. Nychkalo equates professional training to professional education, since these concepts holistically encompass deep knowledge of both the basic principles of sciences and professional technologies of a certain direction of training, special practically-oriented skills acquired by humanity, which contributes to the formation of psychological, pedagogical and moral qualities of the specialist's personality, necessary for effective professional activity in the relevant field (Nychkalo N. H., 2007, p. 45).

So, based on the analysis of scientific works, we have developed a table (Table 1.1) of the distribution of ideas about the professional development of a future teacher by the system of general pedagogical training, in particular, emphasizing the following important aspects:

1. Professional training of a PE teacher includes "...the formation of psychological knowledge, skills and abilities of self-government, psychodiagnostic abilities of personal characteristics, interpersonal relationships..." (Atamanyuk S., Semenikhina O., & Shyshenko I., 2021, p. 31).

2. Professional training is a holistic pedagogical system, "...the functioning of which involves creating conditions for the development of the personality of a future teacher based on mastering the knowledge, skills and abilities necessary for pedagogical activity, the development of professionally and personally significant qualities that ensure the effectiveness of pedagogical activity..." (Hancheva K., & Silayev V., 2021, p. 13).

In national pedagogical science, one of the first to raise the issue of teacher preparation for professional activity was the outstanding teacher of the 19th century K. Ushinsky. Although the concept of "readiness for pedagogical activity" is not directly used in his works, he thoroughly analyzed the ways of its formation.

In the second half of the 20th century, scientific interest in the problem of teachers' professional development has significantly intensified. In the works of such

scientists as D. McClelland, R. Boyatzis (McClelland D. C., & Boyatzis R. E., 1982), and others, key approaches to determining the content and structure of pedagogical activity have been formulated, focusing on the need to develop professional qualities, skills, planning activities, as well as the importance of control and reflection in the work of a teacher.

Table 1.1

The semantic content of the concept of "professional training" of future physical education teachers

Scientists who were engaged in the problem of professional training	Scientific position on the content of the concept of "professional training"
O. Markova (Markova O. V., 2015),	Professional training includes the acquisition by education seekers of a system of professionally oriented competencies, the development of socially significant and professionally important qualities necessary for the profession of a PE teacher.
T. Abramovych (Abramovych T. V., 2018), S. Atamanyuk (Atamanyuk S. et al., 2021)	Professional training involves students in mastering the general professional culture in the pedagogical field, developing professional reflection skills to improve professional skills, acquiring in-depth knowledge of age and pedagogical psychology, as well as pedagogical theory.
I. Zyazyun (Zyazyun I. A., 2011), V. Rybalka (Rybalka V. V., 2023)	Professional training guides future teachers to professional creativity, readiness to use educational innovations in professional activities, mastering the theory and technology of managing the educational process in an educational institution.
O. Matlasevych (Matlasevych O. V., 2016), L. Rebukha (Rebukha L. Z., 2021),	Professional training combines theoretical and practical aspects of professional activity in the context of the interrelationship of methodological, psychological, general pedagogical, didactic, methodological, professional-ethical and socio-pedagogical components.

Analysis of modern psychological and pedagogical sources (Abul'khanova-Slavs'ka K., Ball H., Kon I., Semychenko V., Tatenko V., & Tytarenko T., 2024; Horokhov S., & Yaremenko S., 2024; Hrynchenko I. B., 2014; Lariontseva A., 2022; Luzik E., & Akmaldinova V., 2019 et al.) is evidence of numerous characteristics of

the definition of "readiness", its understanding is determined by the main approaches that complement each other.

In scientific discourse, the term "readiness for professional activity" is interpreted as one of the basic elements of professional development (Sukhomlyns'ka O. V. & Luhova V. D., 2019). According to the definition, readiness is the result of the integration of knowledge, skills and abilities acquired in the learning process (Mel'nyk A., & Duda O., 2024).

In the scientific works of H. Ridkodubska, readiness for professional activity (PA) is analyzed as an important quality of personality for the profession, consisting of a system of interconnected components. According to the scientist, it includes both personal qualities, in particular the presence of professional motives and interests, and competencies that allow performing professional functions corresponding to the requirements of a specific professional activity (Ridkodubska H. A., 2019, p. 77).

In the field of PE, "readiness for PA" includes not only mastering theoretical foundations, but also the formation of practical skills and abilities. Readiness for pedagogical activity is interpreted as an integrative characteristic that includes both professional competence and psychological readiness for the implementation of pedagogical tasks. (Kremen' V. H., 2005). Readiness for PA in the context of PE is considered as the result of comprehensive training, which covers not only physical, but also moral and psychological aspects (Sukhomlynska O. V., & Lugova V. D., 2019). However, readiness-based preparation for PA is the basis for implementing innovative teaching methods and developing physical abilities in students.

Analysis of scientific sources related to the definition of "readiness" shows that in pedagogical science this concept is considered as an integrative formation that ensures the success of the pedagogical activity of the FT. Readiness for PA itself includes several important elements: theoretical and methodological knowledge, professional skills, as well as psychological characteristics of the individual, such as motivation, character and temperament of the education seeker.

From a pedagogical point of view, the readiness of the FT for PA is defined as an integrative personal formation, which is a condition and regulator of successful

pedagogical activity (Havrysh I. V., 2006). This concept encompasses not only professional and pedagogical views and beliefs, but also the direction of mental processes, professional knowledge, the ability to overcome difficulties, evaluate the results of one's work, and professionally improve (Svat'yev A. V., & Bezkorovayna L. V., 2010). It is also important that a teacher's readiness for future activity is a set of requirements that combine psychological, psychophysiological and physical readiness with scientific, theoretical and practical competence, which is the basis of professionalism (Samsutina N., 2013).

Thus, readiness for pedagogical activity is a key factor that ensures a high level of one's own pedagogical work, contributes to the effective assimilation of knowledge by students and the development of their social and physical skills.

Within the framework of modern pedagogical science, the concept of "readiness for professional activity" is interpreted as a multi-component integrative formation that combines knowledge, skills, abilities, values, and personal traits necessary for the successful performance of professional functions. According to scientists E. Luzik and V. Akmal'dinova (Luzik E., & Akmal'dinova V., 2016), the formation of readiness is a priority area of training a specialist, which determines their competitiveness in the professional environment. Regarding the PT of future PE teachers, this readiness includes both the assimilation of the theoretical basis and the ability to productively implement the acquired competencies in the changing conditions of practical pedagogical activity (Sbruyeva A.A. (Ed.), 2021). As noted by A. Lariontseva (Lariontseva A., 2022), effective professional training involves the development of personal maturity, professional self-awareness, and key competencies.

Investigating the impact of innovative tools on the professional readiness of the future PE teachers, the scientist I. Hrynchenko defines the professional readiness of the future PE teacher for pedagogical activity as: "... a systemic state of the personality, which expresses the qualitative characteristics of their orientation, consciousness, professional position, image, level of mastery of professional and pedagogical actions..." (Hrynchenko I. B., 2011, p. 89).

In this context, "readiness of future PE teachers for PA" is considered as the final result of a purposeful educational process that ensures the ability to carry out pedagogical activities at a high level. This position is consistent with the conclusions of national scientists (L. Rebukha (Rebukha L. Z. (Ed.), 2022, p. 65–66); S. Horokhov, S. Yaremenko (Horokhov S., & Yaremenko S., 2024)), who emphasize the importance of innovative educational technologies in the formation of the professional readiness of a new generation of teachers. Considering the readiness of future PE teachers for PA, scientist A. Barbinova develops a readiness structure, based on which, the main structural unit is "...physical fitness (the presence of a certain level of physical qualities and abilities)..." (Barbinova A., 2021, p. 60).

Taking into account the analysis of sources and our own practical experience, it is advisable to consider the training of future PE teachers as a continuous process aimed at acquiring the appropriate level of theoretical knowledge, practical skills, social and professional qualities and value orientations. This ensures their ability to effectively perform professional functions.

In scientific discourse, readiness for PA is more often considered as a basis for the formation of professional competence, which ensures the effectiveness of pedagogical interaction. Competence, in turn, is an external manifestation of the formed readiness, which is realized through specific professional actions and decisions. Analysis of modern scientific research, which considers the concept of "competence", is evidence that it is still evolving, covering various aspects of professional and personal activity. In particular, the latest scientific research by Ukrainian scientists demonstrates a wide range of approaches to the interpretation of competence in education, professional development and integration of new technologies into the educational process (Lukats'ka Ya. S., 2021; Mel'nyk A., & Duda O., 2024; Sheludchenko L. S., Komarnits'kyy S. P., Firman Yu. P., & Mel'nyk V. A., 2024).

The problem of competence formation in Ukraine is becoming increasingly important, covering various aspects of educational and professional development. At the same time, the issues of implementing new approaches to learning and developing personal and professional competencies in accordance with modern educational

standards remain relevant. The definition of competence in the context of scientific research can be structured by identifying its main components:

- knowledge, as the basis of competence, including theoretical and practical information in a certain field of science, which is necessary for making informed decisions (Kleopa I. A., 2023; Hetman O. P., 2025 et al.);
- a skill that determines an individual's ability to practically implement acquired knowledge to solve problems and perform functions under real conditions (Venher H. S., 2024; Vernyhora I. O., 2024; Shevchuk S. S., & Kulishov V. S., 2021 et al.);
- skills that are able to provide a high level of automation of actions based on practical experience and rapid adaptation to changing situations (Koshura A. V., 2021; Mchelidze D., 2024 et al.).

An equally important feature of competence is its qualitative characteristics, such as motivation and attitude to the profession, which determine the individual's internal readiness for productive activity and the desire to achieve high results, which ensure the professional growth of a specialist (Matlasevych O. V., 2016).

Competence is considered in modern pedagogical science as an integrative characteristic of a person, combining knowledge, skills, abilities, experience, values, and the ability to effectively apply them in professional activities (Zyazyun I. A., 2011). According to O. Savchenko, competence is the ability to act on the basis of knowledge, experience, and values in a certain field of activity, which implies independence and responsibility (Savchenko O. A., 2022). At the same time, scientists V. Luhova and O. Sukhomlynska emphasize that competence is a dynamic formation that is created in the process of personal and professional development and is implemented in specific activities (Sukhomlyns'ka O. V., & Luhova V. D., 2019).

In this context, CC appears as a structural component of the general professional competence of a teacher. It includes the ability to effective interpersonal interaction, mastery of verbal and non-verbal means of communication, the ability to adapt the communication style in accordance with the pedagogical situation, as well as emotional intelligence, which provides understanding and regulation of one's own emotions and

the emotions of other participants in the educational process (Pomytkin E. O., 2017). The analysis of approaches to interpreting the concept of "competence" allowed us to identify its main aspects, which are reflected in Table 1.2.

Table 1.2.

Analysis of approaches to interpreting the concept of "competence"

AUTHOR	INTERPRETATION OF THE CONCEPT	FOCUS ON A SPECIFIC ACCENT
I. Bekh (Bekh I. D., 2001)	The ability to act in accordance with the norms of society and the profession, realizing one's own potential	Personal approach, value component
I. Zyazyun (Zyazyun I. A., 2011)	A complex, integral formation that includes knowledge, skills, attitudes, and experience	Personal and professional development
O. Bida, O. Syroyezhko, & K. Shovsh (Bida, O. A., Syroyezhko, O. V., & Shovsh, K. S., 2022)	Ability to perform effectively in a specific field	Independence, responsibility
O. Sukhomlyns'ka, V. Luhova (Sukhomlyns'ka O. V., & Luhova V. D., 2019)	A dynamic formation that is created in the process of development	Actualization in activities
H. Bohdanova (Bohdanova H. S., 2013); Y. Moseichuk, A. Konokh, & O. Shukatka (Moseichuk Y. Y., Konokh A. P., & Shukatka O. V., 2025).	The ability to act according to the norms of society and the profession, realizing one's own potential: an integral characteristic of a person, including knowledge, skills, abilities, experience and motivation	A personalized approach, a valuable component of professional training with the integration of knowledge and experience
M. Sheyan (Sheyan M. O., 2021)	The ability to successfully solve professional tasks based on practical experience, professional knowledge and skills	Professionalism, practical orientation, communication
A. Kuz'mins'kyy, V. Omel'yanenko (Kuz'mins'kyy A. I., & Omel'yanenko V. L., 2003)	A set of knowledge, skills, and values that ensure the effective performance of professional functions	Systematicity, structure, professionalism

Within the framework of our study, the CC of future PE teachers is defined as an integral characteristic of a personality, which involves the readiness and ability to effectively implement pedagogical interaction, relying on communicative knowledge, skills, experience, emotional and value attitude towards the subjects of the educational process. Its formation is one of the key conditions for training a competitive specialist in the field of PE, capable of constructive dialogue, resolving pedagogical situations, and creating a comfortable aseptic educational environment.

Analysis of scientific works of Ukrainian researchers (Zyazyun I. A., 2011; Matlasevych O. V., 2016; Kuz'mins'kyi A. I., & Omel'yanenko V. L., 2003 et al.), who studied the competence of the future PE teachers, allows us to outline the main aspects of the formation of the PT of teachers. The competence of the future PE teachers is defined by scientists as a multidimensional phenomenon that encompasses knowledge, practical skills, ethical qualities and the ability to constantly improve in a changing educational environment (when educational institutions operate in the conditions of Covid-19, and then the war in Ukraine).

The professional competence of the future PE teachers can be characterized as an integrated ability to effectively implement professional activities in the educational process, taking into account the individual characteristics of education seekers and the specifics of the subject area. This competence, according to the scientist, includes not only knowledge of the theoretical foundations of PE and teaching methods, but also the ability to organize lessons, ensure the safety of students during physical activity.

Professional competencies also include independent learning, critical thinking and communication. Scientist M. Baibikov emphasizes that these competencies are necessary for the training of future teachers, as they contribute to adaptation to rapid changes in the professional environment, where not only the requirements for knowledge are determined, but also the ability to effectively use new teaching methods (Baibikov M. V., 2024). At the same time, the integration of innovative technologies into the educational process is an important component of modern training of future PE teachers. Scientist Yu. Vaskov emphasizes that the use of new technologies allows not only to improve the learning of the material, but also contributes to the development

of practical skills of students, which is the basis of the teacher's professional activity (Vaskov Yu. V., 2006).

An equally important component of competency training is methodological classes and trainings that contribute to the formation students' practical skills and abilities. We agree with the position of N. Kovalyova, who emphasizes the importance of conducting classes that are important in the formation of pedagogical abilities of FT. Professional competencies formed in the process of studying disciplines make it possible to work effectively with students in real conditions of the educational process (Kovalyova N. V., 2022).

In our understanding, "the competence of future PE teachers" serves as a multicomponent characteristic of a person, which includes a theoretical and practice-oriented block of knowledge, closely related to methodological skills of conducting a lesson, as well as the ability to develop and adapt to changes. The effective formation of professional competencies is connected with the implementation of innovative approaches, constant improvement of professional skills and acquired knowledge in practice, which are constantly implemented in the context of the educational process of an educational institution.

Analysis of modern scientific works of Ukrainian researchers allows us to formulate a well-founded definition of the competence of the future PE teachers as an integrated ability to effectively perform professional, social and personal tasks, based on a set of knowledge, skills, abilities and internal motivational orientations (Shutov D., Anosova A., Krychivska O., Vorona A., & Solodka L., 2022). The concept of "competence" is multidimensional and includes not only the cognitive aspect, but also the moral and value aspect, which makes it a key factor for assessing the effectiveness of activities in any field, in particular in education. At the same time, professional competence is a dynamic process that constantly adapts to changes in the external environment. It requires continuous development, which is implemented through self-study, professional training, participation in scientific and practical activities, as well as through reflection and rethinking of experience. Thus, competence

is the result of the integration of knowledge, practical skills, critical thinking and the ability to constantly improve oneself.

Therefore, in our opinion, competence is not just the sum of knowledge and skills, but a single system that includes the readiness of a future PE teacher for professional actions in conditions of constant change, the ability to adequately assess the pedagogical situation, make responsible decisions, and ensure high results within the framework of future professional activities.

Analysis of the definition of "communicative competence" of the future PE teachers in the Ukrainian scientific works of I. Vernyhora (Vernyhora I. O. 2024), N. Stetsenko (Stetsenko N. M., 2016), A. Melnyk and O. Duda (Melnyk A., & Duda O., 2024) and others allows us to identify important aspects of this concept, which plays a key role in the professional development of the future PE teachers. Future PE teachers must not only have knowledge of this field and teaching methods, but also the ability to effectively communicate with students, colleagues and parents, which contributes to the development of their social skills and ensures the organization of the educational process at the proper level.

We share the scientific views of national researchers S. Horokhov, S. Yaremenko (Horokhov S., & Yaremenko S., 2024), Y. Moseichuk, A. Konokh and O. Shukatka (Konokh A. P., Moseichuk Y. Y., & Shukatka O. V., 2024), M. Sheyan (Sheyan M. O., 2021), O. Shynkaryova (Shynkaryova O. D., 2020), A. Melnyk and O. Duda (Melnyk A., & Duda O., 2024), who emphasize that the CC of future PE teachers is an integral part of general professional competence and includes the ability to verbal and non-verbal interaction with students, the ability to organize group activities in PE classes, motivate students to physical activity, a healthy lifestyle, and maintain a positive atmosphere during classes (Volkova N. P., 2017; Hordyeyeva K. S., & Pozdnyakov O. S., 2022). In addition, an important component of CC is the teacher's ability to understand and adapt to the individual needs of students, which is especially important in the context of inclusive education.

The interaction of the PE teacher with students with special educational needs deserves special attention. In particular, effective communication between the teacher

and students with physical development disorders is a necessary condition for creating a favorable learning environment and achieving high results in PE (Denysova L. V., 2019). Scientists also note that the CC of a future teacher allows not only to effectively organize classes, but also to form a positive attitude towards physical exercises in students, contributing to their health and development (Androshchuk I., 2022; Atamanyuk S., Semenikhina O. & Shyshenko I., 2021; Hordyeyeva K. S., & Pozdnyakov O. S., 2022; Denysova L. V., & Usychenko V. V., 2020 et al.).

In our opinion, the CC of future PE teachers is a multidimensional and integrative component of professional training, which ensures effective interaction of the teacher with students, colleagues and parents in the educational process. It involves the teacher's ability to constructive verbal and non-verbal assertive communication, organization of group activities, motivation of students for physical activity, as well as understanding the individual needs of each child in the context of their physical development. Thus, the CC is an important component of the professional training of future PE teachers, since it allows for effective interaction in the educational process, contributes to the development of students' social skills, as well as the teacher's adaptation to changing learning conditions.

Currently, the CC of future PE teachers includes the following components:

- language competence that ensures clear and understandable delivery of educational material;
- emotional competence, which allows to establish positive relationships with students, stimulating them to actively participate in PE classes;
- sociocultural competence, which helps the teacher adapt to the diverse cultural, social and inclusive characteristics of students;
- psychological and pedagogical competence, which includes the ability to organize effective team activities in lessons and create a favorable environment for learning.

Based on the system analysis, we developed a schematic representation of the components of the CC of future PE teachers, which are detailed in Fig. 1.1.

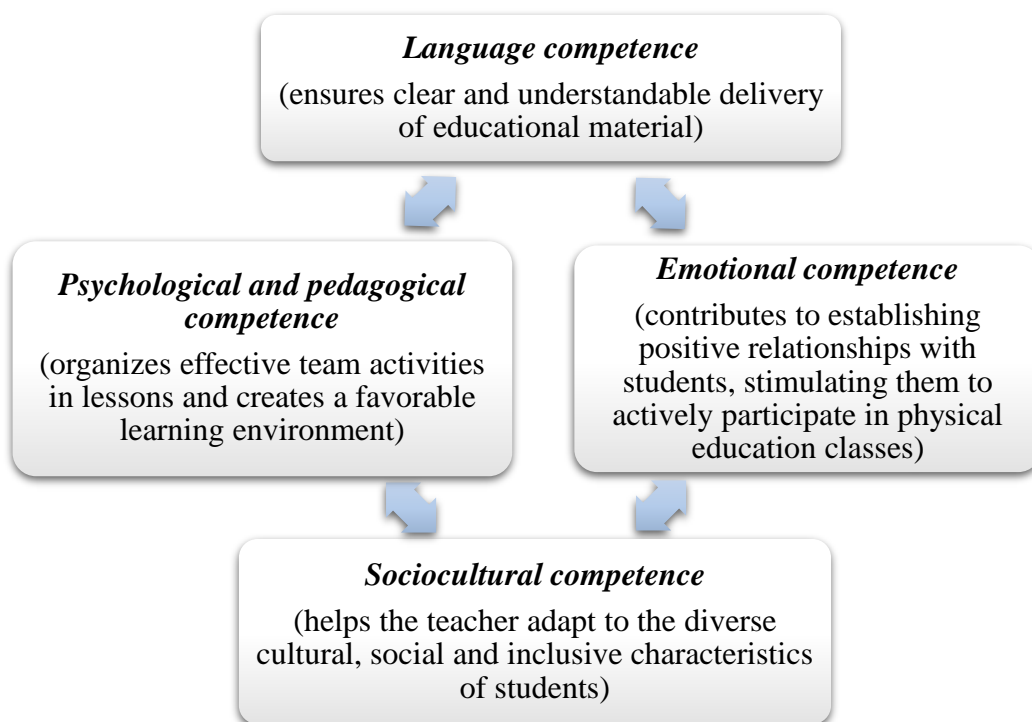


Fig. 1.1 Components of communicative competence of future physical education teachers

In the conditions of the modern educational process, important aspects of the CC are the ability of the future PE teachers to use innovative technologies and methods of interaction with students, in particular in the context of inclusive education and work with students with special needs. In addition, the CC of the teacher contributes to the development of students' social skills, forming in them the ability to teamwork, mutual respect and responsibility.

Thus, the CC of the future PE teachers is a determining factor that significantly affects the effectiveness of the educational component of pedagogical interaction. It serves as the basis for establishing effective parity interaction between the teacher and students, creating favorable conditions for optimal learning of educational material, and also contributes to the development of both physical and social skills of students. A high level of CC ensures not only the successful transfer of knowledge, but also the formation of such important qualities in students as the ability to cooperate, mutual understanding and responsibility, which has a direct impact on their PT and future activities in the field of PE. Thus, CC is not only a component of pedagogical

competence, but also an important component that determines the level of professionalism of the future PE teachers.

These conclusions show that the system of PT of future PE teachers is complex and multidimensional, including theoretical, scientific-methodical, practical and moral-psychological components. These components interact, forming a holistic process of forming the CC in future PE teachers, which is necessary and sufficient to ensure a high level of training of a future PE teacher.

1.2 Modern trends in the training of future physical education teachers for professional activity in higher education

The training of the future PE teachers in Ukraine is regulated by a number of regulatory legal acts and standards that define the main requirements for the organization of the educational process, the content of curricula, as well as the professional competencies of education seekers. They include the Law of Ukraine "On Education" (Law of Ukraine "On Education" 2017), the Law of Ukraine "On Higher Education" (Law of Ukraine "On Higher Education" 2024), the Law of Ukraine "On Physical Education and Sports" (Law of Ukraine "On Physical Education and Sports", 2007).

The Higher Education Standard (Order of the Ministry of Education and Science of Ukraine, 2022) is a regulatory framework that defines the requirements for learning outcomes, the structure of educational programs, the conditions for implementing the educational process, and the means of assessing education seekers. In particular, the Higher Education Standard for the specialty 014.11 Secondary Education (Physical Education) of the first (bachelor's) level regulates the key competencies that a future PE teacher must acquire (Order of the Ministry of Education and Science of Ukraine, 2022). The main goal of this standard is to form the graduate's professional readiness to carry out educational activities in general secondary education institutions (GSEI), since educational training must meet modern trends in the development of PE, integrating the achievements of science, pedagogy, and ICT.

The structure of the Standard (Ministry of Education and Science of Ukraine, 2022) clearly outlines subject specialization, and also takes into account the requirements of society for the quality of PE of students. Particular attention is paid to the formation of professional, general and specialist competencies. An important element of the standard is the emphasis on interdisciplinary integration of knowledge, which contributes to the development of critical thinking and reflective practice. Mechanisms for monitoring the quality of training of education seekers and criteria for assessing their achievements are also described. A special emphasis is placed on practical training, which is implemented in the form of production, pedagogical and assistant practices, which should ensure the formation of real professional skills in the context of school PE.

The Standard is based on a competency-based approach that meets modern trends in the European educational space and is focused on the formation of key competencies, such as communicative, digital, social, civic, innovative and entrepreneurial. A special role is given to the formation of the ability of students to interact with each other, which is crucial in the professional activities of a PE teacher. The learning outcomes formulated in the Standard are measurable and allow for an objective assessment of the quality of training.

The presence of the Standard at the state level allows HEIs to develop individual educational trajectories, while maintaining uniform quality criteria. It serves as an effective tool for external and internal quality assurance of education. At the same time, the definition of professional competencies in the Standard contributes to the approximation of the educational training of bachelor's level applicants in the specialty 014.11 Secondary Education (Physical Education) to the needs of the labor market. Thus, a HEI graduate is able to effectively, in accordance with training according to the Standard, implement PA in modern socio-cultural conditions.

Higher education standards are regulated by national and international regulations and are created in accordance with generally recognized principles and approaches in the field of higher education. The main provisions of the Higher Education Standards include such components as:

- knowledge and understanding, as graduates of this area of training must have a deep understanding of the basic concepts, principles and theories in their field;
- practical skills, as training in educational programs can ensure the development of practical skills necessary for professional activity;
- social and personal-professional competencies, because their acquisition by students allows them to effectively engage in teamwork, communication; in the process of critical thinking, self-regulation, etc.

Modern trends in the training of future PE teachers in HEIs are aimed at ensuring a high level of professional competence, developing personal qualities, as well as adapting to changes in society and the educational process. In the current system of higher education, the following trends in the training of specialists are important:

1. One of the key modern trends is the integration of ICT into the educational process. Over the past few years and challenges, including the Covid-19 pandemic and a full-scale military invasion of Ukraine, ICT has become increasingly integrated into the educational process of higher education institutions, both online and offline. Thanks to the capabilities of ICT, we are now able to effectively conduct the educational process at all levels of education, covering a wide range of tools and resources used to create, store, process, exchange and manage information. ICT can significantly increase the efficiency of learning and reduce the physical load on teachers and students. The use of various digital resources for monitoring physical activity, the use of mobile applications for analyzing sports results, as well as online platforms for studying the theoretical foundations of PE are important tools that allow us to create an individualized approach to each student. In addition, ICTs contribute to the integration of other disciplines, such as health, biology, psychology of PE, etc., into PE (Vakolyuk A., Shelyuk V., & Symonovych N., 2021).

In modern pedagogical science, increasingly more attention is paid to the integration of ICT into the preparation of future PE teachers as a means of increasing the efficiency of the educational process and the formation of key professional competencies. Thus, in the works of V. Kyselev (Kysel'ov V., 2020), I. Kryvoruchko and L. Titova (Kryvoruchko I. I., & Titova L. O., 2024) the importance of digital

platforms, cloud services and mobile applications in providing a personalized, flexible and technologically adaptive educational environment is substantiated. Scientists O. Ivanenko (Ivanenko O. O., 2024), V. Tolochny (Tolochny V. M., 2012) and O. Otravenko (Otravenko O., 2019) focus on the didactic potential of blended learning and digital educational resources, which ensure a high level of professional readiness of FTs and contribute to the formation of their professional competence in the conditions of digitalization of the educational space.

The main components of ICT include hardware that enables their use for educational purposes, educational platforms and software for video communication, the global Internet, communication technologies, security software and software development tools.

The use of ICT during PT not only provides access to information, but also activates the formation of key communicative qualities: openness to cooperation, tolerance, critical thinking, ability to constructive dialogue. Modern digital tools create expanded opportunities for the development of speech and non-verbal skills in the future PE teachers. ICT contributes to the formation of the ability of students to effectively convey information in a visually accessible form, to adapt communicative approaches to different categories of students, taking into account their age, psychological and physical characteristics.

The importance of the formation of the CC of the future PE teachers using ICT is due to the need to ensure a high-quality educational environment in which interactive communication is not only a learning tool, but also a means of socialization and professional identification. In such an environment, students have the opportunity to model pedagogical situations, improve public speaking skills, analyze their own communicative behavior, which is the foundation for the formation of reflective competence. In addition, ICT opens up new prospects for the implementation of an interdisciplinary approach to the formation of the CC. The integration of knowledge from psychology, pedagogy, physical rehabilitation and information technologies allows us to form a holistic vision of the CC as a professional tool in the professional development of future PE teachers.

Increasing the efficiency of the process of forming CC using ICT is possible with targeted methodological support, improving the digital literacy of teachers, implementing adaptive electronic educational environments, and developing didactic modules focused on the formation of CC (Liu H., 2023). The motivational component also plays an important role, because it is a positive attitude towards digital innovations that ensures their effective use in professional self-development.

Thus, the formation of the CC in future PE teachers using ICT is considered by us as an integral part of the modern model of vocational education, which meets the needs of the digital society and is aimed at training a competitive specialist. ICT is becoming not only a tool of educational influence, but also a factor in the formation of socio-cultural competence, which is the basis of pedagogical skill. Scientist N. Kovalyova (Kovalyova N. V., 2022) notes that modern ICT open up new opportunities for monitoring the physical development of students, organizing online courses, interactive training programs and virtual platforms that contribute to increasing the efficiency of the educational process.

Thus, the modern process of training PE teachers in the conditions of higher education of Ukraine includes a number of significant changes, reflected in new educational approaches to learning, integration of innovative educational methods and orientation to modern social needs. In response to the challenges of globalization of education, the integration of the latest pedagogical technologies with an emphasis on the comprehensive development of specialists in this field is important.

2. An important key trend in the preparation of future PE teachers in HEIs is the combination of theoretical foundations with the practical activities of students. According to research, effective FT training involves a balance between academic disciplines and real practical tasks. An important component is the use of innovative methods for the development of pedagogical competencies (including communication), which allows preparing highly qualified specialists who are able to adapt their knowledge to various conditions of future professional activity. Thus, the scientist T. Krutsevykh emphasizes the importance of ensuring the integrity of the PT of future PE teachers through a systematic combination of methodological, theoretical

and practical components, which reflects modern requirements for the quality of education (Krutsevych T. Yu., 2015, p. 83). In his own study, O. Antonova emphasizes that practice-oriented training is fundamental in the formation of pedagogical skills, as it allows the future PE teachers to effectively apply the acquired knowledge in various pedagogical situations (Antonova O. Ye., 2016). According to O. Ivanenko, the integration of theory and practice ensures the gradual entry of the student into the professional environment, increasing the level of his adaptation to educational challenges (Ivanenko O. O., 2024, p. 171).

Therefore, the systematic integration of theoretical knowledge with practical training is an indispensable condition for high-quality professional education aimed at forming a competent, flexible and innovative specialist in the field of PE.

3. One of the leading ideas of higher education pedagogy is the preparation of teachers to work in an inclusive, socially heterogeneous environment that requires a high level of communicative flexibility (Shulman L. S., 1987). That is why we highlight the ability of students to adapt to work with different categories of students, in particular with people with special needs, as one of the priority trends in the preparation of future PE teachers. Scientist A. Vasylyuk emphasizes the importance of forming inclusive education skills in FT, which contributes to ensuring equal conditions for all participants in the educational process. This, in turn, requires teachers to be able to use special methods and adapt work programs according to the needs of different student groups (Vasylyuk A., 2023).

The ability to adapt communicative strategy to the needs of students with different levels of physical development and educational needs is considered a key outcome of quality professional training (Dyson B., 2014). Such approaches are supported by the scientist G. Graham, who emphasizes that the future PE teachers should "...have interpersonal skills that allow them to communicate effectively with students with special needs..." (Graham G., 2018, p. 76). We share the scientific views of K. Armour, who believes that the formation of CC is the basis for the implementation of a differentiated approach in PE (Armour K. M., 2010, p. 350). Scientists A. Casey & T. O'Donovan believe that involving students in modeling real pedagogical

situations significantly increases their readiness to adapt in professional activities (Casey A., & O'Donovan T., 2015, p. 519).

The formation of the CC of future PE teachers involves the purposeful formation of skills for effective interpersonal interaction in the conditions of collective PE and health-improving activities, which is based on the principles of pedagogical ethics, empathy and tolerance. According to modern research, it is communicative flexibility that allows the future specialist to effectively adapt the methods of educational activity to the needs of different age, socio-cultural groups of participants in the educational process (Casey A., & O'Donovan T., 2015; Liu H., 2022; Liu H., 2022a; Graham G., 2018; Tsaryk O., & Krychkivska, O., 2024). Therefore, the development of the CC in future PE teachers not only contributes to the professional development of a specialist, but also helps to create an inclusive educational environment in which each student can realize their potential, regardless of physical or socio-cultural or any other features.

4. Today, higher education actively uses an interdisciplinary approach in the training of PE teachers, which is the basis for the formation of their professional competences. In addition to knowledge of PE, future teachers must have fundamental knowledge of psychology, medical, social sciences, etc. Scientist O. Bezkopyl'nyy (Bezkopyl'nyy O. O., 2020) argues that such a combination of knowledge allows students to develop not only professional skills, but also the necessary general competencies, in particular the ability to solve complex problems in a constantly changing environment. The growing importance of the interdisciplinary approach in education is holistically reflected in the training of PE teachers.

Thus, in scientific research, A. Koshur emphasizes the importance of synthesizing knowledge from different branches of science for the formation of the ability of PE teachers to effectively apply modern methods of PE in different socio-cultural conditions (Koshur A. V., 2021). The psychological aspects of the interdisciplinary approach in the preparation of PE teachers are described in the works of O. Sukhomlynska, where it is noted that for the formation of the PE teacher's competence, it is necessary to take into account not only the physical, but also the psychological aspects of interaction with students (Sukhomlynska O., 2008, p. 102). In turn, the

scientist V. Tolochny emphasizes the implementation of an integrated approach that combines knowledge from PE, pedagogy, psychology, and other fields to train specialists who are able to adapt their competencies to the needs of students with different physical abilities (Tolochny V. M., 2012).

Recent research suggests that teachers need to broaden their understanding of areas such as physiology, sports medicine, sports psychology, and pedagogy to effectively integrate physical activity into the general education curriculum. This approach helps create a comprehensive and holistic picture of student health and development.

5. Modern education practices interdisciplinary interaction of the PE teacher. It includes the integration of knowledge from various disciplines, such as medicine, psychology, pedagogy and sociology. Knowledge of anatomy and physiology allows to assess the physical fitness of students and develop safe training programs. Psychological aspects help the teacher motivate students and take into account their individual characteristics. Pedagogical methods contribute to effective teaching and upbringing, and sociological knowledge helps to take into account social factors that affect children. The teacher can cooperate with other specialists, such as doctors and nutritionists, to ensure an integrated approach to learning. Such interaction improves the quality of education, contributes to the comprehensive development of students and the prevention of injuries and diseases.

At the same time, in modern conditions of state-building, the question of interdisciplinary competence arises, because due to comprehensive academic, professional and social mobility, general and professional competences of the future PE teachers cannot be considered as those formed only on the basis of studying professional disciplines. Interdisciplinary connections, especially in the dynamic period of development of social activity, are determined by the undisputed leaders in the ideological ideas of forming the philosophy of training of any specialist, especially if it concerns a future teacher. Interdisciplinary competence is an important component of the professional training of the future PE teachers, contributing to the effective and comprehensive development of students and improving the quality of education.

The interdisciplinary knowledge acquired by students allows the FT to apply effective methods of teaching, educating and assessing the achievements of GSEI applicants in the process of PT. Understanding the social factors that influence the behavior and development of students allows the FT to take these aspects into account when organizing the educational process.

6. The issues of professional mobility of future teachers are relevant, which serves to increase their competitiveness in the labor market (Denysenko N. H., 2021; Ridkodubskaja H. A., 2017; Sokolova S. V., 2017). Professional mobility implies the readiness of a specialist to adapt to changes in the educational environment, mastering new roles and functions, which is especially important in the context of educational reform and increasing demands on teachers.

In the process of training of future PE teachers, not only theoretical knowledge, but also practical skills that contribute to the development of professional mobility as a component of their CC play a significant role (Sokolova S. V., 2017). According to scientific research, professional mobility is "... a key condition for the successful adaptation of FT to various changes in the requirements for their professional activities, especially in the context of globalization and the rapid development of information and communication technologies..." (Denysenko N. H., 2021, p. 29). The use of synergistic approaches in the formation of readiness for professional mobility allows integrating various aspects of pedagogical activity, creating conditions for the effective implementation of educational tasks in various socio-cultural contexts (Ridkodubskaja H. A., 2017, p. 97).

Thus, the formation of professional mobility in the future PE teachers is a necessary stage of their professional training, which includes the development of not only theoretical knowledge, but also the ability to flexibly adapt in conditions of constant change. Professional mobility of the future PE teachers allows to work effectively with different categories of students, as well as implement a differentiated approach to learning. In this context, it is important to note that this process is multi-component and involves the integration of theoretical approaches that ensure successful adaptation to new operating conditions. In particular, increasing the level of

professional mobility contributes to the formation of not only the CC, but also the ability to solve complex professional tasks.

This requires constant improvement of knowledge and skills through the introduction of specialization in the field of sports management, coaching activities, and organization of sports and recreation events (On approval of the list of fields of knowledge, 2015). Such specialization allows future PE teachers to realize themselves as universal specialists in the field of PE.

7. The integration of health-preserving aspects into teacher training is another important element of modern education (Pshenychna N. S., & Rastorhuyeva I. S., 2019). The focus on the formation of health-preserving skills in students is significant, since modern pedagogical reforms focus on ensuring a healthy lifestyle not only for students, but also for teachers. In this context, the development of new approaches to curricula that include a valeological component contributes to the formation of students' ability to prevent bad habits and develop physical activity based on the principles of a healthy lifestyle. Scientists N. V. Danylenko ta R. YU. Batyr (Danylenko N. V., & Batyr R. YU., 2021) emphasize the need to include disciplines that promote a healthy lifestyle and create conditions for the formation of health-preserving skills among students in the educational process of higher education. This allows teachers not only to teach PE, but also to be leaders of a healthy lifestyle among young people.

8. The modern process of training of future PE teachers is focused on the comprehensive development of education seekers, which includes theoretical training, the formation of practical skills, the use of the latest technologies and innovative teaching methods. This allows for the training of qualified teachers who are ready to work in a constantly changing socio-cultural environment. Modern trends in the training of PE teachers reflect a comprehensive approach to solving problems related to the training of specialists who are able to work effectively in conditions of rapid social and technological changes. Considerable attention in the educational process is paid to the competency-based approach, which is the basis of the modern model of education. According to this model, the training of future PE teachers involves not only

the acquisition of knowledge, but also the development of professional skills and abilities that can ensure the effective performance of professional activities in various conditions. In particular, the formation of pedagogical competencies is an important component of the process of their training, as it contributes to the development of professional abilities, such as the ability to organize PE classes, motivate students to participate in sports activities, and ensure psycho-emotional comfort in the learning process (V'yala O. M., 2019).

The competency-based approach determines the orientation towards the formation of practical skills and abilities that are necessary for FT. It is aimed at the development of both students' physical skills and general competencies (focus on self-development; education of discipline, responsibility; adherence to ethical norms, etc.) in this field. It is the competency qualities acquired by future specialists in higher education institutions that allow them to take into account the individual characteristics of schoolchildren when conducting classes independently (for the maximum development of their physical potential); stimulate students to independent physical activity outside of lessons; create conditions for them to feel pleasure from PE, which contributes to greater motivation to play sports; form an idea of an active and healthy lifestyle, etc.

9. Special attention is also paid to the development of psychological and pedagogical competencies of PE teachers. FT must organize not only the educational process, but also be able to build effective communication with students, taking into account their psychological characteristics and emotional state. The development of emotional intelligence of the future PE teachers is an important element in their future PA, as it contributes to the formation of a favorable atmosphere for the formation and development of each personality (Vas'kov Yu. V., 2006). Knowledge of the psychological aspects of motivation, personality development and group dynamics helps the teachers of higher education institutions to effectively interact with students, maintain motivation and take into account individual characteristics.

Thus, the PT of future PE teachers is currently focused on the development of professional competencies, which allows teachers to effectively respond to changes in

society and in educational systems. A special place in the structure of the PE is held by the formation of the CC, which is one of the conditions for productive pedagogical interaction, the establishment of effective cooperation with students, parents and colleagues. The modern education system requires from the future PE teachers not only a high level of physical training, but also deep knowledge in the field of psychological and pedagogical activity, the ability to apply the latest technologies, as well as readiness to work with various categories of students, including children with special educational needs. As an integral component of professionalism, the CC ensures the effective transfer of information, supports a positive microclimate in the student group and contributes to the formation of mutual respect and trust in the educational environment.

10. Modern trends in the training of future specialists include the introduction of virtual reality in the training of future PE teachers, which aims to improve the quality of education by providing teachers with innovative tools for continuous professional development and skill improvement, which ultimately leads to improved learning outcomes for students.

Virtual reality technology has been studied by many scientists. It was K. Dede (Dede C., 2009) who first pointed out the important role of immersive interfaces for the educational process. Later, scientists L. Dieker et al. analyzed the implementation of project activities, their impact on the qualitative characteristics of the educational process, in particular through the development and implementation of simulation methods in the implementation of virtual activities (Dieker L., Hynes M., Hughe C., & Smith E., 2008). The goal of a realistic virtual environment was to "...provide physical, emotional and social interaction similar to those which teachers encounter in reality..." (Dieker L., Hynes M., Hughe C., & Smith E., 2008, p. 5).

The use of virtual reality in teacher education has been highly praised for its potential to create interactive, safe environments where future and current teachers can practice and improve their practical skills. Such opportunities allow for the development of classroom management situations, the implementation of innovative methods, and the provision of immediate feedback, which is important for teachers'

readiness for their future profession and their confidence in their abilities (Straub C., Dieker L., Hynes M., & Hughes C., 2014, p. 53).

Modern scientists N. Tatsenko (Tatsenko N. V., 2009), V. Klymnyuk (Klymnyuk V. Ye., 2018), M. Palchynska (Palchynska M. V., 2015) and others, analyzing the results of the implementation of virtual reality, determine that this technology is most often used to develop procedural knowledge and implement planned results. At the same time, the effectiveness of a given technology was measured mostly by teachers' self-reports.

11. The next trend is determined by the implementation of the ideas of personalization of education within the framework of PE. According to the scientist N. Daniels, "... development is correlated with learning, which is the impetus for developing one's own vision, that is, the concept of the "zone of proximal development..." (Daniels H., 2002, p. 198). At the same time, the scientist emphasized the dynamism of the environment, determining that the social environment is an important tool in the educational process, and the teacher's task is to effectively manage this tool. The scientist paid special attention to the creative development of the individual, believing that such an environment should be characterized by a high level of uncertainty and a large number of opportunities that can be created by adults for the younger generation. The uncertainty of the environment encourages students to look for new ways to solve problems and new guidelines, instead of using ready-made solutions.

The following scientists whose ideas formed the basis of personalized education were:

- B. Bloom (Bloom B. S., Engelhart M. D., Furst E. J., Hill W. H., & Krathwohl D. R., 1956) in his work "Taxonomy of Educational Objectives: The Classification of Educational Goals", the author classifies educational goals according to three nomenclature structures: cognitive, affective (emotional), and psychomotor (motor), where the cognitive structure includes six levels: knowledge, understanding, application, analysis, synthesis, and evaluation.

The scientist J. Dewey (1938) introduced the concept of active learning, where students take an active part in the learning process, which contributes to the personalization of learning. The scientist G. Gardner (1983) emphasizes the diversity of intelligence in students is a key aspect for a personalized approach to learning. However, we agree with the scientific position of R. Zhog, who emphasizes that "...personalization is the process of personifying learning, giving it the properties of a specific person, their needs and capabilities, creating an educational process for each specific individual. The main characteristics of personalization can be called the ability to manage one's activities, the manifestation of individuality, influencing other people, building one's own educational path..." (Zhog R. A., 2021, p. 169).

Analyzing the current position regarding the implementation of personalization of education, we determine its main features:

- involving students in defining personal goals in physical development and sports activities, which contributes to the development of their motivation (Ishchenko O. S., 2016; Kyrlyuk A. O., 2020);
- using students favorite sports and physical activities in the educational process to encourage them to actively participate during the lesson (Ivanova K. I., 2022; Masenko L. V., Lytovchenko M. S., & Mel'nychenko O. S., 2024);
- defining different levels of difficulty of exercises to allow the student to work at their own level and gradually improve their own results (Karpa I., Fedyuk A., & Shanta I., 2023).

Therefore, this general trend, in our opinion, allows each student to develop at their own pace and receive maximum benefit from PE and sports activities, increasing the overall level of physical fitness and well-being.

12. The following educational trend determines the implementation of the main ideas of resilience during the PT of future PE teachers. Nowadays, the modern realities of life, which consist of continuous stress, will not allow working without a formed high level of resilience. This applies to both FT and children. That is why we will consider the development of resilience as one of the modern challenges, without which the functioning and socialization of any individual in the conditions of Ukrainian

reality is impossible. At the psychological and behavioral levels, sports are useful for overcoming stress for both future teachers and students, because it:

- ensures structure and consistency in the performance of professional tasks (Tsybulina I. Yu., 2019);
- increases the ability to control the situation, which is important for reducing stress reactions (Zhalat-Lozyns'ka L. O., 2025);
- strengthens self-esteem and self-confidence (Fedorchuk V. M., Komarnits'ka L. M., & Storozhuk N. R., 2023, p. 112–113).

In the conditions of the PT of future PE teachers, the development of resilience as a psychological ability of an individual to maintain emotional balance, adapt to changes and effectively interact in stressful pedagogical situations is of particular importance. This component is a significant factor in the formation of the CC, since "... pedagogical activity involves constant interaction with various subjects of the educational process, which is often accompanied by psychological stress..." (Bekh I. D., 2001, p. 21).

Physical exercises, as a component of the PA of a PE teacher, have not only health-improving, but also psychotherapeutic potential. As evidenced by the studies of I. Tsybulina, systematic motor activity contributes to the development of adaptive behavioral strategies, reducing anxiety and increasing psychological stability (Tsybulina I. Yu., 2019, p. 157). According to the scientist L. Sushchenko, the formation of this personal resource (resilience) contributes to the growth of overall professional readiness, provides pedagogical endurance and increases the effectiveness of communication in a dynamic educational environment (Sushchenko L. P., 2020, p. 113). Thus, the development of resilience of the PE teacher is a key factor in the formation of professional stability and the successful implementation of pedagogical interaction.

Nowadays, resilience defines a person's ability to develop, adapt, and maintain stability in difficult situations. The first studies on this topic began in the field of child psychology and psychiatry in the 1970s. Scientists began to pay attention to the phenomenon of resilience in children who were at risk of developing disorders and

psychopathologies due to adverse genetic or environmental influences. Initially, the ability to withstand stress was considered an innate quality or "psychological armor". However, later, attention shifted to human adaptive systems, which, when functioning normally, contribute to development even in conditions of difficulties and crises (Lazos H. P., 2018; Mel'nychuk I. YA., 2024).

At the same time, we note that the term "stress" was introduced earlier in physiology by G. Selye (1955) to denote a nonspecific reaction of the body to adverse influences. Later, this term began to be used to describe the human condition in extreme conditions at the physiological, biochemical, psychological and behavioral levels (Selye H., 1955). However, modern scientific research characterizes resilience as a variable process that involves successful adaptation to negative environmental conditions. This characteristic is an important factor for evolution and adaptive changes, forming the basis for the development of regulatory mechanisms. According to L. Muzychko, "...personality traits associated with resilience create the basis for the development of adaptive processes..." (Muzychko L., 2023, p. 29). The development of resilience is important for maintaining mental health and a successful transition to adulthood. Research by scientists (Zhalat-Lozyns'ka L. O., 2025; Kuzikova S. & Shcherbak T., 2022; Panchenko T. L., 2023 et al.) on the resilience of the individual reveals an understanding of the factors that contribute to their mental health and adaptation to external conditions.

The concept of resilience has now evolved from being seen as an innate trait to being viewed as a dynamic process that encompasses individual and socio-ecological aspects, emphasizing the importance of sociocultural and systemic conditions that shape social and life resilience. This research explores a wide range of biological and psychosocial protective mechanisms, as well as the effectiveness of resilience-based interventions that promote positive outcomes for children and youth.

In general, future PE teachers should make sure that PE classes bring joy and satisfaction from achieving results. Students gain a goal and motivation, they get rid of hopelessness, passivity, and negative thoughts. However, during stress, physiological changes occur that require time to stabilize the state. It is during this period that PE

classes form a positive psychological state, helping to survive negative emotions without focusing on thoughts that worry and deplete.

Performing physical exercises by students has a direct impact on their psychological state, because they:

- increase self-esteem through regular physical activity and improved body awareness;
- promote a positive attitude from other people;
- increase energy and activity;
- improve performance;
- reduce symptoms of depression and lower anxiety levels;
- improve the ability to effectively manage one's own life;
- activate the production of endorphins in the body, which helps improve mood, reduce stress and eliminate the negative effects of training loads, while simultaneously contributing to the development of resilience (Kuzikova S. & Shcherbak T., 2022, p. 45).

It is physical activity that develops resilience in students, reduces anxiety, and forms a realistic view of themselves. Setting realistic goals helps reduce self-demanding and strengthen stress resistance. In addition, physical activity classes contribute to the development of PE in bachelors by involving them in team interaction and effective communication between students. To combat stress, breathing exercises are recommended, which help to calm down and relieve tension. One of the important aspects that has great potential is the social integration of each person into a social groups and involvement in organized activities. Social integration refers to a sense of acceptance and social interaction with peers. This can manifest itself in the individual's acceptance of the group as an environment that promotes friendly relationships and the desire to maintain these relationships outside of the activity (Liu H., 2024g).

We share the view of scientists who claim that "...long-term participation of youth in organized activities increases the feeling of social integration and reduces the level of depression..." (Ball D. L., & Forzani F. M., 2009, p. 501).

In the process of training the future PE teachers, great attention is paid to the development of leadership qualities, organizational skills and the ability to work in a team, which are necessary prerequisites for the formation of the CC (Tsaryk O., & Krychkivska O., 2024). A significant role is assigned to the formation of professional motivation, which ensures a responsible attitude to future professional activity and positively affects the quality of professional interaction. The use of interactive teaching methods contributes to the active involvement of students in the educational process, increasing their interest and assimilation of the material, as well as the development of skills of effective pedagogical communication. The formation of the ability to professional self-development helps the future PE teachers adapt to new challenges of the labor market, including through the acquisition of the CC. Critical thinking, reflection and empathy are key characteristics of a modern specialist that directly affect the level of their CC. The interaction of higher education institutions with professional communities contributes to the improvement of students' practical training and their further competitiveness, creating conditions for the formation of professional communication skills in interpersonal and social dimensions.

Thus, the implementation of the concepts of resilience and personalization of education are important conditions for improving the quality of PT of future PE teachers, in particular in terms of the formation of their CC.

Therefore, the formation of the CC of the future PE teachers is an important component of the PT, which is oriented towards the implementation of an integrated approach, including ICT in the educational process. This allows significantly improving the quality of interaction between students and teachers, contributing to the formation of effective communication skills, both in education and in future PA. The combination of theoretical foundations with the practical activities of students makes it possible to apply the acquired knowledge to solve cases of the pedagogical process, which is key in the formation of a high level of CC. The formation of the ability to work in an inclusive and socially heterogeneous environment determines the formation of CC, necessary for effective interaction with students of different categories, in particular with special educational needs. An interdisciplinary approach in the

preparation of the future PE teachers allows integrating knowledge from different fields of science (pedagogy, psychology, sociology), which contributes to the formation of CC. An important element in the formation of the CC is the ability to professional mobility, which implies the readiness of the FT to adapt to changing working conditions, in particular in the context of globalization and modernization of educational systems. Integration of health-preserving approaches into pedagogical training allows students to form not only communicative, but also socio-psychological competencies, which is important for an effective educational process. The development of resilience contributes to the formation of psychological stability in students, their successful pedagogical activity, focused on humanistic interaction with the subjects of the educational process.

1.3 National and foreign experience in training physical education teachers in educational institutions

In 2005, Ukraine reformed the higher education system (National Report of Ukraine, 2005), in particular, it introduced a degree system of education: Bachelor, Master and Doctor of Philosophy (PhD), which made it possible to harmonize the Ukrainian education system with European standards, introduce professional and academic mobility of education seekers and scientific and pedagogical workers, and improve the quality of educational programs. At the same time, the 21st century is marked by the fact that the education system of many countries is one of the most important components of the social infrastructure of their state. However, education is currently in a state of crisis, which is manifested in varying degrees of inconsistency with the objective challenges of modern civilization. These inconsistencies encourage us to intensify the process of reforming education on a global scale and cover almost all countries.

Educational reforms are multidimensional and have become an important part of the social policy of modern countries around the world. They involve the creation of new education management bodies, the redistribution of functions between central,

regional and local authorities, the creation of new types of educational institutions, and the modernization of the content and methods of educational work (Ministry of Education and Science of Ukraine, 2005).

The gradual integration of Ukrainian education into the European educational space requires harmonization of the system of training specialists in higher education institutions and updating of the educational process. This provides Ukrainian students with mobility in obtaining educational services, expanding opportunities for internships and training in educational institutions of other countries, and promotes employment in their specialty and obtaining a second higher education.

Taking into account the development of education in European countries, the development and implementation of innovative pedagogical technologies, as well as the global informatization of education and societies as a whole, we will conduct a comprehensive analysis of foreign educational systems in order to identify their positive experience and its further implementation into the national education system.

Studying the experience of PT of future PE teachers of developed foreign countries opens up new opportunities for improving higher education in Ukraine in the context of its adaptation to European educational requirements. Of particular interest are the innovative achievements of countries that demonstrate a high level of training of PE teachers and coaches in various sports in accordance with international standards. These countries have rich historical traditions of education, which contributes to their leading role in science and education at the regional and global levels, and have also accumulated significant experience in professional training of future PE teachers in modern socio-cultural conditions.

Current trends in the professional training of PE specialists in the EU countries (the Union of 28 member states) are aimed at establishing common institutions, which have been transferred some of the sovereign powers regarding democratic decision-making on specific issues at the European level (Ivannii I., 2019; Josefsson T., Ivarsson A., Lindwal M., 2017). However, in describing the PT of the future PE teachers in the countries of the European Union (Western and Central Europe), countries such as the United Kingdom, Italy, Spain, Germany and Finland deserve

special attention. The experience of training of future PE teachers in China also deserves special attention.

Thus, the European Network of Sport Sciences in Higher Education Institutions (ENSSHE) was established in 1989 in Luxembourg. Its goal is to promote cooperation between sports higher education institutions within the framework of developing educational programs, training in which would form specialists who would meet the needs of the labor market. The scientist L. Sushchenko describes the structure of the professional development of sports teachers abroad, which is carried out by such structural educational units as "...universities of PE, universities of PE and sports; institutes: PE, physical culture, sports, pedagogical PE; faculties of PE in colleges; technical schools of PE; higher pedagogical schools; instructor courses in mass PE at universities..." (Sushchenko L. P., 2003, p. 54). According to the Moray House School of Education and Sport (Moray House School of Education and Sport, 2025), first-level (bachelor's) higher education students study in one of three main fields of knowledge: sports sciences (physiology, biomechanics), sports pedagogy (physical education, coaching) and social sciences about sports (sports management, sociology of sports).

The training of PE teachers in China is a comprehensive process that includes academic training, practical training, professional development, and compliance with state standards (The State Council, 2022). This process aims to ensure high-quality PE and development among young people, which is essential for maintaining the health of the nation and preserving cultural traditions. (Chen H., & Wu N., 2024; Li Q., & Qin W., 2022; Lu H., 2018; Yan Z., & Tian X., 2018; Yu S., 2017). The main regulatory and legal acts used by state and non-state authorities in China are:

- Education Law of the People's Republic of China (National People's Congress, 1995/2009). This law defines the general principles and structure of the education system in China, describes the rights and responsibilities of students, teachers, educational institutions and the government, and establishes standards and requirements for educational programs and educational institutions;

- Teachers' Law of the People's Republic of China (National People's Congress, 1993/2009). It regulates the rights, obligations and social status of teachers, defines

requirements for their qualifications and professional development, and includes provisions on continuing education and professional development of teachers;

– Law of the People's Republic of China on Higher Education (National People's Congress, 1998/2015). This law outlines the training of FT, specifies the standards for their training in universities and colleges, and describes the processes related to the accreditation and evaluation of educational programs (Ministry of Education of the People's Republic of China, 2001).

In China, future PE teachers generally begin their professional careers with a bachelor's degree at specialized universities and colleges of PE and sports. After obtaining a bachelor's degree, students can continue their studies for a master's degree, where they gain in-depth knowledge in the field of sports science, sports management and teaching methods. Practical training for Chinese students is an important part of their education. Many universities organize special training camps where students receive additional practical training in conducting PE classes (Rebukha L., & Liu H., 2023).

During their bachelor's studies, students undergo at least three internships. At the first stage, they are involved in assistant internships, where students help organize and conduct classes in PE, then, having received permission to undergo internships, they independently conduct PE lessons for a semester or two (it all depends on the university and the training program). In the master's program, students have both assistant and internship internships, which last 1-2 semesters.

Thus, the training of PE teachers in China begins with studying at a university (college), where students receive fundamental knowledge in the field of PE, sports, pedagogy and psychology. Bachelor's and master's degree programs provide both theoretical knowledge and practical skills that are critically important for the formation of competent specialists. Practical training occupies an important place in future PE teachers' education. Students undergo various practices, including observation, assistance, independent teaching, internships. National education standards and regulations provide uniform requirements for curricula and professional competencies of PE teachers.

The specifics of the training of PE teachers of the UK are based on a government document (National Curriculum/Department for Education, 1987/1991–1995). The legislative framework of British higher education is based on the Education Act (UK Government, 1988). The training of PE teachers is carried out in the PE departments of universities and institutes. Bachelor's degree programs usually last three years in England, Northern Ireland and Wales and four years in Scotland. Some programs can be extended by a year to provide students with the opportunity to undergo internships or study abroad.

Currently, the UK is characterized by a two-tier education system. At the first level, PE can be both a main specialty and an additional one, along with philology, history, chemistry, biology, mathematics or music. After completing the first level, graduates receive the qualification "Bachelor", and after the second - "Master", which corresponds to the master's level. Bachelor's programs in the field of PE in most educational institutions cover specialties such as sports training, sports therapy, sports medicine, sports psychology, etc.

The scientific research of V. Naumchuk (Naumchuk V. I., 2002) contains conclusions on the educational standards of the UK, in particular, the emphasis is on the professional training of the future PE teachers, which is characterized by the following features: National Curriculum, which includes 10 academic subjects, including three foundation subjects. In general, the curriculum is broad and balanced, and the distribution of time between subjects is at the discretion of the educational institution. According to the requirements of the standard, 70-75% of the time is allocated to the implementation of the state curriculum. The standard ensures the continuity of education due to the phased structure of courses and regular control of knowledge levels. In addition, the standard indicates the number of sections and their content for each stage of educational activity, and provides opportunities for variable and differentiated learning by allocating core (Core Study Units) and supplementary (Supplementary Units) sections. It also includes means and technologies for assessing educational achievements, determines the mandatory study of one of 19 foreign languages, which are divided into two groups: 1) languages of EU countries; 2)

languages of other states. The priority in the National Curriculum are educational disciplines of the humanitarian direction.

During the training process, students have the opportunity to test in practice the competencies acquired during theoretical training. In the context of this program, tutors are assigned to help them adapt both to the conditions of practice and to the activity itself in the context of social activity or social mobility. English scientists L. Spencer and S. Spencer (Spencer L. M., & Spencer S. M., 1993, p. 45) believe that the preparation of future PE teachers involves a focus on practical knowledge and skills and the ability to think. These components are the basis of the key requirements for the PT of teachers in the UK.

The approach to training PE specialists in Germany is different. The DAAD (Deutscher Akademischer Austauschdienst) association operates effectively here. This German Academic Exchange Service is one of the largest organizations in the world that supports international academic exchange. DAAD was founded in 1925 with the aim of promoting the development of international cooperation in the fields of education, science and culture, which supports both students and universities. Since 2014, DAAD has created an education quality management system in accordance with the internationally recognized DIN EN ISO 9001 standard, which is constantly maintained and developed. The quality management system takes into account the structure and general conditions of DAAD, as well as issues of information security, occupational health and data protection. DAAD actively promotes higher PE programs (provides scholarships, supports inter-university ties and promotes academic mobility of students and scientists).

The training of PE teachers in Germany has its own unique features, which reflect the high standards and requirements for future specialists in this field (Deutsches Institut für Normung, 2015). The bachelor's program usually lasts 6 semesters (3 years). Students study basic disciplines such as anatomy, physiology, biochemistry, fundamentals of medical knowledge, etc. Only during the first year of study do students study a cycle of mandatory disciplines. After the first year, they choose a specialization and courses that match their professional interests. After completing the bachelor's

program, graduates continue their studies in the master's program, which lasts 4 semesters (2 years). The master's program focuses on in-depth study of the chosen specialization and preparing students for research activities. During the master's program, students undergo mandatory three six-month internships that help them gain practical experience in the chosen specialization. They undergo internships in schools, sports clubs, medical institutions, etc., where they gain experience in teaching and coaching, working with different age groups and levels of training (Hancheva K., & Silayev V., 2021, p. 20).

After the first year of study at the first (bachelor's) level of higher education, students have the opportunity to independently choose subjects depending on where they plan to work after graduation. This allows for a more flexible approach to the formation of their own educational trajectory. In addition, the topic of the final qualification work must correspond to the chosen disciplines and must be indicated in the diploma, which is an important selection criterion for future employers. The training of future PE personnel is carried out through professional centers, educational institutes, university branches and pedagogical schools, which provide a high level of training and professional development (Livak P. Ye., 2024).

In the United States of America, the PT of future PE teachers is carried out at the faculties of PE of colleges and universities. According to the studies of T. Dereka (Dereka T., 2016), P. Livak (Livak P. Ye., 2024), D. Safonov (Safonov D. A., 2020), O. Soltyk (Soltyk O. O., 2019), the PT of future PE teachers of the USA is characterized by differentiation and individualization of learning with a personal approach, as well as an in-depth practical orientation of each academic discipline. An important role is played by an interdisciplinary approach, which contributes to the formation of complex competencies of specialists based on the integration of knowledge and skills obtained during the study of different disciplines. Students in the USA, as well as in Germany, have the opportunity to independently determine their educational trajectory, choosing the training load, disciplines from different types of motor activity, as well as forms and methods of organizing classes. During professional training, special attention is paid to the close interaction of theoretical and practical

training. The regulatory and legal field of the future PE teachers training in the USA consists of a comprehensive system of laws, standards and programs that ensure high standards of training and professional development of teachers and includes legislative acts such as:

- U.S. Congress (U.S. Congress, 2015);
- national standards (National Association for Sport and Physical Education, 2014);
- CAEP accreditation, state-level certification requirements, and support from professional organizations such as SHAPE America. (n.d.);
- No Child Left Behind Act (NCLB) (No Child Left Behind Act, 2002).

NCLB regulates the requirements for the training of qualified teachers, including PE teachers, to ensure high standards of education in all schools. The Every Student Succeeds Act (Every Student Succeeds ESSA, 2015) replaced NCLB, focusing on greater autonomy for states to set educational standards and requirements for teachers and supporting the training of highly qualified teachers through grants and professional development programs.

The National Standards for Initial Physical Education Teacher Education (National Association for Sport and Physical Education, 2008) defines a program for preparing FT, including the competencies that should be developed in students in order to effectively teach PE in the future. At the same time, the Council for the Accreditation of Educator Preparation (CAEP) provides accreditation for teacher training programs, including PE (Council for the Accreditation of Educator Preparation, 2013). CAEP accreditation ensures that programs meet high standards of educational quality. Each state sets its own requirements for certification and licensing of PE teachers (Safronov D. A., 2020, p. 313). These requirements include taking certain courses, passing exams, and completing a teaching practice program. For example, New York State requires passing the New York State Teacher Certification Examinations (NYSTCE), as well as completing a certified teacher training program.

Therefore, the preparation of future PE teachers in the USA goes through several main stages, including obtaining appropriate education, completing an internship, and obtaining certification.

In Spain, the regulatory framework for educational activities is determined by sources such as the Ley Orgánica de Educación (LOE), which is the Education Law (Ley Orgánica 2/2006, de 3 de mayo, de Educación., 2006). This Law describes the structure of the education system, starting from primary, secondary and higher education. The Law defines the requirements for teacher training and their professional activity (Ley Orgánica para la Mejora de la Calidad Educativa, 2013). This Law has been amended, new teaching methodologies and standards have been introduced.

The next Law is LOMLOE (Ley Orgánica 2/2020, de 3 de mayo, de Educación., 2020). This legislative act is considered the latest reform of the education system, which further clarifies the requirements for teacher training and their PA. In addition to the Laws, royal decrees are issued in Spain that determine the organization, functioning and structuring of each structural unit. The Royal Decree (Real Decreto 1393/2007) notes the specifics of the organization of formal university education in Spain, defining the structure of the bachelor's and master's programs necessary for teacher training. Another decree (Real Decreto 1834/2008) defines the conditions and requirements for access to the profession of secondary school teacher, in particular the need to obtain a master's degree in pedagogical training (Máster en Formación del Profesorado). In order to obtain a bachelor's degree in PE or sports (Grado en Ciencias de la Actividad Física y del Deporte), you must study for 4 years and take courses in biology, anatomy, physiology, pedagogy, psychology, teaching methods and sports management. After completing the bachelor's degree, many students continue their education at the master's level (Máster). The choice of master's programs may vary depending on the specialization: sports management, coaching, sports rehabilitation, etc. In order to become a secondary school teacher, you need to complete a special master's course in pedagogical training (Máster en Formación del Profesorado), which lasts one year and includes theoretical and practical aspects of teaching. After

completing theoretical training, future teachers undergo internships in schools in Spain (Moseychuk Yu., & Tsybanyuk O., 2022, p. 103).

Thus, in Spain, the system of PT of future PE teachers is based on clearly defined legislative acts that create the foundations for their professional development. At the same time, the practical experience that applicants for the first (bachelor's) and second (master's) levels of higher education receive during their internships in schools is an important component that allows students to apply the knowledge they have gained in the real conditions of their future profession (Zubchenko O. S., 2017). In general, legislative initiatives and academic programs contribute to the formation of highly qualified specialists ready to work in the educational sphere (On the approval of the National Qualifications Framework, 2011).

The training of a PE teacher in Italy is a multi-level process that includes obtaining appropriate education, professional training and certification. In order to become a PE teacher, it is necessary to obtain a bachelor's degree in PE, sports science or a related discipline (Bazylyak N. O., 2023, p. 246). Many universities in Italy offer such programs. The study usually lasts three years and includes theoretical and practical courses. Internship at a bachelor's degree in Italy, especially for students studying in the specialty "Physical Education", can vary depending on the specific university and curriculum. It lasts from one to two semesters. This can be either a continuous period of practice or several shorter periods distributed throughout the academic year. Internship can be carried out in schools, sports clubs or organizations related to PE and sports. Students actively work under the guidance of experienced mentors or supervisors who provide them with feedback and help them put theoretical knowledge into practice.

After obtaining a bachelor's degree, many FT continue their studies in master's programs that offer in-depth competencies and specialization in certain areas of PE. These programs last from one to two years. To be able to work in a school, students undergo pedagogical training, which includes courses in general pedagogy, PE teaching methods, psychology and other disciplines that reveal the specifics of working with children and teenagers. These disciplines are often included in master's programs

or can be separate certified courses. An important stage of the master's degree is an internship in schools or sports clubs. This allows FT to gain practical experience and apply theoretical knowledge in practice. After completing their studies and internship, FT take special exams to obtain certification and a teaching license (Turchyk I., 2014, p. 82). In Italy, there are different educational institutions responsible for certifying teachers, depending on the level and type of educational institution. As in most developed countries, Italian PE teachers constantly update their knowledge and skills by participating in seminars, advanced training courses, and presenting at scientific and practical conferences. This is necessary to maintain a high level of teaching and compliance with modern educational standards (Tyrchyk I. H., 2017, p. 96).

The regulatory framework for the training of PE and sports teachers in Italy covers various aspects, from educational requirements to certification and professional development. Thus, the Italian Constitution (Costituzione della Repubblica Italiana, 1948) guarantees freedom of education and stipulates that the State establishes general educational standards, which include requirements for teacher training. The Law Legge 107/2015, known as "La Buona Scuola" (The Good School), was adopted with the aim of reforming the Italian school system. It contains provisions on the training, recruitment and continuous training of teachers, including PE teachers. The law provides for the creation of professional plans for teachers and establishes criteria for their assessment and certification. Thus, the regulations:

- Legge 59/1997 and Decreto del Presidente della Repubblica 275/1999 establish the autonomy of schools and provide guidance on the organization of educational programs, including the training of PE teachers (Legge 59/1997, 1997; Decreto del Presidente della Repubblica 275/1999, 1999). These acts allow schools to develop their own curricula and professional development programs for teachers;

- Decreto Legislativo 249/2010 regulates the training and certification of teachers in general education schools (Decreto Legislativo 249/2010, 2010). This act establishes requirements for educational programs for teachers, including mandatory pedagogical training and practical internships.;

– Legge 30/2000 – Legge Biagi – relates to the labour market and includes provisions on vocational training and training, including for future PE teachers (Decreto Legislativo 249/2010, 2010). This act supports the continuous professional education and development of teachers.

The Italian National Agency for University Evaluation and Research ANVUR is responsible for the accreditation of university programmes, including PE programmes. In general, Italy, as a member of the European Union, adheres to European standards and recommendations for teacher education and training (Aligning a European Higher, 2006). In addition to the above, the various sports federations in Italy have their own requirements for the training and certification of PE coaches or teachers. These requirements often include specialized courses and certificates. The above-listed legislative acts and regulatory bodies implement high standards for the training of PE teachers in Italy, promoting their professional development and ensuring quality education for students.

Therefore, the preparation of future PE teachers in Italy is carried out in accordance with legislative acts and is a complex process that requires students to acquire both theoretical knowledge and practical skills, and also requires continuous professional development.

In Finland, the regulatory framework governing the training of PE teachers is based on:

1. The Law on Education (Perusopetuslaki, 1998), which has been updated several times, the last significant changes were made in the 2010s. The Law sets out the basic principles and standards for primary and secondary education in Finland. It regulates issues related to educational programmes, curricula and qualification requirements for teachers.

2. The Law on Universities (Opetusja kulttuuriministeriö, 2009), which sets out the basic rules and standards for HEIs, including HEI programmes. This law defines the autonomy of universities in developing curricula and the requirements for academic degrees.

3. The Regulations of the National Board of Education (Opetushallitus, 1991), which was established in 1991. This body is responsible for developing and approving curricula and programs for primary, secondary and higher education. The National Board of Education is also responsible for accrediting educational programs and ensuring the quality of education.

4. Decrees and instructions of the Ministry of Education and Culture of Finland, which issue and detail various requirements for teacher training, including curricula, teaching practice and professional development.

5. The Law on Vocational Education (Ammattikoulutuksen laki, 2017; Opetusja kulttuuriministeriö, 2017), which regulates vocational education and training, including teacher training. It covers curriculum requirements, student assessment and professional development.

The training of PE teachers in Finland is a comprehensive process that combines theoretical knowledge, pedagogical training and practical experience. A bachelor's degree in PE usually lasts 3-4 years. The main disciplines include physiology, anatomy, pedagogy, psychology, PE teaching methods, sports science and other specialized courses. Master's degree programs last 1-2 years and allow students to deepen their knowledge and specialize in specific areas, such as sports science, sports management or adapted PE. In Finland, great attention is paid to the pedagogical training of teachers. PE teachers take courses in general pedagogy, age-specific pedagogy, didactics, psychology, as well as PE teaching methods. Practical pedagogical training includes working with students under the guidance of experienced mentors. Internships are an important part of the training of PE teachers. Students undergo internships in schools, where they have the opportunity to apply their knowledge, organize and conduct PE lessons. After completing their studies, students take exams that assess their theoretical knowledge and practical skills. Obtaining the appropriate certificates confirms their qualifications and gives them the opportunity to teach in schools (Borbych N. V., Denysenko N. H., & Marchuk S. S., 2020).

Therefore, high-quality training of PE teachers in Finland contributes to improving the physical development of young people, which is a key factor in maintaining a healthy lifestyle.

The globalization of educational standards and the introduction of European qualifications frameworks can help countries achieve a high level of teacher training. The internationalization of educational programs contributes to the harmonization of teaching methods and facilitates the mutual recognition of qualifications. This creates the prerequisites for the formation of professional mobility of teachers and students, which contributes to the mutual enrichment of cultures and methods (On the approval of the National Qualifications Framework, 2011).

Teachers who have received quality education and support from the state can better motivate students to achieve high results in sports. In addition, the development of sports culture has a positive impact on social activity, cohesion and mutual understanding in society.

At the same time, each of the European countries, China and the USA described by us has unique sports traditions and methods that can be useful for other countries, including Ukraine. For example, German approaches to developing students' independence in choosing their own workload for each semester, starting from the third, can inspire other countries to implement similar program options. It is important not only to develop their own pedagogical systems, but also to be open to the international exchange of knowledge and experience. Investments in the educational sector and the training of PE teachers create a solid foundation for the development of sports culture and the popularization of physical activity among young people. International cooperation and exchange of data on implemented projects between countries contribute to the improvement of training programs and the increase of the professional level of PE teachers.

Based on the analysis of the training of future PE teachers in different countries, we have compiled a summary table 1.3, which indicates the features of the preparation of future PE teachers.

Table 1.3

**Features of professional training of future physical education teachers in
different countries of the world**

COUNTRY	EDUCATION SYSTEM	DURATION OF FT OF PE TRAINING	FEATURES OF TRAINING
China	Bachelor (4 years) + Master (2 years)	6 years (bachelor + master)	Emphasis on PE, traditional Chinese games and sports. Specialization in sports therapy.
Great Britain	Bachelor (3-4 years) + Master (1-2 years)	4-6 years (bachelor + master)	Inclusion of practical and theoretical aspects of PE. Integration with other disciplines such as biology, psychology.
Germany	Bachelor (3 years) + Master (2 years)	5 years (bachelor + master)	Specialization in sports management, children's football. Involvement in working with different age groups.
USA	Bachelor (4 years) + Master (2 years)	6 years (bachelor + master)	Great attention to physical activity, sports competitions and inclusive PE. Training of specialists for work in schools.
Spain	Bachelor (4 years) + Master (1 years)	5 years (bachelor + master)	Emphasis on the development of physical qualities, sports training and health. Specializations in sports disciplines.
Italy	Bachelor (3 years) + Master (2 years)	5 years (bachelor + master)	Focusing on the development of sports techniques, adapted PE for people with disabilities.
Finland	Bachelor (3 years) + Master (2 years)	5 years (bachelor + master)	Innovative teaching methods, integration of PE with pedagogical strategies. Great attention to the psycho-emotional development of students.
Ukraine	Bachelor (4 years) + Master (1-2 years)	5-6 years (bachelor + master)	The training of PE specialists includes the study of pedagogy, psychology, and sports medicine. The FT training program includes both theoretical courses and practical training for work in schools and sports institutions.

Innovative teaching methods, such as the competency-based approach, the use of ICT, and project-based learning, which are developed in one country, can be successfully adapted and implemented by the Ukrainian education system. This contributes to the global improvement of the quality of education and the health of the younger generation.

The basis for the preparation of future PE teachers in the international educational environment is defined by the following ideas:

- openness (education's ability to self-develop) (Hancheva K., & Silayev V., 2021);
- mobility (activation of all spheres of social life, flexible adaptation to labor market requirements) (Safonov D. A., 2020);
- continuity (lifelong learning) (Ivanii I., 2019);
- proactive development (future orientation) (Soltyk O. O., 2019).

These principles are constantly developing in Ukraine today and reflect a new perspective for achieving the goals of professional training of competitive specialists.

Training of future PE teachers in HEI is one of the priority areas of educational policy in many countries of the world. Improving the content of the PE is carried out taking into account socio-economic changes, the development of science and the latest educational technologies. The national system of training specialists in the field of PE is aimed at the formation of professional, methodological and personal competencies necessary for effective pedagogical activity. In developed countries of the world, considerable attention is paid to the practical component of training, which involves long-term pedagogical practice in educational institutions. This experience requires study, and therefore implementation in the preparation of future PE teachers in HEI of Ukraine.

A feature of foreign training programs is their flexibility and adaptability to the needs of society, which allows them to quickly respond to changes in the educational environment. High efficiency of training is ensured by the introduction of innovative teaching methods, integration of modern technologies and an interdisciplinary approach. A significant role is played by the combination of theoretical training with active forms of PA, which contributes to the acquisition of practical skills. The development of partnerships between educational institutions and sports organizations is an important direction in the professional development of future teachers. This experience deserves to be introduced into the training of PE specialists in Ukraine.

At the same time, in many countries, the training of future PE teachers is based on a competency-based approach, which involves the development of pedagogical, communicative and organizational skills. In particular, the curriculum emphasizes the

formation of the ability to work with different age groups, adapt the educational process to the needs of students and use modern learning technologies. The experience of international educational programs indicates the effectiveness of dual education, which combines classroom learning with active pedagogical activity. An important trend is the training of teachers to work in an inclusive educational environment, which involves mastering the methods of working with children with special educational needs.

Scientific and methodological support of the educational process is being improved by developing modern textbooks, manuals and electronic resources that meet international standards. Universities and pedagogical colleges are introducing programs of continuous professional development, which contributes to improving the qualifications of both teachers and FT and adapting their knowledge to modern requirements. Considerable attention is now being paid to the use of interactive teaching methods in educational institutions of all levels, which allows the formation of professional competencies in conditions close to real pedagogical activity.

Scientific and methodological support of the educational process is being improved by developing modern textbooks, manuals and electronic resources that meet international standards. Universities and pedagogical colleges are introducing programs of continuous professional development, which contributes to improving the qualifications of both teachers and FT and adapting their knowledge to modern requirements. Considerable attention is now being paid to the use of interactive teaching methods in educational institutions of all levels, which allows the formation of professional competencies in conditions close to real pedagogical activity.

Thus, the analysis of world trends allows us to identify effective directions for improving the national system of training of future PE teachers in accordance with modern challenges in the educational sphere. The contribution of each country, including Ukraine, to the training of PE teachers is significant, because the future of our youth depends on it. In general, international cooperation and exchange of experience in the field of training of future PE teachers serves as an important factor in achieving high standards of modern education and health of the nation.

Conclusions to the first chapter

The issue of forming the CC of future PE teachers is becoming particularly relevant in the context of modern challenges, in particular in the context of globalization of education and socio-economic changes. It is known that future PE teachers play a key role in the formation of healthy lifestyle habits among students, which is the basis for ensuring high quality health of the nation. At the same time, the process of their training is characterized by complexity, with an emphasis on the integration of theoretical knowledge and practical skills, which allows them to effectively perform professional duties in a rapidly changing socio-pedagogical environment.

Analysis of scientific approaches to the PT of future PE teachers demonstrates the importance of creating conditions for their comprehensive training, which involves the development of not only physical, but also psychological and social aspects of pedagogical activity. Professionalism in this field requires teachers to have adaptive abilities to new teaching methods, master innovative learning technologies, as well as a high level of communicative and social skills.

Analyzing the theoretical developments of national and foreign scientists, it can be stated that the formation of CC is a multidimensional process that includes both general and specialized pedagogical and communicative skills. A high level of communicative professionalism of future PE teachers is ensured by forming in students the ability to make independent decisions in the teaching process, finding individual approaches to students and using the latest pedagogical technologies.

The main direction of professional training is to ensure the flexibility and ability of teachers to adapt to new requirements and constantly changing realities, in particular through the improvement of pedagogical strategies and tactics. Important aspects are the formation of skills to analyze and evaluate physical, psychological and social processes in student groups, as well as to adapt PE classes in accordance with the individual needs and capabilities of each student.

The modern system of training of future PE teachers is focused on innovative approaches that include elements of personalization of education, expansion of

opportunities for students' self-development and integration of various forms of learning. Training is aimed at ensuring a balance between theoretical knowledge and practical activities, which allows FT to smoothly implement the formed CC into pedagogical practice.

One of the priority areas is the development of the CC, in particular, the ability to organize the educational process taking into account modern requirements for PE, to educate students in the need for regular physical activity and to provide proper motivation to maintain a healthy lifestyle. No less important is the motivation of students for professional development, which contributes to the formation of emotional stability, the ability to self-knowledge and professional self-realization. The formation of the CC in future PE teachers is a key factor in effective pedagogical activity, because it is through effective communication that the teacher contributes to the creation of a positive atmosphere in PE classes, motivating students to be active and have a healthy lifestyle.

The development of the CC of future PE teachers is an important condition for ensuring their professional readiness for effective pedagogical interaction. CC as a component of general competencies contributes to the formation of the ability to cooperate, team interaction, constructive resolution of conflict situations and achievement of common goals in the educational process. The purposeful formation of CC ensures not only the successful professional activity of FT, but also effective support for the personal development of students in a modern educational environment. Successful training of future PE teachers is implemented through the prism of a comprehensive approach, which involves the integration of theoretical, practical and psycho-social components of the educational process.

The relevance of the transformation of the experience of other countries in the context of the formation of the CC of future PE teachers in Ukraine is due to the need to adapt educational practice to new conditions and challenges facing educational systems. Since educational standards and teaching methods in different countries develop depending on the specifics of social, cultural and economic contexts, their consideration in Ukrainian pedagogical practice allows significantly increasing the

effectiveness of FT training. Various international approaches to the development of the CC of future PE teachers contribute to the optimization of the educational process and its adaptation to changing socio-cultural realities.

The reduction of the role of traditional lecture methods and the emphasis on interactive forms of learning allows creating an environment that promotes the development of both general, cognitive, emotional, social, and CC students. An important aspect is that such an approach orients FT to the constant development not only of professional knowledge, but also to the improvement of their own communicative abilities and skills, which has a direct impact on the effectiveness of their pedagogical interaction.

In view of this, it can be argued that the integration of the experience of foreign educational systems that actively use modern methods of developing CC is promising for the development of the national system of training of future PE teachers. In particular, the implementation of such practices allows forming in FT the ability to adapt to new educational realities, the use of the latest technologies in the educational process, as well as the development of a culture of communication, which is an important component of the teaching profession.

It is equally important to take into account the experience of countries where the emphasis is on the development of soft skills in students of pedagogical specialties. This applies in particular to such qualities as empathy, mutual understanding and constructive feedback, which are important for the successful implementation of pedagogical activities in various social contexts.

Therefore, an important step to increase the effectiveness of professional training of future PE teachers is the continuous improvement of training programs, the integration of the latest scientific achievements and practical tools to increase the level of CC of future PE teachers.

The main results of the chapter are reflected in the author's scientific works:

Liu H., 2022; Liu H., 2022a; Liu H., 2023; Liu H., 2024g; Liu H., 2024h; Rebukha L., & Liu H., 2023.

CHAPTER 2

JUSTIFICATION OF THE STRUCTURAL-FUNCTIONAL MODEL AND PEDAGOGICAL CONDITIONS FOR THE FORMATION OF COMMUNICATIVE COMPETENCE IN FUTURE PHYSICAL EDUCATION TEACHERS IN HIGHER EDUCATION INSTITUTIONS

2.1 Features of the formation of communicative competence in future physical education teachers

Analysis of the content of definitions and the structure of the formation of the CC in future PE teachers, which will support the readiness of education seekers for pedagogical activity, in our opinion, includes consideration of the following characteristics: the main strategies for studying the concept of "readiness", "communicative readiness of future PE teachers for the future profession", "communicative competence" and the essential features and main components of the formation of the CC in future PE teachers for PA.

In scientific sources we find a multi-vector explanation of the definitions of "readiness". Most scientists O. Azhypo (Azhypo O. Yu., 2013), P. Atamanchuk ta V. Atamanchuk (Atamanchuk V. P., & Atamanchuk P. S., 2022), M. Baybikov (Baybikov M. V., 2024), P. Dzhuryns'kyi (Dzhuryns'kyi P. B., 2010), B. Dolyns'kyi (Dolyns'kyi, B. T., Bukhovets', B. O., Dyshel', H. O., & Pohorelova, O. O., 2021), L. Sushchenko (Sushchenko L. P., 2003) et al. consider this concept as a qualitative characteristic of the level of individual training, accordingly, referring this definition to the categories of activity and personality theory.

In view of the above, the primary task is to analyze the system of research of the content characteristics of the concepts of "readiness" and "communicative competence of the future PE teachers for PA". In section 1.1, we outlined readiness as a psychological and pedagogical category related to the PA of FT. At the same time, for understanding the content characteristics of the concept of "readiness" and its structure, the works of scientists M. Baybikova (Baybikov M. V., 2024), O. Radionovoyi

(Radionova O. L., 2022), I. Tkachivs'koyi (Tkachivs'ka I. M., 2024) et al., who note that one of the main tasks of higher education is the training of future specialists in higher education institutions, in particular, the communicative readiness of PE students to PA within the framework of the formation of their CC.

To understand the importance of this issue, let's clarify the concept of "readiness" as a personal phenomenon, and reveal its essence and structure. However, it is quite difficult to give a universal definition to the concept of "readiness", since its content largely depends on the specifics of the PA for which the specialist is trained. However, it is undeniable that the process of forming a CC and, accordingly, readiness for PA begins from the first year of study at a higher education institution. It is the presence of communicative training for PA that provides the first stage of successful formation of a CC.

A review of scientific sources (Dutkevych T. V., & Tereshchenko V. A., 2010; Dubasenyuk O. A., 2016; Lisovyy V. A., 2021; Shumilova I., 2017 et al.) allows us to conclude that the problem of readiness for various types of activities, its structure and methods of formation have been the subject of research by many scientists. Let us analyze different strategies for defining the concept of "readiness" in order to determine the definition of "communicative readiness of future PE teachers for the future profession".

Nowadays readiness is considered as:

- a state when "...a person has effectively completed training and is ready to perform the task..." (Vas'ko O., & Kruhova A., 2016, p. 210);
- consent, commitment, or desire/will to do something professionally (Tkachivs'ka I. M., 2024, p. 65);
- experience that helped a person acquire skills, achieve a high level of professional proficiency through prior training..." (Radionova O. L., 2022, p. 278)

In the development of ideas about the essence and content of "readiness" as a personal formation, scientists distinguish several stages. According to the results of research in the scientific works of O. Matvienko, the first stage of studying this phenomenon falls on the end of the 19th - beginning of the 20th century. and is

associated with studies of the human psyche (Matvienko O., 2012, p. 243). It was during this period that the understanding of readiness as an attitude arises in the scientific works of D. Uznadze. The next stage of scientific exploration of the problem of readiness is due to intensive research into neurofunctional systems responsible for the regulation of human behavior (Chopyk T. V., 2012). The third stage of research into the concept of "readiness" was carried out in the context of theoretical and activity concepts (mid-20th century), when psychological readiness began to be considered in the light of the cognitive concept of human activity at the level of psychophysiological mechanisms (needs, motives, attitudes) (Mishchykha L. P., 2010, p. 179).

Considering readiness in the light of functional, personal, personal-activity and consultative-advisory approaches, scientists O. Bessalova (Bessalova O., 2019), T. Dutkevych and V. Tereshchenko (Dutkevych T. V., & Tereshchenko V. A., 2010), O. Dubaseniuk (Dubaseniuk O. A., 2016), V. Lisovyi (Lisovyi V. A., 2021), I. Shumilova (Shumilova I., 2017) focus on the integrative nature of this phenomenon, its relationship with the motivational, cognitive and emotional-volitional components of the personality, as well as on the role of readiness in ensuring successful activity and adaptation of the individual to changing environmental conditions.

Scientist N. Horishna, in accordance with the functional approach, considers "readiness" as a state of "...activation of all psychophysiological systems necessary for the effective implementation of activities..." (Horishna N., 2017, p. 17). Readiness as a complex psychological category, according to researcher V. Stasyuk, includes basic knowledge, skills and abilities, relevant requirements for the implementation of PA, personal qualities and abilities of the individual, as well as cognitive (understanding of professional tasks, assessment of their importance), motivational (interest in the chosen profession, desire to achieve results) and volitional (overcoming internal doubts, the ability to activate one's strengths) components. It includes cognitive, functional and axiological components (Stasyuk V. V., 2014; Stasyuk V. V., 2020).

The next approach is personal, which interpretes the concept as a holistic personal formation, the main goal of which is aimed at the totality of internal subjective aspects of a certain activity, studied in the context of the PT for this activity. And the

last one is the consultative and advisory approach. Its main idea is not in the process of readiness for activity itself, but in the goal of the student of education for the result, in this case - for readiness for effective PA of future PE teachers.

We agree with the scientific position of scientists who define "readiness" as an individual personal formation that includes the thinking activity, consciousness, self-awareness and individual qualities of a future teacher - intellectual, psycho-physiological, etc. - that ensure effective pedagogical activity (Bermudes D., Balashov D., & Rybalko P., 2021, p. 22). These formations in the personality are manifested in the desire for self-disclosure, realization and development of one's own potential and are characterized by updated ideas about the essence of the "I", the peak of personal formation; competence in the sphere of realization of one's own professional potential; realistic self-acceptance and self-development strategies in the pedagogical sphere of activity. They contribute to achieving the highest level of development in various areas of future activity.

Scientist O. Ivanenko defines readiness as "...the ability and desire to carry out a certain activity, the presence of an appropriate system of knowledge, skills, abilities, willpower, as well as professional qualities of the individual". The author notes that the psychological basis of readiness is the ability and desire of specialists to realize their internal professional potential in practice-oriented activities (Ivanenko O. O., 2024, p. 35).

Professional readiness, as a necessary condition for the successful realization of the professional capabilities of each individual, is not only the result, but also the goal of professional development. This emphasizes the dialectical nature of readiness as a quality and state, as well as a dynamic process. Important in this context is the scientific position of L. Rebukha, who notes: "... the process of training is considered as a tool for forming readiness for professional activity, while readiness itself is both the result and the criterion of the quality of this training, which is manifested directly in practical activity" (Rebukha L. Z., 2019, p. 38). The scientist interprets the teacher's professional development as a system of opportunities that ensure the effective implementation of the tasks of the pedagogical process. For this, in her opinion, it is

necessary not only to possess knowledge of pedagogical theory, but also to be able to apply them in a practical plane (Rebukha L. Z., 2019, p. 52). The unity of theoretical and practical readiness for pedagogical activity determines the teacher's pedagogical competence. The scientist identifies the following components of a teacher's readiness for PA:

a) communicative (the ability to recognize the personal characteristics and emotional state of other people, choose appropriate ways of behavior, implement them in interaction, concentrate and attract attention, act in a public situation, establish psychological contact, and possess a culture of speech);

б) informative (the amount of knowledge and the ability to obtain it regarding students, their parents, the experience of other teachers, the scientific and methodological sphere);

в) regulatory (setting goals, planning, personal mobilization and activity to achieve results, evaluation and reflection of activities);

г) intellectual and pedagogical (analysis, synthesis, comparison, generalization, idea generation, imagination, critical thinking);

д) operational (a set of actions for performing professional activities: predictive, design, methodological, organizational, pedagogical skills, improvisation, expert actions) (Rebukha L. Z., 2019, p. 69–81).

Scientists T. Guzhanova and Ye. Panchenko identified structural components of teachers' "readiness" for PA, focusing on the professional functions they perform, and proposed the following functional elements: gnostic, project, constructive, organizational, and communicative (Guzhanova T. S., & Panchenko Ye. S., 2024). Each of the components is meaningful and interdependent.

1. The gnostic component includes actions aimed at studying and accumulating knowledge about the goals of the system, the means of achieving them, the level of development of participants in the pedagogical process, their age and individual psychological characteristics, as well as the analysis of one's own activities, their strengths and weaknesses.

2. The project component involves planning long-term goals and objectives for both students and the teacher.

3. The constructive component involves the selection and structuring of educational material, teaching methods, as well as modeling student activities and future pedagogical work.

4. The organizational component concerns the implementation of pedagogical ideas and the organization of interaction between the teacher and students, the implementation of models of activity and behavior.

5. The communicative component includes establishing effective professional relationships between participants in the pedagogical process, motivating them to work, and providing the opportunity to reach the inner world of students.

Formation of CC in future PE teachers is an important component of PT, since it is this competence that ensures effective interaction with all participants in the educational process. In the context of pedagogical activity, CC is defined as an important aspect for creating a favorable atmosphere for learning and development. According to the results of research by L. Sheludchenko, S. Komarnitsky, Yu. Firman and V. Melnyk, CC includes knowledge, skills and abilities that contribute to the effective transfer of information and mutual understanding between all participants in the pedagogical process (Sheludchenko L. S., Komarnits'kyi S. P., Firman Yu. P., & Mel'nyk V. A., 2024, p. 102).

The scientific research of O. Vas'ko and A. Kruhova analyzes the components of students' readiness for PA, which include not only the ability to organize their own cognitive activity, but also the ability to communicate effectively with others to achieve educational goals (Vas'ko O., & Kruhova A., 2016, p. 207–213). The acquisition by students of the skills of effective application of CC of future PA is especially relevant in modern conditions. This applies to various formats of interaction with colleagues, students and their parents.

Scientists T. Dutkevych and V. Tereshchenko, studying the psychological readiness of teachers for interactive interaction with students, believe that it is an important component of their PA. This readiness is based on the ability of teachers to

adapt in different situations, manage conflicts and respond to the physical, psycho-emotional and socio-psychological needs of students. CC in this context is defined as the integration of cognitive, emotional and behavioral components that allow the teacher to effectively exercise pedagogical influence (Dutkevych T. V., & Tereshchenko V. A., 2010, p. 90–102).

An important component of the process of forming a CC is the teacher's ability to emotional self-organization and self-regulation. Thus, successful pedagogical activity requires the teacher to maintain control over his own emotional states, to react to stressful situations in such a way that emotional reactions contribute to the establishment of a constructive dialogue with students.

The introduction of innovative educational technologies and active learning methods contributes to the creation of a dynamic environment in which the CC is not only formed, but also actively implemented. A special role is played by the development of students' emotional intelligence, the ability to empathically interact and regulate their own emotions in the process of pedagogical communication. Thus, the formation of the CC is an integral part of the PT of future PE teachers and requires targeted influence from teachers, proper methodological support, a combination of theoretical and practical components of the educational process.

Analysis of the PT of future PE teachers allows us to characterize the teaching methods that contribute to the effective formation of their CC. In the process of forming this competence, the most used groups are:

- verbal methods, which include lectures, explanations, conversations, and briefings, which form the skills of reasoned expression of opinion, dialogue, and listening skills (Hula L. V., 2022, p. 133–134). They can be supplemented by electronic learning tools: audio materials, videos, etc., which increase motivation for learning and activate communication as a process;

- visual methods that have a significant impact on the formation of CC. These include demonstration of exercise techniques, illustration of schemes and models, accompanied by explanations that require clear language. At the same time, multimedia presentations, video lectures, virtual excursions expand communication channels and

involve students in analyzing information in visual form. According to V. Hryhorenko, the use of interactive visualizations contributes to better understanding and assimilation of content, which has a direct impact on the quality of pedagogical communication (Hryhorenko V., 2024, p. 183);

- practical methods, in particular training, laboratory and practical classes, outdoor games, create conditions for the application of CC in real and simulated pedagogical situations. Thus, role-playing games are an effective tool for modeling the interaction between a teacher and a student. Scientist N. Belikova emphasizes the essential importance of role-playing games, since they are able to stimulate the speech activity of students, train verbal and non-verbal communication in conditions that are quite close to professional ones (Belikova N. O., 2014, p. 352);

- methods of problem-search nature, including brainstorming, case method, project activity. Their use in the educational process contributes to the development of creative thinking, logical substantiation of one's own position and convincing argumentation. Thanks to them, future PE teachers learn to formulate questions, express evidentiary arguments, and conduct discussions;

- the project method serves as a significant way to achieve a didactic goal through detailed development of the problem, which ends with a noticeable practical result. The scientist L. Hula, analyzing the methods of activating learning, considers the project method to be one of the active-action methods of learning (Hula L.V., 2022, p. 134). Agreeing with the opinion expressed, we believe that this method is an effective way to form the CC in future PE teachers due to its orientation to practical interaction and collective solution of professionally significant professional challenges. In the process of implementing projects, students develop skills in communication planning, public speaking, arguing their own position and constructive dialogue. The use of the project method contributes to the formation of readiness for interpersonal interaction during the PT;

- the method of creating situations of success in learning performs an important motivational function, forming a positive attitude towards communication and reducing barriers between participants in the educational process. Scientist

V. Hryhorenko believes that such methods are effective in obtaining instant feedback, as they allow for rapid fixation of achievements and support students on the path to the development of CC (Hryhorenko V., 2024, p. 183). The use of success situations contributes to the activation of the student's internal resources, which is especially important for the formation of emotionally stable communicative behavior. In addition, this method stimulates the development of reflection and self-assessment skills, which are necessary components of the CC of future PE teachers;

- control and assessment methods, which are intended not only to test knowledge, but also to assess the level of development of communicative knowledge, skills and abilities. Traditional control methods, in particular, observation of students' communicative activity during practical classes, are a source of qualitative analysis of their readiness for PA (Zabiyako Yu. O., 2013, p. 103);

- self-education methods include independent note-taking, creating mental maps, taking online courses, and participating in professional forums. They contribute to the development of autonomy, critical thinking, and self-reflection in the communicative sphere. These personality qualities, according to S. Kolesnyk, determine the level of readiness of PE students for PA (Kolesnyk R. V., 2022, p. 103).

Scientists O. Danysko and L. Semenovska propose combining traditional methods with active and interactive ones, since it is precisely such interaction, in their opinion, that allows creating a flexible, adaptive educational environment that stimulates the formation of the professional and communicative component of PT (Danysko O., Semenovska L., 2019, p. 43–44). The authors identify groups of teaching methods, the application of which contributes to the targeted formation of key components of students' cognitive abilities.

Table 2.1 provides a generalized description of teaching methods and their specification.

In general, the formation of the CC in future PE teachers is a multidimensional process that requires a combination of various methods. The key conditions for the effectiveness of this process are the integration of classical and innovative methods of educational and cognitive activity, the involvement of students in active interaction,

the creation of situations that develop the communicative component of communication. It is such a comprehensive approach that ensures the training of a competitive specialist capable of professional communication in the conditions of a modern school.

Table 2.1

Methods of forming communicative competence of future physical education teachers (Danysko O., Semenovs'ka L., 2019, p. 43–48)

Methods group	Characteristics	Implementation example
Verbal	Contribute to the formation of verbal communication in the process of direct and indirect interaction.	Lectures, discussions, explanations, instruction, online chats, audio materials, electronic manuals, blogs, forums.
Visual	Provide visual perception of information, contributing to more effective assimilation of content through visual images.	Demonstration of exercises, presentations, video lectures, diagrams, tables, charts, screencasts, virtual tours.
Practical	Form practical skills of communicative interaction in PE and pedagogical activities.	Training, role-playing games, sports competitions, working with computer simulations, training simulators, online games.
Problem-searching	Develop skills in independently solving communicative tasks and contribute to the formation of critical thinking.	Resource analysis, design, brainstorming, case method, web quests, creation of virtual didactic tasks, heuristic conversations.
Control and self-control	Allow to assess the level of development of communicative skills and promote self-reflection.	Testing, online surveys, assessments, automated programs, interactive lectures with formative assessment, webinars.
Self-education	Form the ability for independent communicative self-improvement and mastery of new educational technologies.	Electronic portfolio, mind maps, independent work with sources, participation in online courses, trainings, professional communities, sports clubs, and sections.

An important component of the formation of the CC in future PE teachers is the targeted development of not only verbal, but also non-verbal means of communication, such as facial expressions, gestures, tone of voice, which are important when working with schoolchildren and students with special needs. At the same time, as researchers O. Vas'ko and A. Kruhova note, the communicative skills of FT include the ability to motivate students to actively participate in classes, maintain their interest and provide

an individual approach to their own educational trajectory (Vas'ko O., & Kruhova A., 2016, p. 213). In addition, the process of formation of the CC is significantly influenced by the level of development of socio-psychological and psychological characteristics of the FT. Scientists T. Dutkevych and V. Tereshchenko emphasize the importance of interaction with students on the emotional level, which allows to establish trusting relationships and ensures optimal perception of educational material. On the other hand, the communicative orientation of the FT involves not only the possession of verbal and non-verbal means of communication, but also the ability to adapt methods of educational activity to the individual characteristics of students (Dutkevych T. V., & Tereshchenko V. A., 2010, p. 91.).

One of the important aspects of the formation of CC is the ability of the teacher to reflect. The scientist L. Mishchukha studies the influence of the teacher's self-reflection on his own actions and interaction with students and determines that its high level allows to adjust the behavior and teaching methods in accordance with feedback from students and colleagues. Thus, reflective skills are an important element of the formation of CC of students, as they contribute to the self-improvement of the teacher and increase the effectiveness of future pedagogical activities.

The formation of the CC in future PE teachers is a multidimensional process that includes various aspects of psychological and social preparation, the development of professional and communicative knowledge, skills and abilities. This involves the development of the ability to emotional sensitivity, the ability to establish constructive interaction with others, and the desire to improve one's own professional competence.

According to S. Kolesnyk, the activation of students' communicative activity in extracurricular work contributes to the assimilation of models of effective interpersonal interaction. The practical orientation of the PT involves a combination of theoretical training with pedagogical practice, within which students have the opportunity to test their own communicative strategies (Kolesnyk R. V., 2022, p. 124). Researcher O. Radionova, studying the formation of the CC of FT, notes that the level of CC correlates with the results of the PT of FT (Radionova O. L., 2022).

The process of forming a CC requires individualization of the educational process, taking into account the psycho-physiological, socio-pedagogical characteristics of each applicant. According to the conclusions of O. Otravenko (Otravenko O., 2019), such a direction of the educational process provides conditions for the formation of the ability to express opinions in a reasoned manner, to establish effective dialogue in a professional environment. This, in turn, is an important factor in the readiness of future PE teachers, focused on partner cooperation and personally-oriented communication with students. The content of educational disciplines contains elements aimed at developing the ability to dialogue, the ability to listen, express opinions in a reasoned manner and respond to feedback. An important aspect is the formation of communicative reflection in FT – the ability to analyze one's own communicative behavior. Researchers O. Pitik and G. Hryban emphasize that the development of organizational competence in combination with communicative competence allows achieving high efficiency of pedagogical influence (Pitik O. V., & Hryban H. P., 2024, p. 87).

The formation of the CC of FT is possible under the condition of targeted pedagogical support. In the context of professional self-realization, the CC is one of the key factors of the effectiveness of pedagogical activity, as it ensures not only a high-quality exchange of information, but also the establishment of partnership interaction with participants in the educational process (Bielikova N. O., 2014, p. 351).

CC is useful for the implementation of productive PA, therefore its formation in the FT is of primary importance. In accordance with the above, the scientist O. Sokolenko notes that in modern scientific literature CC is defined as:

- the personal ability of an individual to establish and maintain effective social relationships;
- a set of CC, which include verbal and non-verbal means of communication that are capable of ensuring accurate perception and depiction of reality in various circumstances of interaction. The CC formed in students contributes to the integration of knowledge, verbal and non-verbal personal skills and abilities that arise as a result of socialization and educational activities (Sokolenko O. I., 2018, p. 55).

Scientist Y. Vas'kov supports the previous scientific position, characterizing the CC as one that contains the goals, structure, means and essential features of pedagogical interaction and knowledge in the field of communication; consists of the personal and psychological characteristics of a specialist that contribute to the teacher's awareness of the importance of effective pedagogical communication, while striving for constant improvement and self-development in this area (serves as a communicative orientation), centering on the individual as the main value (humanistic perspective), as well as the ability to take an innovative and non-traditional approach to solving communicative tasks that arise in the process of pedagogical interaction. (Vas'kov Yu. V., 2006, p. 43).

Currently, there are several approaches to defining the structure of communication skills. For example, the scientist A. Mariychyn focuses on the cognitive aspect of this phenomenon, that is, on the knowledge and abilities necessary for effective communication (Mariychyn A., 2021); K. Petryk in his scientific works describes the structure, determining that a feature of the CC is that its structure is often carried out through involvement in communicative skills (Petryk K. Ю., 2021). In addition to knowledge, skills and abilities, important personal traits are distinguished, especially of a social-perceptive nature. The scientific position of I. Androschuk is that she considers CC as a separate component of professional competence and contains special knowledge, skills, abilities and means of carrying out professional activities (Androschuk I., 2022).

A comprehensive description of the structure of the CC was carried out by scientists L. Sheludchenko, S. Komarnitsky, Yu. Firman, V. Melnyk, who identified the following components: communicative-diagnostic, communicative-prognostic, communicative-programming and communicative-organizational. In addition, these scientists identified seven groups of communicative skills: speech, socio-psychological, psychological, the ability to adhere to the norms of speech etiquette, the use of non-verbal means of communication, interaction in various forms of organizational-communicative activity, in particular in a political context, the ability

to communicate effectively in a dialogue format (Sheludchenko L. P., Komarnits'kyi P. P., Firman YU. P., & Mel'nyk V. A., 2024, p. 103).

Scientist D. McClelland, in his own research on communicative learning, identifies blocks that can be correlated with key elements of communicative competence. He focuses on certain components:

- the cognitive component, which constitutes knowledge and fully encompasses the understanding of the basic laws of communication;
- the psychomotor component, which involves a person's ability to correctly construct and competently use statements with the support of eye contact;
- the affective component, which is associated with the person's attitude to the learning process, acquired knowledge, skills and abilities (McClelland D. C., 1973).

Ensuring effective communication in the educational process contributes to the preservation of physical and mental health of all participants in the educational environment (Radionova O. L., 2022, p. 281). The ability to transmit information that forms a culture of health among students is one of the priorities of the PT of future PE teachers. Effective communicative interaction is based on the principles of a safe educational space, where psycho-emotional tension is excluded. We agree with the opinion of scientist O. Radionova, who believes that the communicative actions of the teacher, oriented towards health preservation, create a favorable moral and psychological climate in the team and activate students' motivation for physical activity (Radionova O. L., 2022, p. 282).

The development of this type of communication is an important stage in the professional development of the future PE teachers, as it demonstrates the ability to provide a safe and supportive educational environment. The health-preserving vector of the CC reflects the humanistic orientation of the PT of teachers and has a positive impact on the formation of a value-based attitude towards health in the educational process (Pitik O.V., & Hryban H.P., 2024, p. 89).

Thus, the analysis of the definition of "readiness" showed that the key concepts in the structure of the readiness of higher education students for PA are "communicative readiness of future PE teachers for the future profession" and

"communicative competence of future PE teachers", which covers a number of components for the formation of the CC of students. The content of the CC by Ukrainian and foreign scientists is reflected in Table. 2.2.

Based on the above and according to our belief, the formation of the CC in future PE teachers is a process that includes stimulating, cognitive, organizational-communicative and health-preserving components. Analysis of scientific sources has shown that the process of forming the CC in future PE teachers is a key factor in effectiveness of their PA, since the ability to constructive pedagogical communication determines the level of interaction with students, parents and colleagues. A high level of CC contributes not only to increasing the motivation of students to study PE, but also to creating a favorable socio-psychological climate in the lessons, which optimizes the educational process. The scientific research we have worked out and our own pedagogical experience allow us to state that the formation of the CC in future PE teachers serves as a complex process that includes several stages, among which we have distinguished stimulating, cognitive, organizational-communicative and health-preserving.

Given the modern requirements for the training of pedagogical workers for the GSEI, the CC of future PE teachers is considered as a holistic process aimed at the development of key competencies that ensure the effective performance of professional functions in the field of PE. In particular, the formation of the CC is of particular importance, which is a necessary condition for the effective interaction of the teacher with students, colleagues and parents, as well as the effective implementation of educational work. The CC of future PE teachers is formed within the framework of a specially organized educational process, in which a combination of theoretical knowledge, practical skills and interpersonal and professional communication skills is carried out.

The formation of the CC of future PE teachers is made possible by the systematic implementation of the psychological and pedagogical principles of the PT: the development of cognitive motivation, interest in pedagogical activity, as well as the creation of conditions for independent activity of students, active use of digital

Table 2.2

**Characteristics of the formation of the main components of
communicative competence in future specialists by Ukrainian and foreign
scientists**

Scientists who researched the problems of forming communicative competence of future specialists	Main characteristics of the components of communicative competence	Formation of key elements of communicative competence
O. Sokolenko (Sokolenko O. I., 2018)	General characteristics of the CC: ability to establish contacts, verbal and non-verbal communication	Knowledge, skills, abilities formed during socialization, training, upbringing; adequate reflection of reality
Yu. Vas'kov (Vas'kov Yu. V., 2006)	CC in pedagogical interaction: awareness, process technology, individual psychological traits of a specialist	Communicative knowledge, skills and abilities, communication orientation, humanistic perspective, creative approach.
A. Mariychyn (Mariychyn A., 2021)	Cognitive approach to CC: knowledge and skills needed for effective communication	Knowledge and skills for effective communication
K. Petryk (Petryk K. Yu., 2021)	The structure of the CC involving communication skills	Focus on communication skills as a central component of the CC structure
Yu. Sydorenko & O. Koval' (Sydorenko Yu. A., & Koval' O. M., 2020)	Personal and competency-based approach	Knowledge, skills, abilities, social-perceptive personality traits
I. Androshchuk (Androshchuk I., 2022)	Professional and competency-based approach	CC as a separate component of professional competence along with activity
I. Zaytseva (Zaytseva I. V., 2021)	Level structure of the CC	Strategic level (communication orientation), tactical level (rules for organizing communication), technical level (communication skills)
L. Sheludchenko, S. Komarnits'kyy, Yu. Firman, V. Mel'nyk (Sheludchenko L. R., Komarnits'kyy R. P., Firman Yu. P., & Mel'nyk V. A., 2024)	Functional-component approach	Diagnostic, prognostic, programming, organizational components; seven groups of communication skills
D. McClelland (McClelland, D. C., 1973)	Component approach to CC (foreign experience)	Cognitive, psychomotor, affective components

technologies and reflection of pedagogical experience. The involvement of education seekers in a communicatively saturated environment, participation in trainings, role-playing games, and stimulating exercises contributes to the consolidation of acquired skills and the formation of readiness for interaction in the future PA.

A key factor in this process is pedagogical design, which allows not only to plan the goals and objectives of professional growth, but also to improve the individual trajectory of the development of communicative qualities. It is especially important that in the process of training of future PE teachers, the specificity of the subject is taken into account, which involves close interaction with students in conditions of a high level of motor activity (Liu H., 2024b). This, in turn, requires the teacher to quickly adapt his own communicative strategies to a specific educational environment.

Therefore, the involvement of the future PE teachers in communicatively oriented forms of PA at the stage of training in higher education institutions is a necessary condition for the formation of their readiness to resolve conflict situations and implement pedagogical dialogue. The CC in future PE teachers is formed in the process of systematic assimilation of professional knowledge, development of speech skills and practical mastery of aseptic communicative strategies necessary for effective pedagogical interaction. Its presence is an indicator of the formation of the professional maturity of future PE teachers, which is manifested in the ability to provide a dialogical learning environment conducive to the comprehensive development of the personality of schoolchildren. The identified features of the formation of the CC in future PE teachers to PA are an important prerequisite for determining pedagogical conditions and their effective formation in higher education institutions.

2.2 Pedagogical conditions for the formation of communicative competence in future physical education teachers in the process of professional training

Current changes in the modern socio-economic space and the rapid pace of social and scientific and technical transformations have caused significant transformations in all spheres of civil society and have led to interconnection between various fields of

activity and knowledge. At the same time, globalization has significantly influenced the PA, which has ensured the active implementation of the intellectual capabilities of the potential of Ukrainian society, which is constantly expanding; the integration of information technologies into scientific and production activities, stimulating the development of all branches of production and the intellectualization of professional activity; accessibility to information sources, etc. All these attributes of modern civil society and the economy require from the future PE teachers' readiness for the challenges associated with their PA, quickly make professional decisions that lead to high-quality results. Currently, future PE teachers are faced with the tasks of enhanced and intensive mastery of professional skills and abilities and rapid adaptation to an uncertain environment. These requirements are not only in demand in modern conditions of functioning of an educational institution, but also become an important condition for the successful self-realization of future teachers.

Since one of the main factors of the concept of PT of future PE teachers is pedagogical conditions, the interpretation of the concepts of "condition" and "pedagogical condition" becomes important in accordance with the purpose and objectives of our study. The fundamental one in our case is the statement of Z. Kurlyand, who notes that when "...one phenomenon causes another phenomenon, it is a cause; when a phenomenon interacts with another or others in the process of development of the whole to which it belongs, it is a factor; when a phenomenon determines the existence of another, it is a condition..." (Kurlyand Z. N., 2019, p. 30). From a scientific perspective, a condition is considered as "...a philosophical category that reflects the relationship of a phenomenon to the factors due to which it arises and exists..." (Busl V.T., 2005, p. 1022).

Scientist A. Lytvyn determines that there is no consensus on the definition of the concept of "pedagogical condition." It is interpreted in different ways, including such meanings as a necessary circumstance, method, imaginary result, direction, stimulus, etc. (Lytvyn A. V., 2023).

According to the vision of scientists, pedagogical conditions are considered as:

– "...a complex of organizational, methodological and socio-psychological factors that contribute to the formation of personality" and reflects the factors thanks to which the educational process will be carried out more effectively (Bekh I. D., 1996, p. 12);

– a set of "...interdependent factors that are recognized by all participants in pedagogical interaction and are realized in the system of fundamentalization of education during university studies" (Rebukha L., 2018, p. 385).

In the context of our research work, we define "pedagogical conditions" as specially created in accordance with the goals of the PT, which contribute to the formation of the CC of future PE teachers. They include a complex of forms, methods and practical approaches to the implementation of the tasks of the educational process.

In our opinion, the PT of PE students focuses on the awareness of the foundations of the formation of positive motivation in the FT to PA in accordance with the content of education, as well as on motivation as an important factor of future productive PA. This serves as the basis for the acquisition of professional competencies of education seekers, including communicative ones. In the context of our study, special attention is paid to scientific works that contribute to the formation of motivation for educational and cognitive activity and personal understanding of one's own professional identity (Ishchenko, O. S., 2016; Romanyshyna L. M., & Ostrovs'ka, N. D., 2012).

We agree with the scientific position of L. Rebukha regarding her ideas about readiness for professional activity, which is determined by the acquisition of thorough professional knowledge, practice-oriented skills and abilities, which serves as the basis for acquiring a high level of readiness for specialists to perform their professional functions ..." and is an effective sign of the formation of professional competencies in HEI among education seekers (Rebukha L. Z., 2019, p. 327).

Therefore, based on the study of scientific works, we have determined the following pedagogical conditions for conducting research on the formation of CC in future PE teachers:

- designing an educational environment that provides a wide range of opportunities for the development of communicative activity of each future PE teachers;
- implementation of active forms and methods of learning aimed at deepening and systematizing knowledge on the formation of CC in future PE teachers;
- formation of general and professional competencies (including CC) in the context of an interdisciplinary approach to PT of future PE teachers;
- development of organizational-communicative skills and abilities of future PE teachers.

1. To specify the first pedagogical condition (design of the educational environment), there is a need to determine the main definitions of this condition. Thus, design is the process of creating a detailed plan or model that determines how to implement a certain idea or task. In pedagogy, design involves planning and organizing educational activities, programs or courses taking into account the needs and capabilities of education seekers, educational goals and learning conditions. In this context, design, according to the scientific position of B. Bloom, defines goals and forms clear educational outcomes that need to be achieved (Bloom B. S., 1956).

We agree with the scientific position of V. Hrynyova and V. Skrypnikov regarding the inclusion in the design of the educational space of educational topics and teaching methods chosen by the teacher, which fully correspond to the set goal (Hrynyova V. M., & Skrypnikov V., 2024). The analysis of the concept of "design" in the context of organizing the educational process was considered by L. Denysova, who defines this process from the perspective of planning forms of work (classes, seminars, group projects) and methods of their qualitative assessment (Denysova L. V., 2020, p. 276). Design is interpreted in the context of evaluating and correcting the educational process, determining the result obtained within the framework of certain criteria for assessing the success of learning.

In general, design involves the active participation of both parties (teacher and students) in the educational process, which ensures a deeper assimilation of the material. Teachers, for their part, take into account the individual inclinations and

interests of students when developing curricula and direct learning to joint activities, contributing to the development of teamwork skills among students. At the same time, design includes both the organization of group tasks that encourage cooperation and exchange of ideas, and providing each student with the opportunity to form their own educational trajectory, realize their own communicative needs and professional interests, etc.

Proper communicative interaction between the teacher and students creates a positive atmosphere in the learning environment, establishes friendly relations between participants in the educational process, and increases motivation for communication between students. Jointly organized activities allow students to express their opinions and discuss educational material. The teacher, following the basic professional rules of this game in the classroom, gradually becomes a facilitator who supports and directs the educational process towards the formation of CC. Designing educational activities with an emphasis on joint activities ensures more effective knowledge acquisition, since joint activities not only unite, but also provide opportunities for independent choice in learning. It is thanks to the opportunity to choose that students are enabled to develop themselves in accordance with their own professional expectations. At the same time, involving students in active forms of learning, such as seminars and business games, helps to increase their CC. Joint activities help to develop and demonstrate their own critical thinking and analytical skills in the learning process.

The development of social and communicative activity of future PE teachers is relevant in the modern educational space. We share the views of O. Sokolenko regarding social and communicative activity, which is considered by the scientist as a general concept that encompasses socio-political, labor, cognitive, communicative, and other types of activity. According to the scientist, such activity is manifested through involvement in socially useful work, which is motivated by socially significant needs. The social property and, accordingly, its social activity of the individual is developed through successful interaction of the individual with the environment in the process of active cognition and interpersonal communication. Therefore, social and communicative activity is characterized by different levels of communicative

manifestation depending on the relationship established between social obligations and subjective and communicative orientations of the individual (Sokolenko O. I., 2018, p. 147).

We believe that social and communicative activity is characterized by an initiative life, civic and national position, which is embodied in interaction with the environment through social, volitional and communicative efforts of the individual to implement the planned.

In our study, we adhere to the scientific position of L. Stepanenko, who believes that social activity is manifested in PA and reflects the readiness of the individual for social and communicative actions and is aimed at transforming social relationships. That is, it contributes to the mastery of social roles by future specialists, the development of self-esteem and individual qualities and properties (Stepanenko L. V., 2021, p. 22).

Future PE teachers, who demonstrate a high level of social and communicative activity, will serve as a positive example for their students. This contributes to the formation of an active civic position, parity communicative relationships, responsibility and readiness to participate in the life of civil society. Socially active young people (this is the age we are talking about), in whom communicative skills and abilities are properly formed, are able to implement innovative teaching methods in the future PA, which makes PE lessons motivating and interesting for students. At the same time, FT are taught to properly organize and conduct extracurricular activities aimed at attracting children to a healthy lifestyle and sports activities.

Social and communicative activity contributes to the development of leadership qualities in both future PE teachers and students of GHEI, which is an important aspect of the functioning of an effective socio-political system. They learn to take responsibility, organize team work and effectively interact with colleagues, students and parents. A high level of such activity stimulates FT to continuous professional development, participation in seminars, conferences and other forms of professional communication. This contributes to their professional growth and improvement of the quality of the educational process. Socially active future PE teachers are able to

effectively cooperate with public organizations, sports clubs and other institutions. This allows creating broad opportunities for the development of PE and sports in the community, involving children, their families and other stakeholders in this process (Dutchak M. V., 2007, p. 85).

The works of scientists (Byelikova N. O., 2014; Zabiylko YU. O., 2013; Otravenko O., 2019; Yazlovets'ka O. V., 2022) present results, based on which we state that traditional teaching methods are not effective enough for the development of students' social activity, therefore they do not fully provide the necessary level of communicative preparation of FT. From a psychological and pedagogical point of view, social and communicative activity is a complex process that includes the effective transition of future PE teachers from random life observations to a systematic conscious understanding of where, how and in what way it is best to use one's own potential.

Thanks to the PT future PE teachers purposefully move to a systematic awareness of the subject trajectory and the assimilation of the basics of scientific knowledge in professionally important disciplines. In our vision, socio-communicative activity is a state, a position of an individual, characterized by the desire to actively engage in communicative interaction with other individuals for a specific purpose (participation in volunteer projects; participation in university-wide events for the organization and implementation of the planned; participation in competitions or contests, etc.). Analyzing scientific works (Kovtun N. M., 2014; Manuylov Ye. M., 2010; Tovkanets' H. V., & Tovkanets' O. P., 2023) and our own empirical experience, it was found that socio-communicative activity determines the individual-communicative features of future PE teachers in the process of educational activity, and at the same time is one of the defining properties (qualitative characteristics) of the individual. The basis of social and communicative activity is:

- cognitive needs (what kind of action is it, what motivates participation in this action, for what purpose and what result can be expected from everyone who participates);
- interests (what is it, why here and now);

– motives (what participation/refusal to participate can give me).

The study of scientific works (Atamanyuk R., 2021; Dzhuryns'kyi P. B., 2015; Stepanenko L. V., 2021; Sokolenko O. I., 2018; Maslow A. H., 1954 et al.) allows us to clarify the concept of "social and communicative activity of future PE teachers". Thus, "social and communicative activity of future PE teachers" is a qualitative characteristic of the prosocial and communicative orientation of future PE teachers, which is internally determined by their communicative needs, value orientations, strong-willed traits and characteristics, and which is externally manifested during interaction by aspirations to change society and oneself by engaging in relevant activities.

Teachers in the teaching process have the opportunity to create conditions for open communication and exchange of ideas during classes. Joint activities always motivate the development of social activity and civic responsibility in students. Close communicative interaction with teachers allows students to receive feedback and recommendations on the learning process itself, as well as its result. It should be taken into account that the design of educational goals should be flexible and adaptive to the needs and interests of students. The development of communication skills is one of the key aspects of such educational activities. For this, teachers use modern educational technologies to support joint activities and learning. In general, the design of joint activities of a higher education teacher and students is important for the formation of qualified and competitive specialists. The design in education is an important stage that allows ensuring an effective and purposeful process of forming professionals, including qualified future PE teachers.

2. The following pedagogical condition concerns the implementation of a complex of active forms and methods of learning aimed at deepening and systematizing knowledge on the formation of the CC in future PE teachers. The concept of active forms and methods of learning is used to describe methods of knowledge transfer that involve the active participation of students in the educational process in order to increase the effectiveness of knowledge acquisition and skill development. The concept of "active forms and methods of learning" was studied by Ukrainian scientists

Zh. Antipova, O. Hoholeva, G. Hryban, L. Hula, M. Pashchenko O. Pitik, I. Chertov (Pashchenko M., 2016; Hula L. V., 2022; Pitik O. V. & Hryban H. P., 2024; Antipova H. I., Hoholyeva O. M., & Chertov I. I., 2025), who investigated methods of activating educational activities, the role of active participation of students in the educational process, which became the basis for the development of the theory of active learning. V. Hryhorenko, V. Parkhomenko, G. Cherusheva (Hryhorenko V., 2024; Cherusheva H. B., & Parkhomenko V. V., 2024) paid attention to active learning methods, in particular in the context of an activity approach to learning.

At the same time, the American scientist J. Bruner (1960-70s) developed and tested his own concept of "discovery learning" (Bruner J. S., 1960), where he defines the importance of actively involving students in the process of research and independent discovery of new knowledge using active learning methods. In his work "The Process of Education" (Bruner J. S., 1960), scientist J. Bruner emphasizes the value of active learning in the process of developing thinking and understanding.

In modern conditions, the concept of active forms and methods of learning remains relevant and is integrated into educational programs around the world. The scientists J. Hattie, & K. Hattie in their work "10 Steps to Develop Great Learners: Visible Learning for Parents", described the effectiveness of various approaches to learning, including active methods, and proved their impact on improving the quality of education. Currently, active forms and methods of learning include various techniques, such as group projects, role-playing games, discussions, interactive lectures and various types of interactive technologies. They are aimed at involving students of higher education institutions in active discussion and application of knowledge, which contributes to a deeper understanding of the material and the development of critical thinking.

In Ukraine, many scientists have been engaged in the problem of introducing active forms and methods, which contributed to solving the problems of learning and implementing the main educational goal – to provide students with the most effective opportunity to choose their own educational trajectory. Scientists O. Sichkaruk (Sichkaruk O. I., 2006), O. Sokogon (Sokogon O. A., 2023) and others studied the

educational process and its main characteristics, determined the effectiveness of educational influence on PT. At the same time, all of the mentioned scientists concluded that the most effective learning process is built with purposeful interaction formed in students within the framework of their need for cognition. Such interaction occurs through the use of active forms and effective teaching methods. Scientist M. Pashchenko draws attention to the fact that it is active forms and methods of learning that allow students to form fundamental knowledge, skills and abilities by involving them in active and communicative educational and cognitive activities (Pashchenko M., 2020, p. 259).

The use of active forms and methods of learning during the PT of future PE teachers serves as an important condition for ensuring the efficiency and quality of the educational process in HEIs. Future PE teachers' training makes it possible to use interactive methods in the process of conducting lectures and practical classes (for example, asking questions and discussing them; using multimedia presentations and demonstrations of video materials during lessons and their subsequent discussion).

We agree with the balanced scientific position of V. Kishchuk, who believes that it is interactive learning that significantly improves and optimizes the educational process, promotes active and purposeful discussion of a particular topic, supports student participation in debates, which leads to an exchange of views on the implementation of PA (Kishchuk B. M., 2020, p. 118).

We have identified the active learning methods that directly form the CC in future PE teachers as following:

1. Case study. Determines the consideration and analysis of real situations in PE or problems in PE practice, helps to find optimal solutions.

2. Interactive lectures. Provides active interaction between the teacher and students during the lecture session. (Kolesnyk P. V., 2022; Otravenko O. V., & Bryukhovets'ka I. M., 2021). The purpose of interactive lectures is to involve students in an active learning process, increase their motivation and interest in the topic. The peculiarities of organizing and conducting interactive lectures are:

- a clear lecture structure that follows a developed plan with identification of key issues and topics for discussion;
- preparation of multimedia materials (presentations, videos, infographics) that help visualize information and make it more accessible;
- active interaction between the teacher and students, which is determined by the regular involvement of both parties in the discussion of questions posed by the teacher, which stimulate students to reflect and analyze, generate ideas and solve problem situations.

3. Videos with real situations from the practice of PE and sports with their further analysis. To assess knowledge, teachers use short test tasks, conduct surveys to assess students' understanding of the material.

4. Imitation of various pedagogical situations by including future PE teachers in role-playing or simulation games in order to solve various types of pedagogical tasks.

5. Workshops. Allows students to actively participate in the process of forming professional competencies, including CC, by discussing and analyzing specific topics, performing practical tasks, and solving problem situations. Working in small groups contributes to the development of team skills, the ability to cooperate, resolve conflicts, and make collective decisions.

Therefore, active learning methods directly and fully develop the communicative skills of future PE teachers, their empathy, creative thinking, responsibility, the ability to make quick decisions, and the ability to resolve conflicts.

Teachers use the following forms and methods of activating thought processes during lectures:

- online platforms (Poll Everywhere or Google Forms), that help in conducting surveys and getting instant feedback from listeners;
- video clips demonstrating exercise techniques or interviews with famous athletes.

In addition to the above, during the study of professional disciplines with the aim of forming a CC in future PE teachers the following are organized:

- thematic round tables for communication between PE specialists and education seekers (it is especially valuable if the invited guests are famous athletes or coaches, which in turn motivates young people to succeed);
- discussions on current topics in PE and sports, where students can express their opinions and arguments on problematic issues.

Solving specific situations or problems from practice, discussing possible solutions and presenting one's own conclusions are effective for the formation of CC in the process of PT in HEIs. PT results increase when classes are attended by specialists in the field of PE and sports, who share their own experience and answer questions from education seekers.

During the study of the disciplines, "Gymnastics with teaching methods" (5th semester), "Athletics with teaching methods" (5th semester), "Sports games and their teaching methods" (1-6th semesters) (Appendix A), we not only consider the educational material that needs to be mastered, but also explore effective forms and methods of PT in the direction of forming CC in future PE teachers. This approach is aimed at developing creative thinking, high professional and communicative competence and the ability to effectively solve professional tasks. In the process of organizing the educational process for the formation of CC of students, three main factors were taken into account (Ryabovol L. T., 2022).

First, modern education is based on systemic and competency-based approaches, which aim at both the acquisition of theoretical knowledge and the stimulation of the creative potential of future teachers. The problem of activating students' independent cognitive activity becomes a key element of education in modern conditions, where the priority is personal and communicative development of the future specialist.

Second, cognitive activity is now aimed at developing the individual characteristics of each student, their communicative abilities and professional potential.

Third, an important element of the professional development of the future PE teachers is the study of professional disciplines with teaching methods, which ensures the formation of the CC in the process of their training.

Our own teaching experience allows us to note that the most promising active forms and methods of learning can be considered the following:

- problem-based learning, which includes creating problem situations and conducting heuristic conversations;
- organization of subject-subject interaction and effective communication between the teacher and students based on cooperation.

Methodological recommendations for increasing the effectiveness of the educational process when studying professional disciplines are included in Appendix A.

In general, the activation of the educational process of the future PE teachers requires purposeful activity of the teacher, aimed at the development and implementation of innovative forms, methods, techniques and teaching aids that are able to motivate students' interest in professional growth, increase their activity and creativity in solving professional tasks. From a scientific perspective, the search for new forms and methods of PT of FT that stimulate a competency-based approach to solving professional tasks and promote the development of independent activity skills requires systemic changes in the educational process of HEI. In our teaching practice, special attention is paid to forms and methods that contribute to the comparison, generalization, isolation of the main and disclosure of associative relationships that arise in the process of educational activity.

In the course of the research work, we identified and revealed the role and place of active forms and methods of learning in the process of studying professional disciplines. The context of the goal of lectures and practical classes is to form a solid system of professional competencies, including CC, which are gradually complicated and implemented in practice-oriented activities.

The next, third, pedagogical condition involves the implementation of an interdisciplinary approach to the formation of general and professional competencies (including CC) in the context of an interdisciplinary approach to the professional training of future PE teachers. Thanks to the implementation of this condition, both

general and professional (including communicative) competencies from various academic disciplines included in the professional training of PE teachers, such as anatomy, physiology, teaching methods of PE, pedagogy and psychology, are mutually complemented. It is the interdisciplinary approach that contributes to a deep understanding of the role and place of a person's physical activity and forms a holistic vision of the future PA, which allows PE teachers to fully and effectively adapt to the challenges of the modern educational system.

The issue of interdisciplinary integration in pedagogical science was studied by scientists I. Holubyeva ta M. Vasyutkova (Holubyeva I. M. & Vasyukova M. M., 2023), N. Lutsan (Lutsan N., & Struk A. V. 2022) et al. Interdisciplinary integration within the study of academic disciplines has protected the educational process from the consequences of duplication of individual topics from different disciplines.

Interdisciplinary scientific approach began to take shape in the middle of the 20th century in the context of scientific research in pedagogical science. For the first time, research on the interdisciplinary approach began to be actively conducted in the 1970s, when the Swiss scientist J. Piaget proposed the idea of integrating different disciplines in science and education. He was one of the first to emphasize the importance of an interdisciplinary approach, especially in the educational context. His first works on this issue appeared even earlier in the 1950s, where the concept of integrating knowledge from different disciplines was described (Piaget J., 1950).

Scientists researched the issue of integrating different disciplines in the educational process (Kuz'mins'kyy A. I., & Omel'yanenko V. L., 2003); investigated the influence of scientific approaches on integration processes in education and studied the favorableness of the formation of competencies in students under such conditions (Sushchenko L., 2003); discussed ways to develop professional competencies through the integration of educational disciplines (Moseychuk Yu. Yu., 2017). At the same time, all scientists emphasize the importance of an interdisciplinary approach in the acquisition of knowledge and skills that are necessary for the effective performance of pedagogical duties in PA.

The academic discipline "Theory and Methods of Teaching Physical Education in Secondary Educational Institutions" is fundamental in the preparation of future PE teachers, as it determines the methodological and practical aspects of organizing and conducting PE classes. This discipline guides students not only to the use of a system of effective methods and forms of training, it provides a holistic understanding of the importance of PE in the youth health system. The interdisciplinary approach to teaching this discipline is implemented by integrating knowledge from different fields, which allows for a comprehensive formation of the CC in future PE teachers and an understanding of the process of conducting classes with schoolchildren. When planning PE lessons, it is important for the teacher to use his own acquired knowledge related to:

- human anatomy, since knowledge of the muscular and skeletal systems allows the teacher to choose exercises that promote harmonious physical development, as well as avoid excessive strain on certain muscle groups;

- human physiology, as they help adapt physical activity to the level of preparedness of children, ensuring an accessible and effective learning process;

- psychology, as knowledge of the psychological characteristics of children of different ages contributes to the creation of an effective, positively-oriented learning environment. The use of motivational techniques in the lesson, psychological support, as well as the adaptation of teaching methods to individual psychological characteristics increases the effectiveness of PE lessons.

The introduction of an interdisciplinary approach to the education of PE students helps to integrate its capabilities into each academic discipline, combining teaching methods with physical exercises, which, in turn, increases the overall motivation for learning and interest in classes. Integrative knowledge from various disciplines allows students to effectively assess the physical development of schoolchildren in the future, analyze the results of the educational process and make adjustments to improve the quality of PE lessons. Thus, the assessment of students' physical fitness can be based on physiological indicators, such as heart rate or endurance, which the teacher must be able to correctly interpret and take into account when planning classes. Thus, the

discipline "Theory and Methods of Teaching Physical Education in General Educational Institutions" serves as the main platform for implementing an interdisciplinary approach that ensures the formation of complex professional competencies of PE teachers. This allows to effectively adapt the educational process to modern requirements and promote the comprehensive development of students.

The academic discipline "Sports games and methods of their teaching" is an important component of the training of future PE teachers, since thanks to its teaching, many general and professional competencies are formed, including CC. This discipline not only teaches the technique and tactics of various types of sports games, but also considers pedagogical approaches to their teaching. Thus, sports games require teachers to have in-depth knowledge of the anatomical and physiological features of movements characteristic of each sport. The integration of this knowledge and communication skills allows FT to correctly analyze the technique of performing exercises, assess the physical capabilities of children and develop educational tasks in accordance with their level of preparedness.

We agree with the scientifically based opinion of P. Dzhurynsky, who analyzes the possibilities of a modern interdisciplinary approach, determines its features and indicates that traditional PE is aimed at providing PE teachers with knowledge, skills and abilities to solve professional tasks. At the same time, the knowledge obtained by students is not holistic, which leads to low efficiency in solving complex problems that occur in PE (Dzhurynsky P. B., 2015, p. 86).

FT, as graduates of a bachelor's level HEI in the specialty 014.11 Secondary Education (Physical Education), must be able to independently plan lessons, taking into account the physiological characteristics of students' development (in particular, their endurance, strength, coordination and reaction speed) (Classifier of professions, 2010). The combination of knowledge of physiology and methods of teaching sports games allows to create effective training programs that develop the necessary physical qualities of students in each specific sport. Scientists G. Bogdanova, I. Volkova, I. Zaitseva (Bogdanova G. S., 2013; Taranenko I. V., & Kornosenko O. K., 2020, Volkova N. P., 2017; Zaitseva I. V., 2021;) proved the important role of the

psychological aspect in sports games, since the success of students of secondary and higher education depends not only on their physical training. The achievement of success by schoolchildren is made possible by their ability to maintain concentration and attention, withstand stressful situations, work in a team and make quick and correct decisions. The integration of knowledge from the basics of psychology with the methodology of teaching sports games helps FT develop these psychological qualities in young people, which increases their chances of success in sports competitions.

Therefore, studying the discipline "Sports Games and Methods of Their Teaching" using an interdisciplinary approach contributes to the formation of the CC in future PE teachers and creates a comprehensive vision of the pedagogical process. Altogether, it ensures effective teaching and inclusion of students in sports games, which not only develops their physical qualities, but also contributes to their general PE and preparation for an active life in the future.

The last, fourth, pedagogical condition was identified as the development of organizational-communicative skills of future PE teachers. The importance of organizational-communicative skills in PT of FT began to be studied in the middle of the 20th century, when scientists realized the need for a comprehensive approach to the professional training of teachers.

The scientific research on the problem of developing communicative and organizational skills in the structure of professional competencies of future PE teachers stays relevant. Philosopher and theorist of communication M. Buber in his work "Ich und Du" investigated the interaction between people, which later influenced the development of pedagogical science in the context of teachers acquiring CC. American psychologist D. Berlo (Berlo D. K., 1977) is known for his research in the field of communications. His work "The Process of Communication" (1977) became the basis for understanding the importance of communicative skills in professional activities, in particular in pedagogy. American psychologist and educator C. Rogers (Rogers C. R., 1961), in his works emphasized the importance of effective communication and empathy in teaching.

Ukrainian teachers in their works paid significant attention to the issues of forming professional competence of FT, in particular communicative, and substantiated the importance of developing organizational-communicative skills (Ziaziun I. A., 2011); researched problems related to teachers' professional development and emphasized the need to develop communicative skills in them (Kolesnyk R. V., 2022); focused on organizational-communicative skills in the structure of teachers' readiness for pedagogical activity (Huz' M. O., 2022).

At the same time, the development of organizational-communicative skills is an important aspect of the PT of future PE teachers, since such specialists must be able to plan and effectively conduct lessons, sports events, competitions, taking into account the needs and capabilities of students. At the same time, the PT includes the development of effective curricula, time and resource management, and skills in creating a safe and motivating environment for PE classes. In the process of conducting PE classes, FT must demonstrate their own skills in effectively communicating on an equal basis with students, their parents, and colleagues. This is implemented by forming in students the ability to clearly and easily explain the material, motivate students to play sports, and maintain a positive atmosphere in lessons and in the process of communicating with adults.

The PT of future PE teachers includes communicative abilities to cooperate with other teachers, coaches and specialists involved in the organization of sports events. This involves the ability to establish communication, share ideas and jointly solve problems that arise during the educational process. Studying in a higher education institution allows future PE teachers to develop skills in effectively resolving conflict situations (which sometimes arise between students, or between students and a teacher) by means of mediation, which are the basis for conflict-free resolution of various problem situations. This involves students in a higher education institution acquiring the skills of effective aseptic communication, understanding different opinions and finding constructive solutions. It is important to form communicative flexibility in future PE teachers to be able to adapt their own organizational-communicative communication strategies in accordance with the situation. The development of these

skills contributes to an increase of the professional competence of future PE teachers, and to improvement of children's educational outcomes, forming a positive attitude towards PE and sports in general.

The development of organizational-communicative skills during the study of the discipline "Gymnastics with Teaching Methods" plays a key role in the preparation of future PE teachers. Students learn to create curricula for the proper conduct of gymnastics lessons, which take into account the level of physical fitness of students, their age characteristics and educational goals. Therefore, it is important for students to learn the following in the process of PT:

- organize the preparation of a sports hall or area for gymnastics, including the placement of equipment and zoning of space for various activities;
- develop own skills in effectively distributing time in lessons, in particular for different stages of the lesson from the warm-up to the main part and the final block;
- improve skills in clearly and accessibly explaining the technique of performing gymnastic exercises, using clear commands and demonstration;
- to form constructive communicative feedback in classes, which helps to improve communication skills and correct personal mistakes;
- use effective methods of motivation to participate in gymnastics classes, in particular through the use of positive reinforcement and involvement in active learning.

During group training, FT master the skills of organizing group exercises that require coordination of actions between participants. This includes both creating conditions for cooperation with students and resolving conflicts that may arise during classes (for example, causes leading to injuries, violations of discipline, etc.). FT of PE classes are leaders in the process of conducting classes by their professional duties, therefore it is important to develop the ability to coordinate the actions of schoolchildren, ensuring discipline and effective conduct of the lesson. Accordingly, the educational process in higher education institutions is filled with the study of various methods of teaching PE, including modern technologies and scientific approaches to learning, which allow for better assimilation of the material, and the

development of skills in adapting teaching methods to the individual needs and level of preparation of each child.

The role of the discipline "Theory and Methods of Physical Education" in the PT of future PE teachers is undoubtedly important. This discipline is designed to teach students to develop a plan-summary for conducting PE lessons, taking into account different age groups and the level of physical fitness of children. Future PE teachers practice creating structured classes, which develops their organizational skills. Maintaining the norms of the discipline is also designed to teach students the ability to clearly explain the tasks and technique of performing exercises, use motivational strategies and provide constructive feedback, which contributes to the development of CC.

At the same time, the academic discipline "Pedagogy and Psychology of Physical Education" helps students clearly understand the medical and psychological characteristics of children and how these individual properties affect their behavior and the work of FT as a whole (including the choice of personal communication methods and innovative forms of motivation in PE classes). This knowledge is important for the formation of CC, and therefore the development of effective communication skills both in the classroom and outside of it. Classes in this discipline help PE teachers master group management methods and develop organizational skills and the ability to quickly respond to various situations during lessons. Another academic discipline, "Methodology of Teaching Sports Games", allows higher education students to gain experience in organizing teamwork, which is manifested in their organizational skills and leadership qualities. Students, during group work in higher education, learn to coordinate the actions of their group, distribute roles, and maintain discipline. Classes help improve the skills of quick and clear communication during games, which is important for ensuring effective interaction in the group.

While studying the academic discipline "Organization and Conducting Sports and Mass Events", future PE teachers gain practical experience in planning and organizing sports events, which helps to develop their own organizational-communicative skills. Bachelors learn to draw up detailed event plans, distribute

responsibilities and coordinate all aspects of conducting sports and mass events. Such training includes public speaking skills and interaction with a large audience, which has a positive effect on the development of communication skills. The professional discipline "Physical Education of Special Groups" includes knowledge about creating adapted programs for children with special needs, which develops in higher education applicants the ability to communicate effectively and organize classes taking into account the individual characteristics of such students. During classes future PE teachers learn to provide consultations to students and their parents on the physical development of the child, which is an important element of the formation of the physical culture.

Based on the conducted systemic analysis, we present a schematic representation of the pedagogical conditions for the formation of the CC in future PE teachers (Fig. 2.1).

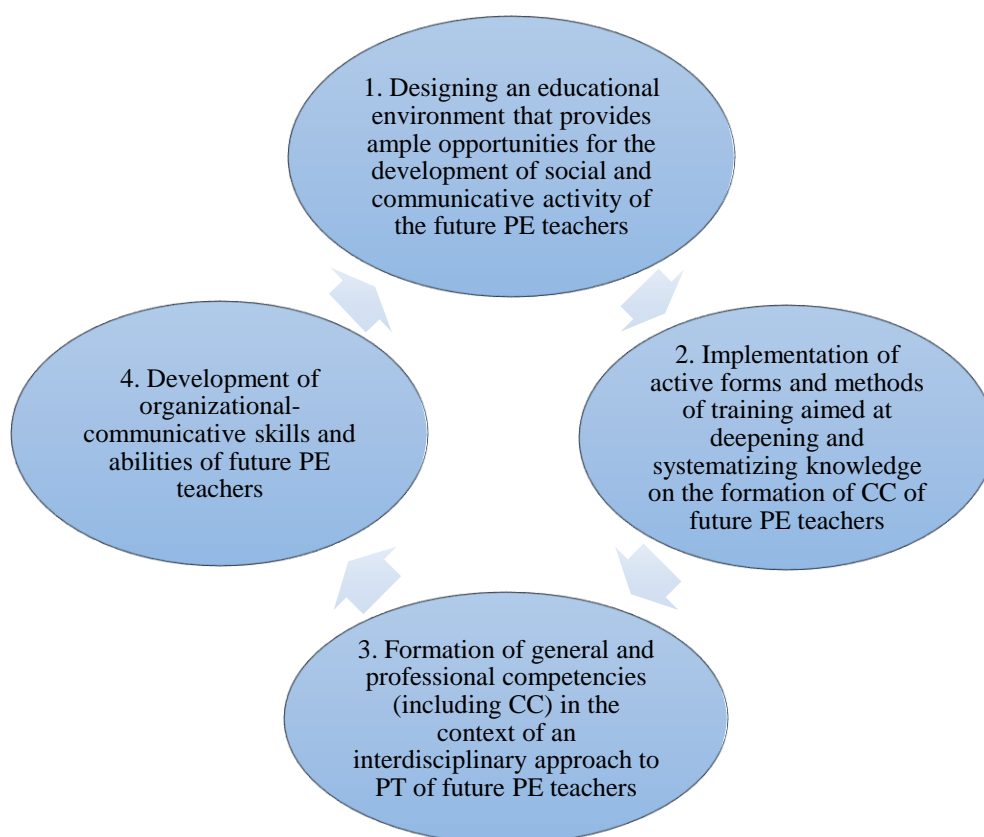


Fig. 2.1 Pedagogical conditions for the formation of communicative competence of future physical education teachers in higher education institutions

Therefore, professional disciplines are an important element of professional training of PE teachers, as they contribute to the formation of CC and help students properly organize and conduct effective classes, be leaders in the learning environment, motivate students to engage in PE, and support them in achieving physical and educational goals.

This approach creates favorable conditions for the development of a high level of CC, which is an important component of the future PA of bachelors of PE. In the conditions of purposeful PT, focused on improving pedagogical interaction, the formation of the ability of future PE teachers to reflectively understand their own communicative activity is ensured. Such a position contributes to the creation of optimal conditions for the formation of a high level of CC as a key factor in their professional success.

2.3 Structural-functional model of the formation of communicative competence in future physical education teachers for professional activity

The structural-functional model of the formation of the CC of future PE teachers in HEI is a theoretical construct that helps a scientist describe the process of the PT of FT to the specialty and takes into account various structural components and their interaction, necessary and sufficient for them to conduct effective PA in the future.

In pedagogical science, a model is considered as a conditional image of an object or process that reproduces the most important properties and relationships for the purpose of further study, design or improvement. As S. Kurakina notes, modeling is a means of scientific analysis and pedagogical construction, which allows to systematically reflect educational processes and predict their effectiveness (Kurakina S. M., 2015). Building a model involves determining structural components, the logic of their interaction and functional purpose.

In the context of the PT of future PE teachers, the formation of the CC requires a holistic, scientifically sound approach to the design of the educational process. In line with the approaches of K. Savchenko, modeling is a methodological tool that allows to

create a model of the pedagogical system and determine its structural elements that contribute to the effective management of the process of forming competencies in students in accordance with the set goals and a specific educational environment.

In our study, we consider modeling as a complex, multifunctional process that combines PA with analysis of educational phenomena focused on the formation of CC. This approach allows us to understand the formation of CC with holistic connections between its elements and ensures the effectiveness of the formation of the specified competence, focusing on the predicted positive result.

The pedagogical model as a research and implementation tool allows us to outline the components of the educational process, determine the logic of their interaction, and analyze the potential results of the formation of the CC in future PE teachers.

The structural-functional model, according to S. Kulchytsky, is an organizational-ordered system that transparently reflects the relationship between the structural elements of the pedagogical process and their direct functioning within the framework of a defined/designed educational goal (Kulchytsky S. I., 2017, p. 105). It allows to maintain the integrity, systematicity and dynamism of the process and contributes to the effective implementation of the set pedagogical tasks. The main characteristics of the structural-functional model are its constituent components. Each of these elements contributes to the proper functioning of the educational process and ensures its compliance with the specified goals. In addition, the structural-functional model performs several key functions, including regulatory, organizational, prognostic and corrective, which allows to effectively manage the pedagogical process, predict its results and adjust, if necessary, during its implementation in the educational process (Ivanova N. O., 2016, p. 115).

The development of a structural and functional model of the formation of the CC in future PE teachers is extremely relevant, since in modern conditions of education it is important to train specialists who are able to effectively implement PE and health technologies into practice. It is this type of model that contributes to the proper implementation of pedagogical conditions that affect the formation of relevant

competencies. Its construction is based on the methodological provisions of the systemic, competency-based, personality-oriented and activity-based approaches, which ensures a holistic and scientifically sound solution to the tasks of the PT.

The systemic approach to the formation of the CC in future PE teachers defines a holistic vision of this process as an open pedagogical system with interconnected components. It allows integrating the content of training, technologies, forms, methods of organizing the educational process and criteria for evaluating results into a single logical structure (Steepanchenko N., 2017, p. 163). Within the framework of a systemic approach, the CC is considered as the result of purposeful activity of all subjects of the educational environment (Stetsenko N. M., 2016). This ensures the consistent formation of both general and knowledge, skills and abilities regarding future professional interactions (Krutsevych T. Yu., 2015). Systematic organization of the pedagogical process contributes to the development of the ability to communicate in interpersonal and socio-cultural contexts. As A. Kovalenko and N. Boyko note, it is the systemic approach that allows avoiding fragmentation in the process of forming professional competencies (Kovalenko A. V., & Boyko N. O., 2019). In this context, it is important to coordinate theoretical training and practical experience, in particular during pedagogical practice. The formation of CC in the context of a systemic approach is implemented through interdisciplinary integration of knowledge, skills and abilities, which meets modern requirements for PT. In addition, this approach allows to take into account the influence of external factors – the social environment, educational policy, the introduction of information technologies.

An important role in the formation of the CC in future PE teachers belongs to the competency approach, since it orients the educational process towards achieving specific results, which are manifested in the ability to communicate effectively (Liu H., 2024a). The competency approach involves the purposeful formation of abilities for interpersonal, pedagogical and public communication in verbal and non-verbal forms (Stetsenko N. M., 2016., p. 191). This approach becomes particularly relevant in the context of the PT of future PE teachers, where communication is the basis for organizing the educational and training process and pedagogical influence. The

competency-based approach contributes to building conscious interaction with others: the ability to listen, argue one's own position, negotiate and constructively resolve conflicts in various life and professional situations (Sukhomlyns'ka O. V., & Luhova V. D., 2019, p. 8). Thanks to this approach, the training of future PE teachers acquires a practical focus and meets the modern requirements of educational standards (Methodological recommendations for the development of higher education standards, 2017).

The personal-oriented approach in the PT of future PE teachers involves the creation of such pedagogical conditions under which the student acts as an active and equal participant in the educational process, striving for self-knowledge, self-development and internal reflection. According to Y. Lukatska, the effectiveness of the formation of the CC largely depends on taking into account the individual characteristics of the personality - cognitive styles, level of social and speech activity, communicative experience (Lukatska Ya., 2021, p. 51.) Scientists A. Melnyk and O. Duda emphasize that the formation of a teacher's professional competence requires taking into account not only the intellectual, but also the emotional potential of the individual (Melnyk A., & Duda O., 2024, p. 271) Scientist N. Stepanchenko emphasizes that it is in the conditions of implementing a personality-oriented approach that students' internal readiness to build constructive relationships in situations of interpersonal interaction is formed (Stepanchenko H., 2017, p. 104). This approach involves creating an atmosphere of trust, dialogue, and mutual respect, which is the basis for the development of open communication. In this process, the teacher does not simply transfer knowledge, but acts as a facilitator and mentor, which stimulates the development of professionally important qualities of the FT.

The activity approach in the formation of the CC in future PE teachers determines the direction of the active participation of students in the educational process, where the core is the development of their ability to independent activity, analysis and practical application of knowledge, skills and abilities. This approach is implemented within the framework of the educational and cognitive activity of students, which is the basis for the formation of communicative knowledge, skills and

abilities and effective interaction with other participants in the educational process, as well as the formation of the ability to organize a constructive dialogue (Havrysh I. V., 2006, p. 22). The activity approach contributes to the formation of CC through the active participation of students in various activities (at lectures, seminars, trainings, practical classes that initiate interaction between the teacher and students) (Kobylyans'ka T., 2018, p. 169). This approach allows to identify individual characteristics of education seekers, in particular in terms of formation of the CC, communication style and readiness for professional communication. It is important that in the context of the activity approach the educational process is not limited only to the transfer of knowledge, but also includes the formation of critical thinking, the ability to analyze situations and effectively respond to professional challenge. (Havrysh I. V., 2006, p. 27).

Thus, the analysis of modern approaches to the PT of future PE teachers shows that the formation of their CC is a priority area and a necessary condition for effective PT. CC is considered as an integrated component of professional and pedagogical competence, which ensures effective pedagogical interaction in the school environment. The content of training, focused on the development of CC, combines psychological and pedagogical, professional and interpersonal knowledge and skills, which are implemented through a multi-level educational system. The formation of CC of future PE teachers involves the development of the ability to effectively interact in the conditions of pedagogical activity, this process requires the integration of theoretical knowledge with practical skills in the field of interpersonal and professional communication.

At the same time, the model takes into account the specifics of the PA of the future PE teachers and integrates theoretical and practical aspects of training specialists. Thanks to this approach, the model ensures the comprehensive development of the future PE teachers, improves the quality of education in this field. The implementation of a structural-functional model allows to create an effective educational environment that meets modern requirements and needs of society. Thus,

the development and implementation of the model is a necessary step to improve the training of specialists in the field of PE.

Based on the above, the structural-functional model of the formation of the CC in future PE teachers represents a holistic system of the PT of future PE teachers in the HEI and consists of strategic, conceptual-methodical and criterion-diagnostic blocks (Fig. 2.2).

1. The strategic block of the structural-functional model contains a social order for teachers of PE; the main goal is to ensure the effective formation of a high level of CC as an integrated professional education, as well as tasks aimed at solving the goal. The outlined tasks for the formation of CC of future PE teachers include:

- formation of the CC in future PE teachers during theoretical preparation for the PA;
- formation of the CC in future PE teachers during operational (practical) preparation for the PA;
- formation of the CC in future PE teachers during psychophysiological preparation for the PA;
- formation of the CC in future PE teachers during physical preparation for the PA.

The strategic block of the model includes scientific and pedagogical principles of the formation of the CC, which are based on objective laws that do not depend on the desire of the person. In the structural-functional model of the formation of the CC in future PE teachers is built on the principles of scientificity, professional orientation, taking into account individual characteristics, variability and innovation, according to which the process of forming the CC of students of higher education institutions is implemented.

a) The principle of scientificity involves taking into account cognitive processes and teaching methods through which the process of forming the CC itself is implemented. It is based on modern scientific knowledge and achievements. This principle requires the use of proven facts, theories and methods that have a scientific basis (Aliluyko M. S., & Havryshchak H. R., 2023).

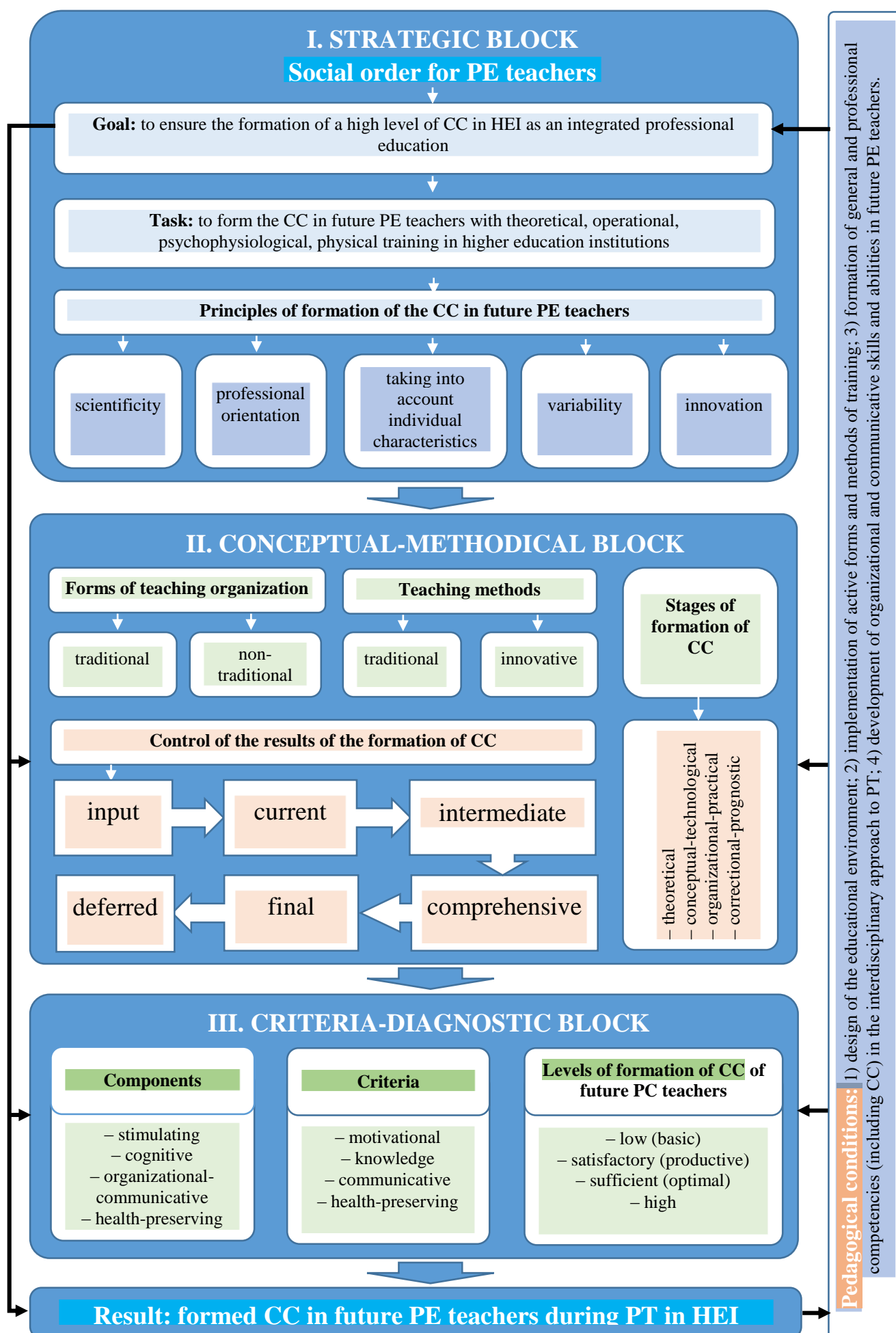


Fig. 2.2 Structural-functional model of the formation of the CC in future PE teachers

At the same time, during the formation of the CC for the PA, this principle ensures the development of critical thinking in students, the ability to analyze and evaluate scientific data, and use scientific methods to solve practical problems. Important aspects of the implementation of this principle in the formation of the CC in future PE teachers are the constant updating of curricula in accordance with the latest scientific discoveries, the involvement of HEIs in scientific research activities, and the integration of scientific knowledge into practice. This principle has health and educational value.

b) The principle of professional orientation focuses on preparing future specialists to perform professional tasks in real conditions (Bohdanova H. p., 2013; Danysko O. V., 2019; Ivanenko O. O., 2024 et al.). It orients the educational process of students towards the development of professional competencies (including CC), as well as the formation of communicative skills and abilities necessary for successful pedagogical activity, being in the role of a teacher of PE. This principle contributes to the inclusion of elements that correspond to the specifics of the future profession in the learning process (such as practical classes, internships, modeling of professional situations, group work, trainings, etc.). This leads to the communicative adaptation of education seekers to the professional environment.

c) The principle of taking into account individual characteristics is aimed at adapting the educational process to the personal characteristics of each student, including their intellectual capabilities, level of preparation, learning style, communication, motivation, interests and other factors. It also involves a differentiated approach to learning, which ensures maximum effectiveness of the educational process for the formation of the CC of each student. To implement this principle, various teaching methods, individual work plans, mentoring, support for the development of personal qualities, and the creation of comfortable conditions for learning are used, taking into account the psychological, physiological and socio-cultural characteristics of each student.

d) The principle of variability and innovation is associated with the direct formation of the CC in future PE teachers with proper PT. The core of the principle

lies in the combination of the flexibility of the educational process with the constant updating of the content, forms and technologies of learning, which creates the basis for the formation of the CC, and therefore the professional readiness of education seekers for PA in the conditions of an educational environment that is constantly changing. This principle has found scientific justification in the studies of Ukrainian scientists, in particular in the works of L. Berezivska. The scientist notes that the principle of variability and innovation is decisive in the modernization of higher pedagogical education and the formation of the professional subjectivity of future specialists (Berezivska L. V., 2015, p. 7).

The implementation of a variable approach in PT involves providing students with the opportunity to choose individual educational trajectories, adapt educational content in accordance with their own needs, interests and level of preparedness. Innovation, as a component of this principle, ensures the updating of the content of training based on modern achievements of science and pedagogical practice, which allows the formation of CC of FT. Such formation is manifested in the communicative abilities of education seekers to implement pedagogical innovations, self-development and reflection (Liu H., 2024f).

Therefore, all the above principles are the basis of effective pedagogical activity, as they contribute to the formation of professionally competent specialists (an integral part of which are communicatively competent specialists), who are able to effectively adapt to changes in the professional environment and continue to grow professionally. The use of described principles of PT of future PE teachers provides higher education applicants with the opportunity to organize their own PA at a high communicative level, using fully health and PE techniques; to provide preventive and developmental communicative influence on students in the process of conducting PE classes; to compensate for the deficit of motor activity in schoolchildren and increase their functional capabilities; to optimize the process of PE at school in order to form, strengthen and preserve the health of each young person.

2. The conceptual-methodological block of the structural and functional model of the formation of the CC in future PE teachers developed by us outlines the content

support for the formation of the CC in the process of studying professional disciplines and the pedagogical conditions for the formation of the CC, technologies, methods and forms of learning. It is represented by external regulators that influence the process of the formation of the CC, and therefore their communicative readiness to perform the functions of PE teacher. These include the pedagogical conditions we have identified, namely:

- designing an educational environment that provides ample opportunities for the development of communicative activity of future PE teachers;
- implementation of active forms and methods of learning aimed at deepening and systematizing knowledge on the formation of CC of future PE teachers;
- formation of general and professional competencies (including CC) in the context of an interdisciplinary approach to the PT of future PE teachers;
- development of organizational-communicative skills of future PE teachers.

During the formation of the CC in future PE teachers (within the framework of introducing pedagogical conditions into the education of students of HEIs), we used both traditional and non-traditional forms of organizing the educational process. We included lectures, practical classes, training and seminar classes, individual consultations, and independent work of students as traditional forms. Non-traditional forms of education included lectures with analysis of professional situations, dual lectures, where two scientific and pedagogical workers simultaneously shared knowledge on the topic of the lecture material, lecture-excursions, lecture-consultations, lecture-quizzes, video presentations on the practical use of modern PE and health technologies, audio lessons, master classes of famous athletes, etc.

In the didactic work aimed at preparing FT for PA, we used both traditional and innovative methods of educational activity. Traditional methods include the creation of pedagogical situations, business and role-playing games, visual, verbal, problem, research, reproductive, explanatory-demonstrative and practical methods; improvement and consolidation of motor skills; instructional-practical and creative

methods. Non-traditional, that is, innovative, teaching methods included active methods important for our study: visual and audio methods, presentations and demonstrations of new PE and health technologies, professional portfolio, self-improvement techniques, professional development trainings and situational methods for solving tasks related to the formation of professional (including communicative) competencies. Independent work tasks included the preparation of notes, writing essays, performing tasks using demonstration materials; performing elements and combinations of physical exercises to musical accompaniment, compiling sets of physical exercises; developing didactic materials (lessons, programs, master classes, etc.), individual creative tasks, as well as technological tasks for mini-groups.

Assessment of the results of training of future PE teachers on the formation of the CC was carried out by applying various types of control, namely, input, current, intermediate, comprehensive, final and deferred control. To assess the knowledge, practical skills and abilities of FT, tasks were used that included the preparation of notes, writing essays, working with demonstration materials; performing elements and combinations of physical exercises to music, developing complexes of physical exercises; creating didactic materials, individual creative tasks, technological tasks for mini-groups. The process of forming the CC of future PE teachers was aimed at the development of general and professional competencies, practical communicative skills and abilities, obtaining advanced practical experience and the possibility of its implementation through effective communication with students. This contributed to the acquisition by students of such professional qualities as humanism, empathy, warmth, work capacity, pedagogical and social activity, communicative and organizational skills, development of motor skills, etc.

The implementation of the CC formation process consists of four stages:

Stage I – theoretical – allows to assess the level of formation of the CC, which is manifested in motivation, initial knowledge, practical skills and abilities, and orientation of future PE teachers to PA;

Stage II – conceptual-technological – provides an opportunity to form a CC of future PE teachers within the framework of comprehensive mastery of general and special knowledge in the specialty;

Stage III – organizational-practical – involves the acquisition of practical communicative experience by future PE teachers during professional training in higher education institution. At this stage, there is a comprehensive assimilation, consolidation and improvement of practical skills and abilities (including communicative ones) related to the future PA. In parallel with this process, the formation, improvement and self-improvement of knowledge, practical skills and abilities of future PE teachers took place, and therefore their professional development as a competent specialist. This stage was completed by determining the results of the formation of CC of future PE teachers within the PA by indicators and levels.

However, the process of forming CC of future PE teachers did not end at this stage, because any personal and professional development requires a diagnostic and motivational analysis, which, first of all, is closely related to the acquisition of theoretical and practical experience of professional activity by future PE teachers.

Stage IV – correctional-prognostic, final stage, aimed at analyzing the achieved level of the CC of future PE teachers, generalizing the experience gained and determining the vectors of further personal and professional development. It involves carrying out a diagnostic and motivational analysis of the formed competencies, identifying individual educational requests and building personalized programs of professional growth. In this context, the formation of CC is not considered as a completed phenomenon, but acquires the status of a continuous process of professional growth, which continues throughout the entire future pedagogical activity (Table 2.3).

3. The criterion-diagnostic block of the structural-functional model of the formation of the CC in future PE teachers is represented by the internal regulators of the formation of the CC, namely the complex of criteria, indicators and their levels of formation. When choosing the criteria for the formation of the CC in future PE teachers, we proceeded from the following provisions:

- the formation of CC takes place in the context of the integrity of the system and the mutual influence of the personality of the future specialist, educational activities, pedagogical conditions of their formation, as well as life events and situations of professional communication;

Table 2.3

Stages of implementing the process of forming communicative competence in future physical education teachers

Stage No.	Stage name	Stage characteristics
First	Theoretical	The initial level of motivation, knowledge and skills of students is assessed. The degree of professional orientation of education seekers and their readiness for the formation of CC is determined.
Second	Conceptual-technological	A theoretical and operational basis for professional activity is being formed. General pedagogical and special knowledge is being mastered, innovative educational technologies and methods are being introduced, aimed at the development of communicative skills.
Third	Organizational-practical	The integration of theoretical knowledge and practical skills is ensured during the performance of professionally oriented tasks. Communication skills are formed, consolidated and improved, reflection and professional self-improvement are developed.
Fourth	Correctional-prognostic	The achieved level of formation of the CC is analyzed. Prospects for further development are determined, the educational trajectory is corrected, and strategies for continuous professional and communicative growth are formed.

- it is important to take into account the essential characteristics of the educational process of future PE teachers and the logic of building a structural-functional model of the formation of the CC;

- it is necessary to pay attention to the role and place of the CC in the structure of the PA;

- the analysis of the criteria should show the degree of development of various components of the formation of CC of future PE teachers.

When developing the criteria base, we took the already existing criteria, indicators and corresponding levels as a basis (Bohdanova H. R., 2013; Volkova N. P.,

2017; Kolesnyk p. V., 2021; Philipsen B., Tondeur J., McKenney S., & Zhu C., 2019). Based on the results of theoretical analysis, we define the CC of future PE teachers as a complex of communicative knowledge, skills and abilities needed by communication participants to effectively implement the goals and objectives of communicative (and professional) activity and achieve mutual understanding. Given the defined structure of the formation of CC of future PE teachers, we have developed criteria for its formation according to the stimulating, cognitive, organizational-communicative and health-preserving components.

Let us consider the components and levels of the corresponding formation of the CC in future PE teachers for the implementation of the structural-functional model in the educational process.

The stimulating component determines the motivation of the PE teacher both to the PT in general and to the PA in particular. It combines theoretical and practical knowledge of the psychology of communication, as well as information about speech styles, structure and communicative functions. The stimulating component is a key element in the formation of the CC in future PE teachers, as it activates the motivational and value sphere of education seekers (their emotions and feelings that accompany and motivate communication) and their personal behavioral aspects. It determines the motivation of students to fulfill professional duties by involving them in a high-quality communicatively saturated educational process in higher education. The stimulating component covers the mechanisms of interpersonal motivation, evaluation of interaction, creative thinking, methods of psychological influence, rules of rhetoric, polemics, reflective listening and assumes the subject's ability to perceive, analyze, model and transmit information and adjust communication depending on the changing situation (Gardner H., 1983; Hattie J. A., 2009), as well as the desire to expand one's vocabulary for effective communication.

The cognitive component in the structural-functional model of the formation of the CC in future PE teachers performs a basic system-forming function, since it provides theoretical training for students and ensures the mastery of the necessary communicative knowledge, which is a prerequisite for the functioning of all other

components of the model. It plays the role of a trigger mechanism that stimulates the development of the ability to professional communication, and also contributes to the conscious use of active, interactive and personally-oriented technologies of interaction with students. It is the cognitive component that activates the processes of the formation of the CC by providing students with knowledge of the strategy and models of communication, means and forms of communication necessary for professional communication in the field of PE. At the same time, future PE teachers must have means for determining the methods of transferring knowledge from the teacher to students when teaching PE; specific PE vocabulary and its correct use for explaining physical exercises, rules, techniques; features of non-verbal communication (knowledge of facial expressions, gestures, posture) during the demonstration of physical exercises and communication with students in dynamic conditions of sports activities; understanding the features of the psychophysiological development of schoolchildren.

Thus, the cognitive component not only fills the PT with the necessary communicative knowledge, but also creates a favorable basis for the formation of CC as an integrated quality of future PE teachers, providing them with the ability to communicate effectively, responsibly and consciously in a professional environment.

The organizational-communicative component in the structure of the formation of the CC of future PE teachers plays a key role in creating an effective pedagogical environment based on effective interaction with students and other participants of the educational process. It serves not only as a set of techniques and tools for organizing lessons, but also reflects a deep understanding by students of the essence of communication as an integrated process that combines professional knowledge, pedagogical skills and personal qualities. The organizational-communicative component reflects the practical readiness of the future PE teachers for PA within the framework of their acquisition of CC and includes a set of practical skills, abilities, as well as experience in communication, analysis and evaluation of pedagogical situations that arise in PA. This allows the future PE teachers to choose appropriate forms of interaction in the conditions of organizing the educational process, taking into account

the psychological and pedagogical characteristics of students, their level of training and communicative needs. Through feedback, the teacher not only evaluates students' achievements, but also stimulates them to further self-development, builds trust and positive interaction in the team.

The main function of the organizational-communicative component is to establish connections between different components during the use of knowledge and skills. This component is characterized by the psychophysiological readiness of students for PA, which is manifested in the teacher's working capacity, his pedagogical and somatic activity, communicative and organizational abilities, which are key in the formation of the CC in future PE teachers during PT. Only with a high level of formation of this component does the teacher become a true leader in his professional sphere, since he is able to effectively organize learning, motivate students and create a positive atmosphere in PE classes.

The health-preserving component in the formation of the CC in future PE teachers includes their physical fitness and culture of a healthy lifestyle, which allow students, through the use of communicative skills, to effectively implement health-improving technologies in their own PA. The health-preserving activity of the PE teacher effectively affects the physical fitness of schoolchildren. A large role in this process is played by the communicative skills of the teacher for the correct explanation and performance by students of a diverse set of exercises, maintaining general endurance in schoolchildren, creating an appropriate communicative and emotional mood in the process of conducting PE lessons (Rybalko L. M., 2019, p. 231). The main function of this component is to make the future PE teachers aware of the multifunctional impact of effective communication with students in lessons on strengthening and maintaining the health (physical and mental) of all participants of the educational process.

Assessment of the level of CC formation, and therefore the readiness of the future PE teachers for PA, includes certain components, each of which has its own indicators (Table 2.4). Thus, the structural and functional model of the formation of CC of future PE teachers provides for a holistic integration of motivational, knowledge,

Table 2.4

Components, criteria and indicators of the formation of communicative competence in future physical education teachers

Components	Criteria	Indicators
Stimulating	Motivational	<ul style="list-style-type: none"> – desire to acquire new knowledge, skills and abilities for effective communicative and pedagogical interaction; – the need for self-study in the development of CC; – recognition of the student as an active participant in the communication process; – awareness of the role and place of pedagogical communication in PA; – positive social-value orientations in the field of communication.
Cognitive	Knowledge	<ul style="list-style-type: none"> – content of academic disciplines (includes theoretical knowledge in the field of speech activity and pedagogical communication); – specificity and depth of knowledge (reflects the number of perceived connections between theoretical knowledge and knowledge about pedagogical communication in the context of other disciplines); – systematicity of knowledge (compliance of the acquired knowledge system with the specifics of pedagogical communication); – flexibility of knowledge (manifested in the ability to quickly find alternative ways of applying knowledge about pedagogical communication); – understanding (knowledge of how to use communication skills during pedagogical interaction); – speed and efficiency (the ability to apply communicative knowledge in standard and non-standard learning situations).
Organizational-communicative	Communi-cative	<ul style="list-style-type: none"> – using standard samples of pedagogical communication without changes or adaptations; – modification and application of learned communication methods and techniques in new conditions of organizational interaction; – independent and effective combination of known approaches to organizing pedagogical communication; – independent development of communication tactics and strategies for decision-making in specific organizational-communicative situations.

Continuation of Table 2.4

Components	Criteria	Indicators
Health-preserving	Health-preserving	<ul style="list-style-type: none"> – satisfaction with the process of communicating with students, their parents and teachers, and its results; – showing interest in the development of CC – assessment of personal qualities in the process of forming a CC; – students' ability to navigate their own capabilities and abilities; – awareness of the importance of self-control and self-assessment of communicative activities.

organizational-communicative and health-preserving components, which ensure a consistent and scientifically substantiated transition from the acquisition of theoretical knowledge to its purposeful implementation in the conditions of PA.

This approach corresponds to the logic of the traditional organization of the educational process in higher education institutions, where the formation of professional competence is carried out on the basis of the interrelation of academic and practical training.

It is important to note that the definition of the criteria for the formation of the CC in future PE teachers assumes the presence of different levels of development of this competence: from low (basic), satisfactory (productive), sufficient (optimal) to high level. These levels significantly affect the quality of their interaction with students, parents and colleagues in the process of professional activity. Each level of the formation of the CC in future PE teachers includes the features of the previous ones, but differs in the degree of development of the criteria. At a low level, the indicators often have an insufficient level of expression, at satisfactory and sufficient they are expressed better, but also insufficient. At a high level, with the full formation of the CC, the need for regulation or control of professional and communicative activity is practically absent, and the indicators are always high.

The low (basic) level of formation of the CC is characterized by the fact that the future PE teachers have only general ideas about effective communication, feel dissatisfaction with pedagogical communication and need significant assistance in

solving professional tasks. Their communicative skills and abilities are limited to elementary communication, there is no understanding of pedagogical dialogue styles, which complicates interaction with students and colleagues. At the same time, FT with this level of formation of CC need regular monitoring and additional training to perform their proper PA, in particular in terms of establishing effective pedagogical communication and using verbal and non-verbal means of communication (Liu H., 2024).

A satisfactory (productive) level of formation of the CC is characterized by the fact that future PE teachers feel the need for communication, but show only a slight interest in the formation of this competence. They have superficial communicative knowledge and initial communicative and practical skills, understand and can perform typical professional and communicative actions in familiar situations, but still need help or methodological support from another teacher or mentor. Their communicative activity at this stage is situational. Future specialists are able to maintain contact with students, but demonstrate uncertainty in building purposeful pedagogical interaction, are indecisive in analyzing and correcting their own and students' mistakes.

A sufficient (optimal) level of formation of the CC is characterized by the fact that HEI students have a sufficient amount of basic communicative-theoretical knowledge and professional-communicative skills, which allows them, using appropriate communicative interaction, to independently perform professional tasks in standard situations. When communicating, they demonstrate an understanding of their professional role, are able to maintain effective relationships, are oriented in different age-related communicative features of students, and adapt methods of interaction to their individual needs. However, future PE teachers who have a sufficient level of formation of the CC partially apply elements of reflection and self-regulation in the communicative process, which contributes to the gradual formation of an effective CC. Although such students possess a system of knowledge about pedagogical communication, they may experience certain difficulties in applying them in unpredictable situations, which requires consultations with experienced teachers. However, although FT have the skills to independently combine communication

methods according to the situation, they cannot always adequately use verbal and non-verbal means during communication.

A high level of formation of the CC is characterized by the fact that future PE teachers have solid theoretical knowledge related to educational and communicative processes and the effective implementation of communicative functions. Applicants for education at this level of CC are able to make informed decisions in non-standard situations, effectively communicate with participants in the educational process, with their parents, with colleagues, quickly adapt to changes and initiate the improvement of their own professional activities. CC in this case manifests itself as an integrative quality of the personality of future PE teachers, which combines speech culture, emotional intelligence, the ability to persuade, reflect and maintain partnership relationships in the educational environment. Students who meet a high level of formation of CC are aware of their own value of pedagogical communication, have positive social and value attitudes, constantly strive for self-education and self-improvement. In addition, they know how to adhere to ethical norms, successfully manage their own emotions, and have no difficulty resolving conflict situations.

Therefore, the criterion-based assessment, indicators and levels of formation of the CC in future PE teachers are key elements for the analysis of such formation in the process of PT. A clear definition of the criteria provides a scientifically substantiated systematization of the process of formation of the CC, necessary for effective pedagogical communication. The indicators detail the level of possession of the relevant skills, which allows for objective monitoring of the dynamics of the professional formation of future PE teachers. The determination of the levels of formation of the CC reflects the logic of mastering communicative technologies by education seekers, starting from the elementary level to the professional-advanced level. At the same time, diagnosing the levels of formation of the CC within the criteria-diagnostic block allows for the correction of the content and methods of teaching in accordance with the individual needs of students. Accordingly, the implementation of substantiated criteria and indicators contributes to the solution of the tasks set and reflects the achievement of the goal: the formation of the CC in future PE teachers.

Conclusions to the second chapter

The professional readiness of future PE teachers for PA, which is the result of the PT of specialists in HEIs, was considered as a necessary condition for the successful implementation of the professional capabilities of education seekers, which contributes to the performance of FTs professional functions and includes the ability to organize one's own cognitive activity and the ability to create effective communication with all participants in the educational process in order to achieve educational goals. An important component of the PT is the formation of the CC in future PE teachers, which requires targeted influence from teachers, proper methodological support, a combination of theoretical and practical training in HEIs. The effective formation of the CC is facilitated by verbal, visual, practical, control and evaluation methods of teaching and project methods, the creation of situations of success, self-education; means of communication and the level of development of the social and psychological characteristics of the FT.

The formation of the CC in future PE teachers is a multidimensional process that combines theoretical training with pedagogical practice and encompasses the development of professional and communicative knowledge, skills and abilities, communicative reflection; includes stimulating, cognitive, organizational and communicative and health-preserving components; contributes to the resolution of conflict situations and the implementation of pedagogical dialogue; provides a dialogical learning environment conducive to the comprehensive development of the student's personality (Liu H., 2024d).

For the effective formation of the CC in future PE teachers in higher education institutions, pedagogical conditions are used, which are specially created in accordance with the goals of the PT and pedagogical circumstances and holistically include a complex of forms, methods and practical approaches to the implementation of the tasks of the educational process (Liu H., 2024c). The development and analysis of scientific works allowed us to specify the following pedagogical conditions: designing an educational environment that provides broad opportunities for the development of communicative activity of future PE teachers; implementing active forms and methods

of learning aimed at deepening and systematizing knowledge on the formation of CC of future PE teachers; forming general and professional competencies (including CC) in the context of an interdisciplinary approach to the PP of future PE teachers; developing organizational and communicative skills and abilities of future PE teachers.

Taking into account the multidimensional problems of the formation of the CC in future PE teachers allowed us to develop a structural-functional model for the proper implementation of the pedagogical conditions of such formation. Its construction is based on the use of a complex of methodological approaches: systemic (as a pedagogical-methodological strategy for the purposeful disclosure and resolution of the essence of the study; streamlining the content of training on the formation of the CC; implementing systematic training of the FT within the framework of the interdisciplinary integration of knowledge, skills and abilities of students; optimizing the studied process in higher education institutions), competency (as a general scientific basis for research on the enrichment of the CC through the purposeful formation of students' abilities for interpersonal, pedagogical and public communication in verbal and non-verbal forms; ensuring the content of the studied process with an orientation towards the effective organization of communication in the process of PT), personality-oriented (as a practice-oriented basis for research that directs the educational process in higher education institutions to take into account individual personality characteristics (cognitive styles, levels of social and speech activity, communicative experience, readiness to build constructive-parity relationships) for the successful formation of their CC) and activity (as a research tactic that makes it possible to build the educational process in higher education institutions from the standpoint of socio-communicative needs and personal development needs, which is the basis for the formation of communicative knowledge, critical thinking and effective interaction with other participants in the educational process in order to organize a constructive dialogue), which ensure a holistic and scientifically sound formation of CC of future PE teachers. The basic basis for the formation of CC of future PE teachers according to the structural-functional model are scientific and

pedagogical principles: scientificity, professional orientation, taking into account individual characteristics, variability and innovation.

Important structural components of the formation of CC of FT have been identified (stimulating (activates the motivational and value sphere that accompanies and motivates communication), cognitive (provides theoretical training in mastering the necessary communicative knowledge), organizational-communicative (creates an effective pedagogical environment that encompasses students' understanding of the essence of communication as an integrated process; personal professional and communicative experience in using modern ICT; skills in using a set of techniques and tools for the proper organization of communicative interaction in PE lessons in GSEI) and health-preserving (produces the use of communicative skills for the effective implementation of health-improving technologies in PA)), which are characterized by specific criteria (motivational, knowledge, communicative, health-preserving) and indicators. The complex formation of the components of the formation of the CC in future PE teachers made it possible to distinguish the evaluation levels of their formation (high, sufficient (optimal), satisfactory (productive), low (basic)) according to its indicators.

The described structural-functional model of the formation of the CC in future PE teachers in higher education institutions, which includes strategic, conceptual-methodical and criterion-diagnostic blocks, is fully controllable, integrally subordinate and characterized by continuity and predictability, which allows, if necessary, to correct the content and methods of teaching in accordance with the personal needs of students.

The main results of the chapter are reflected in the author's scientific works:
Liu H., 2024; Liu H., 2024a; Liu H., 2024b; Liu H., 2024c; Liu H., 2024d; Liu H., 2024f

CHAPTER 3

EXPERIMENTAL VERIFICATION OF THE EFFECTIVENESS OF THE STRUCTURAL-FUNCTIONAL MODEL OF FORMATION OF THE COMMUNICATIVE COMPETENCE IN FUTURE PHYSICAL EDUCATION SPECIALISTS IN HIGHER EDUCATION INSTITUTIONS

3.1 The state of development of communicative competence in future physical education specialists in the process of professional training

The main task of the pedagogical experiment was to analyze the level of formation of the CC in future PE teachers for professional activity. The study was conducted from 2021 to 2025, and included four stages of the pedagogical experiment, each of which had its own tasks, technologies, forms and methods of organization, which logically fit into the constructed structure of scientific and pedagogical search. Scientific research was carried out gradually, was characterized by phasedness and complementarity.

At the first stage – analytical (2021 to March 2022) - within the analytical phase of the experiment, we completed the following tasks:

- scientific and pedagogical sources, periodic scientific and methodological publications and conference materials on the formation of the CC in future PE teachers to the PA is comprehensively analyzed, while the analysis of scientific works continued until the completion of the dissertation research;
- the conceptual framework for the study of the formation of CC in HEI is characterized and its scientific and conceptual justification is carried out;
- the experience of scientists in preparing PE teachers for professional development in Ukraine and abroad is investigated, modern approaches to the professional development of PE teachers and the regulatory and legal foundations of this process are identified;
- the key role of the PE teacher in the GSEI is been identified;

- empirical data is collected and analyzed, confirming the relevance of updating the educational process with the aim of forming the CC of future PE teachers in HEI;
- components, criteria and indicators of the process of forming the CC of future PE teachers to the PA are identified and used to determine the initial level of their formation in future PE teachers;
- the relevance of the research hypothesis is clarified and verified;
- the experimental research program is prepared, the experimental base and approximate terms for conducting research are determined, and the selection of students for participation in the ED is specified;
- materials are being prepared for the search and ascertainment stage of the research.

At the second, search and ascertainment stage (April 2022 to August 2022), empirical data are collected and analyzed. The purpose of this stage is to comprehensively study the state of the formed CC of future PE teachers at the beginning of the experiment. In subsection 2.1, we established that the formation of the CC of the PE applicants as their effective readiness for PA is manifested through:

- the ability to cooperate;
- team interaction;
- mutually understanding relationship with education applicants;
- constructively solving professional tasks and conflict situations;
- evaluation of one's own pedagogical activity, managing one's actions to effectively transfer information;
- achievement of common goals in the educational process.

These are important factors in the professional formation of the FT during the period of study in HEI and a condition for personal and professional growth in the PA process.

Research work at this stage included:

- development and testing of criteria for assessing the formation of the CC in future PE teachers, which allows us to determine the level of formation of the necessary communicative qualities, namely the motivational and value sphere of education

seekers, their mastery of the necessary communicative knowledge and interaction skills in the pedagogical environment and the preservation of the psychophysiological state of schoolchildren during the course of PE classes;

- establishing assessment indicators to determine the levels of formation of the CC in future PE teachers;

- identification and establishment of effective pedagogical conditions and development of a structural and functional model of the formation of the CC in future PE teachers in HEIs;

- conducting a search and ascertainment stage of the study with the diagnosis of the initial levels of formation of the components of the CC of future PE teachers and determining the state of such formation;

- clarification of methods and forms of PT of future PE teachers in HEIs in the context of forming CC among education seekers;

- justification of the structure of the formation of the CC in future PE teachers and development of an experimental research program with the definition of components, criteria and indicators of this process.

In the process of organizing the study, it was important to choose appropriate diagnostic tools, because the diagnostic methods had to complement each other, be effective, and the data obtained had to be accurate, objective and sufficient for assessing the formation of the CC in future PE teachers in HEIs (Cao X., & Liu H., 2024; Zhang J., Liu H., & Dai W., 2024).

The main goal of the search-ascertainment stage of the research and experimental work was to determine the level of formation of the CC of the future PE teachers who studied in HEI. For the study, diagnostic tools were used, which were also used in the formative stage of the research work and contributed to the assessment of the formation of the CC of the students of the experimental and control groups. This allowed to ensure the accuracy of measuring the formation of such components of the CC as stimulating, cognitive, organizational-communicative and health-preserving. according to the specified criteria: motivational, knowledge, communicative and health-preserving.

A set of diagnostic procedures was used to assess the state of formation of the CC:

- pedagogical observation of student activities and interviews with teachers and students to determine the basic level of communicative training within the framework of traditional education;
- attending lectures and practical classes in professional disciplines to analyze their effectiveness in the formation of CC;
- questionnaire to determine the level of motivation to improve communication skills and the desire for self-development and self-awareness, which is the basis for rapid adaptation.

So, the tasks outlined by us were solved by using effectively developed criteria, indicators and methods, which made it possible to diagnose the level of the formed CC of future PE teachers. By diagnostics at the second (search-ascertainment) stage of experimental research we understand a system of effective diagnostic procedures aimed at studying communicative knowledge, skills and abilities of PE students and methods of their professional development in PT, necessary for the formation of CC of future PE teachers.

To determine the stimulating component (motivational criterion) of the formation of the CC in future PE teachers, the following methods were used (Appendix B):

- methodology "Assessment of the professional orientation of the personality of a future physical education teacher" (modified method of E. Rogov) for assessing the professional orientation of future PE teachers;
- "Reflection on self-development" technique (modified version of L. Berezhnaya's test) to determine the desire for self-development; self-assessment by the individual of his qualities that contribute to self-development; empathetic support as an opportunity for professional self-realization of future PE teachers;
- "Motivation for Success" methodology (T. Ehlers' methodology) for assessing motivation to achieve and avoid failure.

The formation of the cognitive component in students was assessed by conducting (Appendix C):

- test tasks in specialized disciplines, in particular to determine the depth of mastery of basic concepts in PE (compiled by H. Liu);
- test of self-assessment of students' abilities in solving professional situations, assessment of the level of knowledge of PE (compiled by H. Liu).

The organizational-communicative component of the formation of the CC in future PE teachers includes a set of techniques and exercises that allow you to test the knowledge, skills and abilities necessary for effective interaction with students, colleagues and parents. It contributed to the assessment of the development of higher education applicants' ability to organize the educational process with PE in GSEI, use communicative strategies and adapt the communication style depending on the situation, maintain a positive emotional climate in the school team, respond quickly to changes and create effective conditions for motivation and active participation of students in PE classes. This component of the formation of the CC was assessed using (Appendix D):

- methodology "Integrative assessment of the effectiveness of communicative activity" (modified methodology of M. Fetyskin);
- situational exercises in professional communication to assess the ability to adapt in different conditions of professional communication (compiled by H. Liu).

The health-preserving component was assessed using (Appendix E):

- test to determine the level of knowledge of young people about health (according to V. Yazlovetsky);
- test-questionnaire "Assessment of the motivation of future PE teachers to carry out health-preserving activities within the framework of the formation of the CC" to determine the ability to preserve health (developed by H. Liu).

Therefore, in accordance with the outlined goal, at the search-ascertainment stage, the testing of evaluation indicators was carried out according to the set of specially adapted methods, which we applied in the process of implementing the formative stage of the experiment (Table 3.1).

The proposed comprehensive approach to diagnostics allows us to assess the level of formation of the CC in future PE teachers and develop recommendations for further improvement of the CC of students of HEI during their PT.

For each of the mentioned methods, the numerical indicators are clearly expressed, structured and presented in the range from high to low levels (of personal formation of the CC of the applicants for the PE education). Therefore, the described numerical indicators in the aggregate reveal the formation of students' communicative competence.

Table 3.1

Methods of research the components and criteria of the formed CC of future PE teachers in HEI

No	Components	Criteria	Methods
1.	Stimulating	Motivational	Modified method of E. Rogov for assessing the professional orientation of the individual; method "Reflection on self-development" (modified version of the test of L. Berezhnaya); method of T. Ehlers "Motivation for success" (Appendix B)
2.	Cognitive	Knowledge	Control tasks in specialized disciplines to identify the depth of mastery of basic concepts of PE (compiled by H. Liu); self-assessment test of students' abilities in solving professional situations to assess the level of knowledge of PE (compiled by H. Liu) (Appendix C)
3.	Organizational-communicative	Communicative	Methodology "Integrative assessment of the effectiveness of communicative activity" (modified method of M. Fetyskin); situational exercises in professional communication (Appendix D)
4.	Health-preserving	Health-preserving	Test to determine the level of knowledge of students about health (according to V. Yazlovetsky); test-questionnaire "Assessment of the motivation of future PE teachers to carry out health-preserving activities within the framework of the formation of CC" to determine the ability to preserve health (compiled by H. Liu) (Appendix E)

The highest (maximum) number of points that a FT can receive as a participant in the ER, according to these methods, is 5 points (on a hundred-point scale - 100 points). Therefore, depending on the points received by students, we have established

the limits of the levels of formation of the CC, which correspond to the levels of their formation for this type of PT:

- high level – 5 points (on a 100-point scale, it corresponds to 90-100 points);
- sufficient level (optimal) – 4 points (on a 100-point scale – 75-89 points);
- satisfactory level (productive) – 3 points (on a 100-point scale – 60-74 points);
- low level (basic) – 2 points (on a 100-point scale – 59 points and below).

Throughout the entire experimental study, the diagnostic tools remained unchanged, which is evidence of the correctness of the selection of criteria and indicators for determining the level of formation of future PE teachers.

To assess the level of formation of the CC in future PE teachers in HEIs in the process of PT, at the search and ascertainment stage of the study, a pedagogical experiment was conducted on the basis of three higher education institutions: Khmelnytsky National University (Faculty of Health, Psychology, Physical Culture and Sports, Department of Theory and Methods of Physical Culture and Sports) (hereinafter referred to as KhNU), State Higher Education Institution "Uzhhorod National University" (Faculty of Health and Physical Education, Department of Theory and Methods of Physical Culture) (hereinafter referred to as UzhNU) and Ternopil National Pedagogical University named after Volodymyr Hnatyuk (Faculty of Physical Education, Department of Theoretical Foundations and Methods of Physical Education) (hereinafter referred to as TNPU). Applicants of the first (bachelor's) level of higher education in the specialty 014.11 Secondary Education (Physical Education) participated in the study. In total, 69 students and 10 teachers of this specialty were involved at this stage. The first group included students from KhNU (24 people), the second group included students from UzhNU (17 people), and the third group included students from TNPU (28 people).

The research-experimental study was conducted in the usual conditions of functioning of each of the educational institutions. The purpose of the search and ascertainment stage of the experimental work, which became the starting point of our further research, was to determine the state of the formed CC of future PE teachers in accordance with the entire set of formed components: stimulating, cognitive,

organizational-communicative and health-preserving. This allowed us to establish the state of such formation in students for all the specified components that were involved in the search and ascertainment stage, and to determine for comparison their separate formation in FT of each of the educational institutions (KhNU, UzhNU and TNPU).

To identify the formed CC of future PE teachers (according to the motivational criterion) in the process of professional training, and therefore the desire to acquire new professional (including communicative) knowledge and skills during the PT are important. Applicants of three HEIs (KhNU, UzhNU and TNPU) were offered to take a test to determine the professional orientation of the individual (modified method of E. Rogov), their own assessment of professional self-development and empathetic support as an opportunity for professional self-realization of future PE teachers (modified version of the L. Berezhna test) and motivation for success (methodology of T. Elers) (Appendix B).

The results of testing conducted using the above methods to determine the state of formation of the CC in future PE teachers with a stimulating component are presented in Table 3.2 (with the participation of all 69 future PE teachers).

Table 3.2

The state of formation of the CC in future PE teachers by the stimulating component at the search and ascertainment stage of ER

Levels of formed CC of future PE teachers by stimulating component							
High		Sufficient (optimal)		Satisfactory (productive)		Low (basic)	
Num.	%	Num.	%	Num.	%	Num.	%
5	7,2	11	15,9	45	65,3	8	11,6

The analysis of the state of formation of the CC of future PE teachers by the stimulating component in accordance with the motivational criterion shows that a third of the students are positively disposed to acquiring communicative skills in higher education as professionally significant for the future PA. However, the formation of stable motivation for proper communicative interaction requires the development

during the period of training of internal motivation in students, their acquisition of cognitive and communicative needs, the desire for self-improvement and self-development in this area of pedagogical activity.

Table 3.2.1, Table 3.2.2, and Table 3.2.3 present the results obtained by students of KhNU (first group), UzhNU (second group), and TNPU (third group), respectively.

Table 3.2.1

The state of formation of the CC of the first group (24 students of KhNU) by the stimulating component at the search and ascertainment stage of ER

Levels of formed CC of future PE teachers by stimulating component							
High		Sufficient (optimal)		Satisfactory (productive)		Low (basic)	
Num.	%	Num.	%	Num.	%	Num.	%
2	8,3	4	16,7	15	62,5	3	12,5

Table 3.2.2

The state of formation of the CC of the first group (17 students of UzhNU) by the stimulating component at the search and ascertainment stage of ER

Levels of formed CC of future PE teachers by stimulating component							
High		Sufficient (optimal)		Satisfactory (productive)		Low (basic)	
Num.	%	Num.	%	Num.	%	Num.	%
1	5,9	3	17,6	11	64,7	2	11,8

Table 3.2.3

The state of formation of the CC of the first group (28 students of TNPU) by the stimulating component at the search and ascertainment stage of ER

Levels of formed CC of future PE teachers by stimulating component							
High		Sufficient (optimal)		Satisfactory (productive)		Low (basic)	
Num.	%	Num.	%	Num.	%	Num.	%
2	7,1	4	14,3	19	67,9	3	10,7

The data presented in Table 3.2.1, Table 3.2.2 and Table 3.2.3 indicate that KhNU students (25.0% (calculated based on the total high and sufficient levels) are

more motivated to engage in communicative interaction than UzhNU students (23.5%) and TNPU (21.4%), respectively. And this, in turn, is 1.5% more than in UzhNU and 3.6% more than in TNPU. The results obtained indicate the existing problems in the formation of CC of future PE teachers during the period of study with a stimulating component.

Within the cognitive component according to the knowledge criterion and the corresponding indicators of the formation of CC of future PE teachers, students were offered to complete control tasks in the profile discipline "Introduction to the specialty" to identify the depth of mastery of basic concepts of PE, acquired knowledge of the essential features of effective pedagogical communication, mastery of pedagogical ethics in the work of the PE teacher, pedagogical communication styles and active listening techniques, introduction of constructive feedback to the student during PE classes, resolution of conflict situations, etc. The implementation of control tasks lasted one academic session (80 minutes), where FTs had the opportunity to confirm their own knowledge, skills and abilities in the formation of the CC.

The control tasks have two levels of complexity. The first level of control questions (all the first and second tasks from the proposed option) concerns the conceptual and categorical apparatus and the structure of the FT's readiness to conduct PE classes within the framework of the formed CC, while at the second level (when solving the third task), students were offered practice-oriented questions (for example, make a plan for a motivational speech, make a dialogue between the teacher and the student's parents, develop an explanation of the technique for performing the exercise, describe your reaction as a teacher to a conflict situation, make a motivational speech for students, develop practical recommendations for effective communication, etc.). The questions reflect the specifics of the work of the PE teacher with schoolchildren and the role of the teacher in the proper organization and conduct of classes (Appendix C).

At the same time, students had the opportunity to take a test to assess their cognitive abilities in solving professional situations, where the gradual manifestation

of the ability to solve professional situations ranged from passive to conscious and active (Appendix C).

The results obtained according to the knowledge criterion for solving control tasks (at two levels of complexity) and the test conducted are listed in Table 3.3.

Table 3.3

The state of formation of the CC in future PE teachers by the cognitive component at the search and ascertainment stage of ER

Levels of formed CC of future PE teachers by cognitive component							
High		Sufficient (optimal)		Satisfactory (productive)		Low (basic)	
Num.	%	Num.	%	Num.	%	Num.	%
4	5,8	14	20,3	44	63,8	7	10,1

Tables 3.3.1, 3.3.2 and 3.3.3 were formed on the basis of the data obtained from the FT of the first, second and third experimental groups.

Table 3.3.1

The state of formation of the CC of the first group by the cognitive component at the search and ascertainment stage of ER

Levels of formed CC of future PE teachers by cognitive component							
High		Sufficient (optimal)		Satisfactory (productive)		Low (basic)	
Num.	%	Num.	%	Num.	%	Num.	%
2	8,3	5	20,9	15	62,5	2	8,3

Table 3.3.2

The state of formation of the CC of the second group by the cognitive component at the search and ascertainment stage of ER

Levels of formed CC of future PE teachers by cognitive component							
High		Sufficient (optimal)		Satisfactory (productive)		Low (basic)	
Num.	%	Num.	%	Num.	%	Num.	%
1	5,9	3	17,6	11	64,7	2	11,8

Table 3.3.3

**The state of formation of the CC of the third group by the cognitive component
at the search and ascertainment stage of ER**

Levels of formed CC of future PE teachers by cognitive component							
High		Sufficient (optimal)		Satisfactory (productive)		Low (basic)	
Num.	%	Num.	%	Num.	%	Num.	%
2	7,1	4	14,3	19	67,9	3	10,7

The results of the students' performance of control tasks, which provided for the first and second levels of complexity, allowed us to identify general trends and individual differences in the students' responses. From the results given in Table 3.3, we determine the insufficient formation of the CC of PE students by the cognitive component.

The low numerical percentages of the qualitative indicator are evidence of the obtained numerical data, which relate to both a high level of formation of the CC (4 FT, which corresponds to 5.8%), and a sufficient level (14 FT, which is 20.3%). Accordingly, low percentages for significant levels were established in FT of the first, second and third groups, which are 2 (8.3%), 1 (5.9%) and 2 (7.1%), which corresponds to a high level, and, accordingly, a sufficient level - 5 (20.9%), 3 (17.6%) and 4 (14.3%). Difficulties for education seekers were caused by questions related to the correct definition and use of the conceptual and categorical apparatus when solving second-level (practice-oriented) tasks related to communicative abilities and skills. At the same time, the results of the test on self-assessment of students' abilities in solving professional situations reflect the incompletely formed CC of FT, which confirmed the relevance of the problem of communicative interaction and maintaining a terminological dictionary (which reflects concepts on communicative topics) by students.

Using the communicative criterion of the organizational-communicative component, the formed CC of education seekers and their ability to effectively conduct PE classes using communicative skills was assessed. This requires reflection of

personal opinions, interests, attitudes and assessments. Justified use of the legislative and legal framework in the PA, the use of effective methods and modern forms of organizing learning process with schoolchildren.

The identification of the formed CC was carried out using the modified methodology of M. Fetyskin "Integrative assessment of the effectiveness of communicative activity" (Appendix D) and the solution by students of the author's situational exercises (for example, situational exercises "First contact", "Error correction", "Motivational speech", "Public speech", etc.) on the development of CC of future PE teachers.

The results of students completing the methodology and developed situational exercises to determine the levels of formation of CC by the organizational-communicative component are given in Table 3.4.

Table 3.4

The state of formation of the CC in future PE teachers by the organizational-communicative component at the search and ascertainment stage of the ER

Levels of formed CC of future PE teachers by organizational-communicative component							
High		Sufficient (optimal)		Satisfactory (productive)		Low (basic)	
Num.	%	Num.	%	Num.	%	Num.	%
3	4,4	11	15,9	45	65,2	10	14,5

The conducted analysis of the formation of the CC of FT according to the organizational-communicative component (according to the communicative criterion) is evidence that 79.7% (55 of the 69) students involved in the experiment are at a low (basic) and satisfactory (productive) level, while 4.4%, which is 3 students, are at a high level and 15.9% (11 students) are at a sufficient (optimal) level.

The responses of the first, second, and third groups of FT, identified by the communicative criterion, are listed in Tables 3.4.1, 3.4.2, and 3.4.3.

Table 3.4.1

The state of formation of the CC of the first group by the organizational-communicative component at the search and ascertainment stage of the ER

Levels of formed CC of future PE teachers by organizational-communicative component							
High		Sufficient (optimal)		Satisfactory (productive)		Low (basic)	
Num.	%	Num.	%	Num.	%	Num.	%
1	4,1	4	16,7	15	62,5	4	16,7

Table 3.4.2

The state of formation of the CC of the second group by the organizational-communicative component at the search and ascertainment stage of the ER

Levels of formed CC of future PE teachers by organizational-communicative component							
High		Sufficient (optimal)		Satisfactory (productive)		Low (basic)	
Num.	%	Num.	%	Num.	%	Num.	%
1	5,9	3	17,6	10	58,9	3	17,6

Table 3.4.3

The state of formation of the CC of the third group by the organizational-communicative component at the search and ascertainment stage of the ER

Levels of formed CC of future PE teachers by organizational-communicative component							
High		Sufficient (optimal)		Satisfactory (productive)		Low (basic)	
Num.	%	Num.	%	Num.	%	Num.	%
1	3,6	4	14,3	20	71,4	3	10,7

We see a high percentage of the indicator with a low level of formed CC of the second group of FT, which is 17.6%, this is in 3 out of 17 students involved in ER. Thus, the obtained numerical results indicate insufficient formation of CC levels in applicants for PE education according to the organizational-communicative component.

The application of the health-preserving criterion is due to the fact that certain requirements are imposed on PE lessons in the direction of the comprehensive and

harmonious development of the student. The PE teacher, using his own knowledge, communicative skills and abilities, must solve special PE tasks both from the subject of PE itself (the need to develop motor skills and abilities of students, the development of their dynamics of physical levels, etc.), and tasks related to the constant ensuring of the unity of all areas of educational activity, including physical, mental, creative, moral, etc. training. And this requires the teacher to have a well-formed PE team to provide PE lessons with diverse means and methods that would contribute to ensuring the effectiveness of the health-improving process, planning physical activities in accordance with the laws of health promotion in schoolchildren.

To identify the state of formation of CC of future PE teachers regarding their readiness to use health-saving technologies in PE lessons, we used a test-questionnaire to determine the level of knowledge of young people about health (according to V. Yazlovetsky) and assessed students' motivation to perform future health-saving activities within the framework of the formation of CC in order to determine students' ability to save health (developed by H. Liu) (Appendix E).

The results of testing to determine the level of formation of CC of future PE teachers within the limits of their readiness for health-preserving activities by health-preserving component are listed in Table 3.5.

Table 3.5

The state of formation of CC of future PE teachers according to the health-preserving component at the search and ascertainment stage of ER

Levels of formed CC of future PE teachers by health-preserving component							
High		Sufficient (optimal)		Satisfactory (productive)		Low (basic)	
Num.	%	Num.	%	Num.	%	Num.	%
5	7,2	13	18,8	44	63,8	7	10,2

The answers formed by FT of the first, second, and third groups according to the health-preserving criterion and the results we processed are shown in Tables 3.5.1, 3.5.2, and 3.5.3.

Table 3.5.1

The state of formation of CC of the first group according to the health-preserving component at the search and ascertainment stage of ER

Levels of formed CC of future PE teachers by health-preserving component							
High		Sufficient (optimal)		Satisfactory (productive)		Low (basic)	
Num.	%	Num.	%	Num.	%	Num.	%
2	8,3	5	20,9	15	62,5	2	8,3

Table 3.5.2

The state of formation of CC of the second group according to the health-preserving component at the search and ascertainment stage of ER

Levels of formed CC of future PE teachers by health-preserving component							
High		Sufficient (optimal)		Satisfactory (productive)		Low (basic)	
Num.	%	Num.	%	Num.	%	Num.	%
1	5,9	3	17,6	11	64,7	2	11,8

Table 3.5.3

The state of formation of CC of the third group according to the health-preserving component at the search and ascertainment stage of ER

Levels of formed CC of future PE teachers by health-preserving component							
High		Sufficient (optimal)		Satisfactory (productive)		Low (basic)	
Num.	%	Num.	%	Num.	%	Num.	%
2	7,1	5	17,9	18	64,3	3	10,7

Analysis of the formation of the CC in the health-preserving of future PE teachers showed that 51 individuals (74.0%) are at low and satisfactory levels and only 5 students (7.2%) are at a high level, while 13 (18.8%) of future teachers are at a sufficient level. It should be noted that the numerical indicators of UzhNU students (second group) at the search and ascertainment stage of ER are lower than those of applicants of the first and second groups. Thus, a high level of formation of the CC of FT, which corresponds to a high level of their readiness to carry out health-preserving

professional activities, was found in this group in 1 future teacher, which is 5.9%, while in the FT of the first and third groups, this level is in 2 (8.3%) people of KhNU and, respectively, in 2 (7.1%) people of TNPU. At the same time, a low level of formed CC for this component was shown by 2 (11.8%) FT of the second group, and in the first and third groups this percentage is lower and is 8.3% and 10.7%. The results obtained are evidence of insufficient formation of CC in work with health preservation of students for the health preservation component.

The ratio of the points obtained according to the four levels of the formation of the CC in future PE teachers was determined according to the scale of N. Dairy (1979). Thus, a high level, which lies within 100% - 90%, is equal to 5 points; a sufficient (optimal) (89% - 75%) level corresponds to 4 points; a satisfactory (productive) (74% - 50%) level - 3 points; a low (basic) level (from 49% and less) - 2 points.

Processing of the test-questionnaires completed by FT allowed us to evaluate the results of the formation of the CC by levels and components and to establish the results of the search and ascertainment stage of the ER. The summarized quantitative results for all components and levels of the formation of the CC in future PE teachers in the HEIs are presented in Table 3.6.

Table 3.6

**Summary results of the formed CC of future PE teachers for all components
(search and ascertainment stage of ER)**

No	Components	Levels of CC formation			
		High	Sufficient (optimal)	Satisfactory (productive)	Low (basic)
		%	%	%	%
1.	Stimulating	7,2	15,9	65,3	11,6
2.	Cognitive	5,8	20,3	63,8	10,1
3.	Organizational-communicative	4,4	15,9	65,2	14,5
4.	Health-preserving	7,2	18,8	63,8	10,2
Average		6,2	17,7	64,5	11,6

Based on the processing and analysis of the obtained effective indicators and levels of formation of the CC in future PE teachers for each component at the search

and ascertainment stage, we confirmed that self-educational training of education seekers is not able to ensure the high-quality formation of their CC. We found that the lowest indicators of the organizational-communicative component are 14.5%, while the highest at the low (basic) level are for the cognitive component (10.1%).

Tables 3.6.1, 3.6.2 and 3.6.3 present the summary results of the formed CC offuture PE teachers of the first, second and third groups, respectively.

Table 3.6.1

Summary results of the formed CC of the first group for all components (search and ascertainment stage of ER)

No	Components	Levels of CC formation			
		High	Sufficient (optimal)	Satisfactory (productive)	Low (basic)
		%	%	%	%
1.	Stimulating	8,3	16,7	62,5	12,5
2.	Cognitive	8,3	20,9	62,5	8,3
3.	Organizational-communicative	4,1	16,7	65,5	16,7
4.	Health-preserving	8,3	20,9	62,5	8,3
Average		7,3	18,8	62,5	11,4

Table 3.6.2

Summary results of the formed CC of the second group for all components (search and ascertainment stage of ER)

No	Components	Levels of CC formation			
		High	Sufficient (optimal)	Satisfactory (productive)	Low (basic)
		%	%	%	%
1.	Stimulating	5,9	17,6	64,7	11,8
2.	Cognitive	5,9	17,6	64,7	11,8
3.	Organizational-communicative	5,9	17,6	58,9	17,6
4.	Health-preserving	5,9	17,6	64,7	11,8
Average		5,9	17,6	63,3	13,2

At the same time, it was found that a high level of motivation by the stimulating component was shown by 7.2% of students involved in the experiment at the search and ascertainment stage; sufficient – 15.9%; satisfactory – 65.3%, low – 11.6%.

Table 3.6.3

**Summary results of the formed CC of the third group for all components
(search and ascertainment stage of ER)**

No	Components	Levels of CC formation			
		High	Sufficient (optimal)	Satisfactory (productive)	Low (basic)
		%	%	%	%
1.	Stimulating	7,1	14,3	67,9	10,7
2.	Cognitive	7,1	14,3	67,9	10,7
3.	Organizational-communicative	3,6	14,3	71,4	10,7
4.	Health-preserving	7,1	17,9	64,3	10,7
Average		6,2	15,3	67,8	10,7

However, it should be noted that the last indicator is significantly lower in the third group of students – 10.7%. This indicates that the students of this group are more motivated for communicative interaction. Accordingly, 23.1% are sufficiently prepared for effective communication in classes with PE, which corresponds to high and sufficient levels. At the same time, it is possible to raise the quantitative indicator of the stimulating component when students move from a low and satisfactory level to a higher one. Therefore, there is a need to find ways to stimulate students to a higher formation of their CC.

At the same time, the students' CC in the organizational-communicative component is insufficiently formed. Its significance lies in the acquired skills of students in organizing their own communication in the process of conducting PE classes. The results we obtained at satisfactory and low levels are evidence that 79.7% of FT need knowledge, skills and abilities in conducting effective communication. A high indicator at a low level for this component (17.6%) in FT of the second group (students studying at UzhNU), which indicates that their CC is not formed. The indicated generalized indicators in Table 3.6 determine the further direction of our ER.

The qualitative and quantitative analysis of the research results conducted during the search and ascertainment stage of the experiment allows us to state that the formation of the CC in future PE teachers was detected in only 23.9% of students (% calculated according to the indicators of high and sufficient levels). Based on the

experimental data obtained, specific ways of increasing the formation of the CC of students were identified and the initial directions for the construction and implementation of the formative stage of the experiment were determined.

The third, formative stage of the study (September 2022 - November 2024) involves a comprehensive experimental verification of the hypothesis and the outlined conceptual provisions, the effectiveness of modeling the process of forming CC of future PE teachers, the implementation of pedagogical conditions in the educational process for the purpose of effective formation of CC, the development of individual topics of academic disciplines, and the conduct of the experiment itself.

At the fourth, generalizing stage (December 2024 - March 2025), an analysis was carried out and a summary of the results regarding the dynamics of the formation of the CC in future PE teachers in HEIs, which included mathematical data processing, writing general conclusions, designing a methodological complex of didactic materials and outlining the prospects for further scientific explorations on this research topic, as well as designing the text of the dissertation research.

Thus, at all stages of the ER, all research and experimental work was aimed at solving the main task - the formation of the CC in future PE teachers in the HEI. Therefore, for our study, it is relevant to characterize the organization and methodology of conducting the formative stage of the experiment.

3.2 Organization and methodology of conducting a pedagogical experiment

Modern society needs highly qualified specialists who would fully possess professional competencies. Therefore, higher education is faced with the task of fulfilling this social demand. The acquisition of professional competences directly depends on the use of effective methods, forms, means and technologies of their formation in higher education institutions. The effective formation of professional competence is influenced by both indirect conditions and educational factors that act as a transitional link between the outlined goal and the final result obtained – formed CC of future PE teachers during the period of PT in HEI (Liu H., 2024j). Therefore,

the formation of professional competences, in our understanding, is a complex, structured and multidimensional phenomenon.

The obtained results of the ascertaining stage of ER determine the relevance and timeliness of the development of additional pedagogical measures and the implementation of the system of pedagogical conditions. Therefore, to achieve the goal of the study, in the process of theoretical analysis (subsection 2.2), we logically identified and described a complex of interconnected and mutually reproducible pedagogical conditions for the formation of the CC in future PE teachers. The identified goal of the experimental work (verification of the effectiveness of the implemented pedagogical conditions for the formation of the CC of students) contributed to the definition of the working hypothesis: the systematic and targeted formation of the CC in future PE teachers is ensured by the effective implementation of pedagogical conditions in the educational process of students and the effective step-by-step implementation of the structural and functional model proposed by us in teaching. The declared pedagogical conditions that ensure the effective formation of the CC include:

- designing an educational environment that provides ample opportunities for the development of communicative activity of future PE teachers;
- implementation of active forms and methods of learning aimed at deepening and systematizing knowledge on the formation of CC of future PE teachers;
- formation of general and professional competencies (including CC) in the context of an interdisciplinary approach to the PT of future PE teachers;
- development of organizational-communicative skills of future PE teachers.

We have identified the essential tasks facing the formative stage of ER:

1. To implement the structural and functional model of the formation of the CC in future PE teachers, substantiated by us in subsection 2.3 (Fig. 2.2).
2. To experimentally verify how pedagogical conditions affect the effectiveness of implementing the proposed methods for the formation of the CC in future PE teachers in the educational process of HEI.

The identification of the research problem, its subject, working hypothesis and tasks allowed us to develop a Program for the formation of CC of future PE teachers

(the development is based on a logical and structured scientifically substantiated program, refined by A. Nayn (2014)), which contains the following stages:

- a) identifying the initial level of formation of the CC in future PE teachers;
- б) practical implementation of the model of formation of the CC in future PE teachers in HEIs;
- в) checking the level of formation of the CC in future PE teachers after the completion of the formative stage of the experiment;
- г) conducting an analysis, and then generalizing the obtained results of the ER on the formation of the CC in future PE teachers during the implementation of the declared pedagogical conditions.

Therefore, the formative stage was carried out step by step and with a characteristic sequence:

- conducting the formative stage of the experiment;
- application of effective diagnostic methods in the educational process of students to determine the formation of the CC in future PE teachers;
- using the method of mathematical statistics with mathematical processing of numerical data obtained during the experiment.

Our study successfully combined diagnostic and methodological work, and during the ER, certain pedagogical conditions and forms of organizing the educational environment for acquiring the CC of future PE teachers during the PT were tested.

The effectiveness of the application of pedagogical conditions at the formative stage of the experiment was verified in three HEIs - KhNU, UzhNU and TNPU, which ensured the formation of the CC in future PE teachers, and therefore their proper readiness for the future PA. We checked the formation of the CC according to the criteria identified in subsections 2.2 and 2.3 and the tests conducted.

To prove the effectiveness of the specified pedagogical conditions, within the framework of the implementation of the formative stage of research and experimental work, students of experimental institutions who began their studies in higher education in 2021-2022 academic year (69 students), after completing the search and ascertainment stage of ER, were divided into two groups with approximately the same

level of formation of the CC (according to the results of the search and ascertainment stage (see Table 3.6.1, Table 3.6.2 and Table 3.6.3) - control (CG) and experimental (EG)). The CG included PE students, who studied for four years in the conditions of traditional education, during which their CC was formed, and the EG included students who studied under the implementation of pedagogical conditions for the purposeful formation of CC in the educational process. Therefore, in addition to traditional training, EG students attended optional classes (within the framework of the author's Program for the Formation of CC of PE Bachelors), in which the teachers implemented the specified pedagogical conditions.

A feature of this selection of future PE teachers (a total of 69 people at the beginning of the ER, of whom 24 people entered the first year at KhNU, 17 people at UzhNU, and 28 people at TNPU, respectively) is that during the study process, changes occurred in the total number of students. During the experimental years, that is, during the period of undergraduate study (from the 2nd to the 4th year), not all students continued to study full-time, since some of them (10 people out of the total number) either left the university, or transferred to a part-time form of study, or began to study on an individual schedule. Keeping a diary of observation of students involved in the ER made it possible to control each stage of the experiment. Therefore, we took data for conducting mathematical calculations for the number of students completing full-time study at the bachelor's level, that is, for 59 students.

Accordingly, 59 students (KhNU - 20 people, UzhNU - 12 people, and TNPU - 27 people, respectively) participated in the formative stage of the ER, which we distributed into CG and EG. The EG included students who attended additional (optional) classes for two and a half academic years, but at the beginning had almost identical qualitative characteristics and quantitative indicators of the formation of the CC as the students of the CG. The EG included 29 people, while the CG - 30 people. The distribution of participants in the CG and EG (entered in Table 3.7) was determined in accordance with the general population, taking as a basis a reliable method of forming a sample population and a method of comparative analysis with almost identical qualitative and quantitative characteristics of readiness for the CC.

Table 3.7

**Distribution of future PE teachers into CG and EG at the formative stage
of the experimental research (September 2022 - November 2024)**

No	HEI	Number of participants in the experiment	
		CG	EG
1	Khmelnyskyi National University (Khmelnyskyi)	10	10
2	State Higher Education Institution "Uzhhorod National University" (Uzhhorod)	6	6
3	Ternopil Volodymyr Hnatyuk National Pedagogical University (Ternopil)	13	14

The formative experiment was held with the FT of specialty 014 "Secondary education (physical education)" of the indicated HEIs from September 2022 to November (inclusive) 2024 (two and a half academic years: 2022/2023, 2023/2024 and the first semester of 2024/2025, i.e. from 3 to 7 semesters inclusive).

A detailed examination of the professional training of future PE teachers is evidence that the formation of the CC is facilitated by various types of classroom and extracurricular (independent) work of students on mastering the educational and professional program, as well as attending additional (optional) classes.

The formative stage of the PT served to substantiate the structural and functional model of the formation of the CC of students of the first (CG) and second (EG) groups, as it oriented students towards continuous professional and communicative development, mastering new communicative knowledge, skills and abilities, and future parity in relationships.

At this stage, changes were made to the academic disciplines "Theory and Methods of Physical Education" (3rd semester, 2022/2023 academic year), "Theory and Methods of Children's and Youth Sports" (5th semester, 2023/2024 academic year), "Professional Skills (by professional direction)" (7th semester, 2024/2025 academic year) in order to determine and form the CC of future PE teachers. Methodological recommendations for increasing the effectiveness of the educational

process for the formation of the CC in future PE teachers during the study of professional disciplines are included in Appendix G.

Therefore, at the formative stage of the ER, the formation of the CC in future PE teachers of EG took place within the framework of the author's Program developed by us, which included the participation of education seekers in the process of completing individual tasks that were performed in advance, and professional training for the purpose of forming the CC in optional classes "Development of communicative competence in future physical education teachers". It should be noted that optional classes effectively influenced the mastery of new knowledge by the FT of EG and the procedural component of the formation of the CC. In addition, they developed the personality in the direction of improving communicative abilities, intelligence, morality and sociability.

Accordingly, the implementation of the ER included the following areas of work with bachelors of PE:

1. EG students were offered the choice of completing an individual advanced task within the framework of studying the discipline "Theory and Methods of Physical Education" in order to become a full-fledged participant in scientific research work. Future PE teachers, choosing practice-oriented tasks (related to the use of communicative knowledge), had enough time to solve them, since it was necessary to familiarize themselves with the scientific literature on the selected task and use the acquired knowledge in the specialty when substantiating it. The correct completion of advanced tasks was also facilitated by the knowledge obtained from the discipline "Introduction to the Specialty" (1st semester, 2022/2023 academic year). Solving and demonstrating advanced tasks (including solving communicative problems) contributed to the students' awareness of the prospects of their practical use in PA, and therefore motivated them to independently develop CC. Students, having chosen a topic for their research work, worked under the guidance of their teachers to write theses on the outlined problem, which included descriptions of communicative practices and strategies of communicative activity. Thus, the communicative skills and abilities acquired under such conditions prepared students for PA within the framework

of future implementation of proper communication with students, parents and colleagues.

2. The optional course "Development of communicative competence in future physical education teachers" (Appendix B) developed by us was introduced into the professional training of future PE teachers. We meaningfully introduced optional classes into the independent work of students in order to further solve practical problems in the formation of CC. This allowed us to motivate EG students to self-study and actualize their personally acquired professional-communicative knowledge and individual communicative skills in the process of studying academic disciplines; to form the foundations of effective practice-oriented communicative skills for solving pedagogical problems with the aim of creating a situation of success; to practically involve EG applicants in solving multi-aspect pedagogical tasks using the method of communicative influence and demonstrating flexible thinking and sociability. So, the elective program was aimed at providing EG students not only with ready-made communicative work skills, but also to orient them towards self-development and self-educational activities within the framework of the formation of the CC.

3. The formation of the CC of all students was carried out during their study of the disciplines of the general and professional training cycle. Accordingly, the implementation of an interdisciplinary approach in the process of studying the topics from the disciplines involved in the experiment became important. The topics of the classes included the study of teaching methods (verbal - story, conversation, explanation; practical - discussions; visual - illustrating educational material, showing slides) and communicative behavior of the teacher; the method of using the word in PE with the ability to express and justify one's own judgments; methods of professional communication and the functions of the teacher's speech in interaction with students, etc. The interdisciplinary approach to learning and active participation in optional classes allowed us to develop the communicative skills and abilities necessary for PA of EG students and to properly master the strategies of communicative activity and grasp the basics of verbal and non-verbal communication. By practically working on communicative techniques in classes in the academic disciplines we have defined

("Theory and Methods of Physical Education", "Theory and Methods of Children's and Youth Sports", and "Professional Skills (by professional direction)"), students had the opportunity to gain some experience in communicating in problem and conflict situations, to form their own skills in clear and logical expression of thoughts in a professional context, etc.

During the formative stage of the ER, the effectiveness of using the pedagogical conditions proposed and described in subsection 2.2 in the educational process of the HEI was verified. They ensured the effective formation of the CC in future PE teachers and had an effective impact on the process of such formation.

A plan for the formative stage of the experiment was discussed and approved with the teachers of HEI. As a result, a Program for the formation of the CC of PE bachelors EG was compiled, which complies with all current regulatory documents regarding the educational process in higher education institutions and does not hinder its organizational implementation.

The basis of methodological preparation for the formative stage (according to this Program) is ensuring the ER with objectivity and checking the effectiveness of the author's structural-functional model and the pedagogical conditions specified in subsection 2.2. Therefore, the methodological preparation plan included:

- supplementing the content of the academic disciplines selected for ER and working on individual tasks containing communicative topics;
- development of a plan for the elective course "Development of communicative competence in future physical education teachers" and the feasibility of its methodological and resource support;
- supplementing the content of work programs with individual tasks for the formation of CC of education seekers.

The practical implementation of the ER was based on the use of the Program for the Formation of the CC of future PE teachers in the educational process of HEIs.

We will reveal the essence of the Program step by step, from the goal to the stages of its implementation.

Program Goal: to create a high level of CC of future PE teachers of EG.

Program Objectives:

1. To develop awareness of the importance of the process of forming a professional identity during the professional development process in EG students.
2. To identify the social and individual professional significance of CC as an important component of future pedagogical activity for FT.
3. To promote the acquisition of communication strategies, methods and techniques by education seekers.
4. To help bachelors of PE form a personal communicative style of communication in relationships with students, parents, and colleagues.
5. Activate the internal resources of the FT for the purposeful formation of the CC.

Innovative-paradigmatic approaches: scientific, systemic, competency-based, activity-based, personality-oriented, communicative, differentiated, comprehensive, interdisciplinary, consultative-advisory, individual, creative and technological.

General pedagogical and specific principles: scientificity, professional orientation, consideration of individual characteristics, variability and innovation.

Technologies: person-oriented, problem-based learning, parity developmental dialogue technology.

Basic conditions for cooperation between teacher and students: cooperation.

Forms and methods of organizing the educational process in higher education institutions: traditional and non-traditional; collective, group, individual; verbal; visual; control and self-control; self-educational.

Types of activities: educational and cognitive, communicative, independent.

The implementation of the Program for the Formation of the CC of future PE teachers (at the formative stage of ER) was carried out in six interdependent stages, based on the developed elective "Development of Communicative Competence in Future Physical Education Teachers".

1. Preparatory stage. At this stage, individual organizational issues were resolved and an initial diagnosis of the formation of the CC of FT was carried out.

2. Motivational-stimulating stage. This stage provides for motivating students to acquire CC.

3. Cognitive-content stage. This stage contributed to the acquisition by students of new communicative knowledge, effective skills and professional skills in the formation of communicative relationships in the PA.

4. Activity-communicative. This stage provided the formation of communicative skills for effective conduct of PE classes in GSEI.

5. Health-preserving. This stage contributed to the development of organizational-communicative skills and skills of future PE teachers in forming a healthy lifestyle in students and developing their basic physical qualities.

6. Analytical and final stage. At this stage, it was necessary to conduct a final diagnosis and receive feedback.

Let us describe the implementation of each stage of the Program in the educational process of PE bachelors.

Preparatory stage. At this stage, we resolved issues related to the organization of the elective, including its duration, frequency, and time of the elective, which was consistent with the schedule of classes in this specialty at the higher education institution. This stage also included conducting an initial diagnosis of the formation of the CC in future PE teachers of CG and EG.

Motivational-stimulating stage was implemented in the education of students (starting from the first semester of the second year) of the first pedagogical condition (designing an educational environment that provides broad opportunities for the development of communicative activity of future PE teachers). This stage is aimed at increasing the level of motivation of students for dialogical interaction, forming in them an interest and need for effective communication during the PA period. Its implementation took place in the process of conducting practical classes in the academic disciplines we have identified.

When designing an educational environment to create opportunities for the development of CC of future PE teachers within the motivational and stimulating stage, we identified ways to effectively ensure it, which included:

a) demonstration of the pedagogical experience acquired by teachers of HEI and PE teachers of GSEI to PE students;

b) expansion of communicative knowledge and speech skills of FT communication, which took place during the study with active participation (starting from the second year) in round tables, motivational conversations, professional debates;

c) attendance by EG students of group classes on the elective "Development of communicative competence in future physical education teachers" on the topic "Physical culture as a social phenomenon". The purpose of this class is to enrich the FT with professional knowledge of PE (motivational emphasis is placed on mastering the concepts necessary for organizing effective PE classes, conducting sports and mass events, and ensuring a safe environment for students' physical activity) and to promote the formation of their CC;

d) initiating, developing and reviewing presentations on communicative topics in elective classes: "Teacher's communicative behavior and his communicative resources", "Communicative ethics", "Basic concepts of communicative interaction", "Communicative speech activity and its impact on conducting business meetings", "Features of communicative manipulations", "Communication problems in the training of specialists", "Intercultural communication in educational institutions", "Communication between teachers, teacher and students, teacher and parents: its role and features of conducting", "Effective communication skills", "Communicative function of communication", "Development of communicative abilities", etc.

In EG students, the development of activity, initiative and communication skills in optional classes, which are important for students to acquire the CC, was ensured by educational activities combined with one goal. These activities included meetings with participants in reading competitions and leading theater actors (to present verbal and non-verbal means of communication, adjust intonation and speech, voice production, etc.), joint viewing of films on communicative issues, etc., which motivated students to communicate. At the same time, we emphasized the importance of various types of

activities in working with EG students, since they cause the formation of subjective interaction and are accompanied by communicative skills.

During the implementation of the motivational and stimulating stage, the content of the disciplines was expanded with questions on individual topics:

1. Academic discipline "Theory and Methods of Physical Education" (studied in the 2nd year in the 3rd semester; Work program of the academic discipline "Theory and Methods of Physical Education", URL: <https://tmfvs.khmnu.edu.ua/wp-content/uploads/sites/14/robocha-programa-dlya-sofk-1-tmfv.pdf>) supplemented by such important problematic and motivational issues as:

- method of team formation and the importance of establishing communicative relationships between team members (topic of lecture No. 5 "Physical Education Methods", semester 3);

- expanding the culture of communication with the adult population involved in PE (topic of lecture No. 12 "The Importance and Tasks of Adult Physical Education" semester 3).

2. Academic discipline "Theory and methodology of children's and youth sports" (studied in the 3rd year in the 5th semester, Work program of the academic discipline "Theory and methodology of children's and youth sports", URL: https://tmfvs.khmnu.edu.ua/wp-content/uploads/sites/14/tmdyus-rp-2023_na-sajt.pdf) supplemented by the following questions:

- specifics of using communicative methods for motivation in children's and youth sports (topic of lecture No. 2 "Sports training as a pedagogical system of complex influence", semester 5);

- verbal motivation of children for educational and training classes (topic of lecture class No. 11 "Types and organization of classes", semester 5).

3. Academic discipline "Professional mastery (by professional direction)" (studied in the 4th year in the 7th semester, Work program of the academic discipline "Professional mastery (by professional direction)", URL: <https://tmfvs.khmnu.edu.ua/wp-content/uploads/sites/14/robocha-programa-dlya-sofk-1-tmfv.pdf>) supplemented by such important problematic and motivational issues as:

- formation of a communicative strategy and its impact on relationships in the educational environment (topic of lecture No. 6 "Teacher's speech is the main means of pedagogical activity", semester 7);

- self-control in communication (topic of lecture No. 8 "Mastery of pedagogical communication", semester 7).

The motivational and stimulating stage of the Program for the formation of the CC in future PE teachers of EG involves, in addition to individual work by students, group work in lectures and practical classes.

In parallel, EG bachelors, starting from the second year, attended the elective course "Development of communicative competence in future physical education teachers". As part of the elective, all students were involved in conducting a practical lesson on the topic "Motivational and value sphere of the personality of a physical education teacher and its importance for choosing strategies for effective interaction with students, parents and colleagues", which contributed to the acquisition by education seekers of knowledge about the value and motivational sphere of a person; awareness of the importance of their own profession, and therefore self-motivation and self-realization of themselves as a teacher; the values of social and interpersonal interaction and the establishment of favorable communicative relationships, etc. The lesson involved both demonstration methods, narration, discussion, persuasion, and the conscious work of EG students on designing their own motivation for the profession. Students had the opportunity to work on filling out a form for planning tasks for the half-year regarding personal expansion of activity motivation and learned to allocate date and time for their implementation.

The work carried out by teachers in lectures, practical and optional classes contributed to the formation of high motivational and value qualities in FT of EG and the development of personal and activity motivation for mastering the profession of a PE teacher.

In addition, students were motivated to acquire the CC through:

- organizing a series of meetings and discussions with specialists who are well versed in communication, speech, communicative forms and methods - linguist teachers, theater actors, readers of literary works from among student competitors, etc.;
- holding open classes, which considered issues related to motivation for making communicatively based professional decisions. After each such class in the specified disciplines "Theory and Methods of Physical Education", "Theory and Methods of Children's and Youth Sports", "Professional Skills (by Professional Direction)", EG applicants were offered to write an essay (its main provisions were considered in the elective). The questions that were addressed to EG students concerned personal professional changes within the framework of the formation of the CC and the assessment of their own readiness for effective communication with students, parents, colleagues. The essay topics (for example, "Communicative Interaction of Teachers and Students", "The Influence of Voice Intonation on the Resolution of Conflict Situations", "Improvement of Professional Language of future PE teachers for PT", etc.) were aimed at reflective awareness of oneself as a pedagogical worker with a high level of communicative knowledge, skills and abilities.

At the third (knowledge-content) stage of the Program for the Formation of the CC of future PE teachers of EG the second pedagogical condition was introduced (the implementation of active forms and methods of learning aimed at deepening and systematizing knowledge on the formation of the CC in future PE teachers), which was based on the use of the mapping method and the application of SWOT analysis in optional classes in the process of studying the disciplines of the PT.

We applied the mapping method (which includes the development of mind maps for each section of a specific discipline) to the discipline "Professional Mastery (by professional direction)", selected within the ER. This method is an effective tool for better perception of information on the topics studied by EG students and helps them independently systematize the studied material. The method of mapping the mental activity of education seekers helps to identify important connections between the sections and topics of the educational discipline and outlines the sequential distribution of educational material in accordance with the established connections. The peculiarity

of the development of the technology for compiling a mind map is the schematization of interdisciplinary connections between the content of the studied discipline.

In general, the interdisciplinary organization of the educational process in higher education institutions is built on the principles of a comprehensive approach to curricula and work programs of the discipline, comprehensive theoretical preparation of FT and consistency of the content of these disciplines. Interdisciplinary knowledge of future PE teachers is valuable today, as it helps to assess and predict the development of the PE in the GSEI.

As an example, we present the presentation of educational information for compiling a mind map of Module 1 "Theoretical Principles of Pedagogical Mastery" (7th semester) of the discipline "Professional Mastery (by professional direction)", which is part of the educational and professional program (cycle of professional training) for the preparation of PE bachelors (Fig. 3.1).

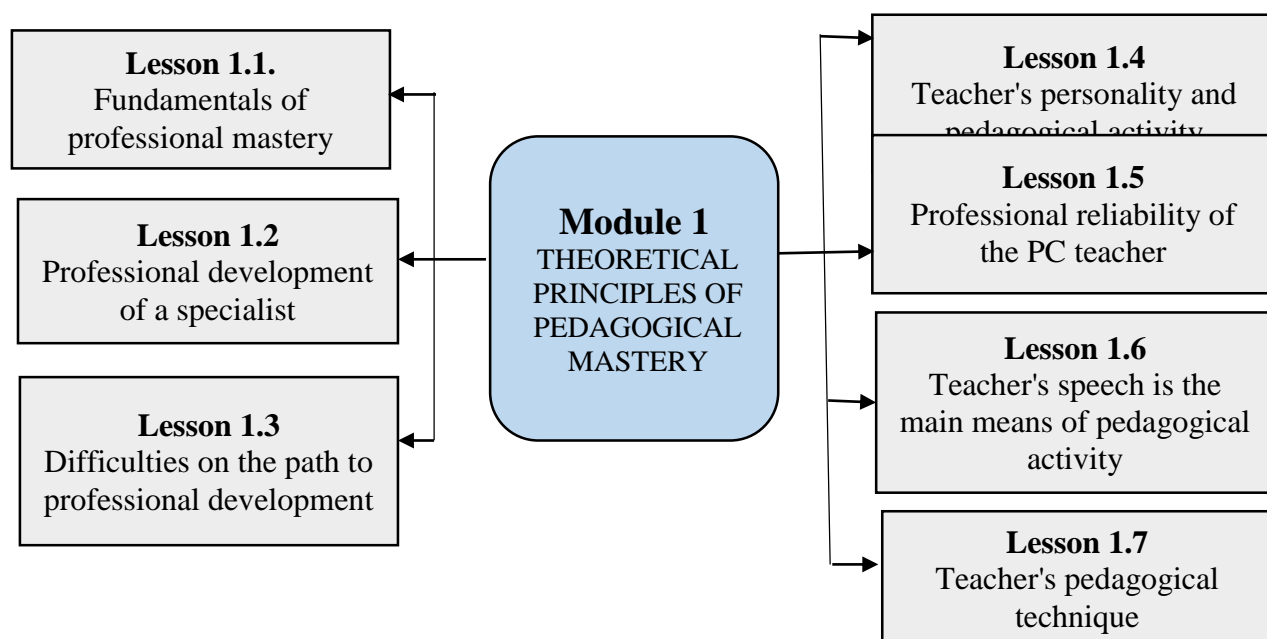


Fig. 3.1 Part of the mind map of Module 1 "Theoretical foundations of pedagogical mastery"

Each block of the lesson included in the mind map makes it possible to obtain the path to the proper processing of educational questions from the material proposed

by the teacher (in our case, lesson 1.2, Fig. 3.2). Note: the higher the level of the block (for example, 1.1 or 1.2) in the hierarchy of lessons, the lower the level of detail of the topic, but the higher the level of achievement of the educational goal. However, it should be remembered that at the lower levels of the mind map (for example, 1.6 or 1.7) lower goals are set, but the degree of detail of the lesson topic is maximum. Thus, the choice of the block level allows EG education seekers to track the required level of detail and fully realize the goal of the lesson.

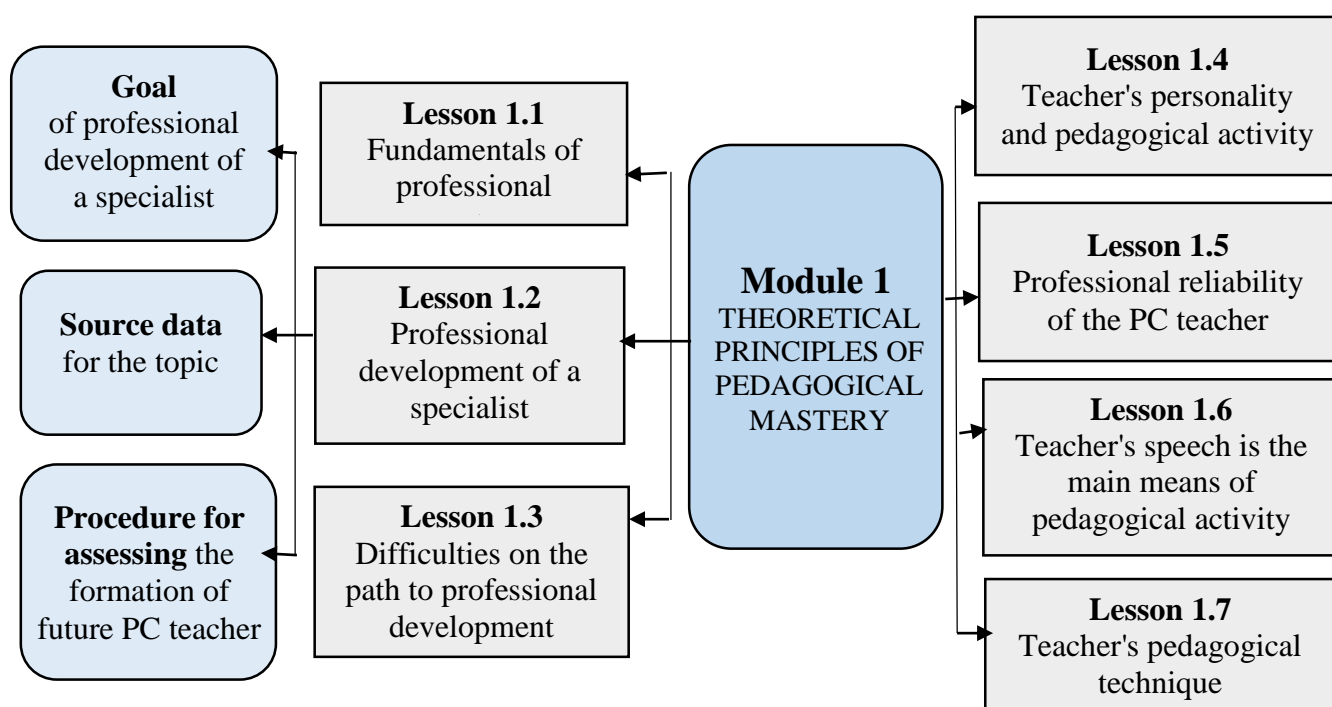


Fig. 3.2 Decomposition of lesson block 1.2 "Professional development of a specialist" of the academic discipline "Professional skills (by professional direction)"

Therefore, the use of mind maps at the formative stage of ER contributed to:

a) consolidation of the knowledge of EG students on the topics being studied, and thus formation of the ability to independently search for and analyze the scientific information;

b) strengthening subject-subject relationships through effective communication in classrooms;

c) stimulating the awareness of PE bachelors of the importance of an interdisciplinary approach in the formation of CC as a type of professional competence.

Within the framework of the knowledge-content stage, at which the second pedagogical condition was realized, special attention was paid to the formation of the CC of FT of EG. Thus, in extracurricular classes on the elective subject, related to the discipline "Theory and Methods of Physical Education", the following topics were studied:

1. "Conceptual and categorical apparatus and its influence on the formation of fundamental knowledge in the theory of physical education". Students were introduced to the main categories and concepts that are important for use in their work in the future. In addition, this helped them to replenish their own active-communicative vocabulary and to understand more deeply the meaning of pedagogical communication for the teacher.

2. "Physical education and its importance in satisfying the biological and social needs of the individual". In an optional lesson, students described the peculiarities of the biological needs of young people in physical activity and argued for the social demand for PE, since it contributes to the formation of a person, the improvement of his or her relationships with the environment, etc. Students were engaged in determining the key components of effective interaction between a teacher and students; worked in groups, creating their own models of the PE system, which included adapting communication methods to the needs of different groups of students, in particular in different educational settings (schools, sports clubs).

3. "Main and auxiliary means of physical education". This optional lesson became the basis for the development of the cognitive and organizational-communicative components of CC. Students, taking part in debates organized by the teacher, discussed various aspects of organizing classes, determined their effective financial support, reflected on the peculiarities of their conduct in the city and the countryside, which allowed them to better understand the methods of communication, contributed to the development of argumentation skills and the correct expression of their own thoughts.

4. "Basic provisions for building an effective process of physical education" PE students of EG, taking direct part in the elective, investigated the practical orientation of scientific principles and innovative pedagogical methods, using examples from real life, films and Internet resources. The implementation of this task helped students effectively combine their own theoretical knowledge acquired during their studies at the HEI with practical skills, which developed their analytical skills and ability to evaluate the effectiveness of communicative methods.

5. "Word usage methods and demonstration methods". The study of this topic focused on the development of the health-preserving component of PE, including the analysis of modern health-preserving technologies and methods in the learning process. Students created and conducted fragments of lessons that met the needs of students of different age categories, which allowed them to improve their ability to adapt communication and motivational approaches to a specific group of students. Considerable attention was paid to video demonstration methods in order to form positive motivation for health-preserving in PE classes. Practical tasks that EG students solved contributed to the development of the ability to adjust pedagogical approaches in accordance with the physical capabilities and level of preparedness of students.

6. "Methods of improving the physical qualities of schoolchildren". Students had the opportunity to get acquainted with various methods of preventive work, especially in terms of preventing injuries. Active participation in practical tasks allowed them to demonstrate their own skills in conducting preventive conversations with students. At the same time, the study of the topic involved considering the basic laws of physical development and the features of preparing schoolchildren for different types of loads. The main emphasis in the optional lesson was placed on the development of preventive measures aimed at minimizing risks during PE. The inclusion of interactive and communicative teaching methods allowed students to master the algorithms for building effective training programs taking into account the age and individual characteristics of students of GSEI (Appendix H).

In general, the relevant elective classes within the framework of studying the discipline "Theory and Methods of Physical Education" were aimed at the formation

of CC of FT of EG, helping them to acquire not only theoretical knowledge, but also practical communication skills for conducting effective PA in the future. Each of the tasks outlined in the elective contributed to the development of empathy and flexibility in approaches to each student and helped the HEI teacher in creating a favorable atmosphere in learning. Additionally, students analyzed methods of individualizing the educational process, gained experience in implementing safe and effective pedagogical teaching methods, adapting them to different levels of preparedness of schoolchildren and thereby practiced acquiring CC.

The fourth stage of the Program for the Formation of CC of FT of EG – activity-communicative – was based on the implementation of the third pedagogical condition (the formation of general and professional competencies (including CC) in the context of an interdisciplinary approach to the PT of future PE teachers) and was implemented in the process of studying the academic disciplines involved in the experimental study: "Theory and Methods of Physical Education", "Theory and Methods of Children's and Youth Sports" and "Professional Skills (by Professional Direction)". Within the framework of studying the disciplines during practical and lecture classes, CG and EG students had the opportunity to immerse themselves in the educational communicative environment in order to form sustainable activity interaction.

At the same time, at paired optional classes (a round table was organized on the topic "The Place of Communicative Processes in the Pedagogical Activity of a Physical Education Teacher"), EG students were asked to solve a number of problem tasks. The specified tasks were aimed at helping EG students better understand their chosen profession, determine their own readiness to communicate with students of different ages and levels of physical fitness, and also contributed to the development of their CC in a practical aspect.

Task 1. Imagine yourself in the shoes of a PE teacher approached by a student who is having difficulty interacting with classmates in class. Describe your emotions during this conversation. Which of these, in your opinion, will help establish trust with the student, and which may complicate communication?

Task 2. Imagine a situation where a student refuses to participate in team games, arguing that this is due to the fear of making a mistake and receiving a negative reaction from classmates. Develop a strategy to support this student: what words and communication methods will help increase his confidence? How will you contribute to creating a positive microclimate in the student team so that all participants feel comfortable during classes?

Task 3. During a PE lesson, one of the students avoids doing the exercises, referring to lack of interest and confidence in his abilities. Imagine that you have to conduct a motivational conversation with him. What arguments will you use to form a positive attitude towards physical activity? How will you help the student realize his own strengths and overcome doubts about his own abilities?

Discussion of the results of such tasks included an emphasis on the importance of personal and communicative qualities necessary for the PA of a PE teacher, as well as on how to overcome barriers that may arise in the process of interacting with students and/or with their parents or colleagues. In addition, students discussed personal qualities that should be improved in order to achieve professional goals.

The proposed problem tasks were successfully solved by higher education students through a joint, effectively organized discussion and group feedback. During their solution, the FT of EG generated a high level of professional communication, communicative abilities, interpersonal and communicative culture, and motivation for the proper implementation of pedagogical activities in the future.

It should be noted that the acquisition of the CC by Ft of EG is especially valuable in the context of working with students with special educational needs. A significant condition for the effectiveness of the educational process in GSEI was the development by students of new approaches to interaction with different categories of students and the active application of knowledge in pedagogy and psychology obtained during the study of disciplines. Within the framework of this topic, in the optional lesson "Physical development of children with special needs" we considered the following issues:

- the need to adapt physical exercises for students with different types of special educational needs;

- the impact of physical activity on the physical and psychological development of students with disabilities;
- methods of organizing PE classes with students with special needs;
- the role of the teacher in creating an inclusive environment and proper communication with students and their parents.

The main focus of the optional lesson was on understanding the importance of communication for achieving success in working with students with special needs. Studying relevant topics allowed students to gain experience not only in the pedagogical but also in the psychological aspect, which is important for successful communication with such children. FT had the opportunity to learn to understand the individual needs of students, to form appropriate communication strategies in working with them and to apply appropriate methods that would contribute to the most effective conduct of PE lessons with students with special needs.

It is important that the study of the discipline "Professional mastery (by professional direction)" in the fourth year of study (7th semester) is directly related to the development of communication skills and professionally-oriented skills of students, which ensure successful PA in the future. During the study of the discipline, FT master the methods and techniques of organizing an effective educational process that involves students of different age groups and levels of preparedness; design the creation of a positive microclimate in the lesson and learn to manage educational situations; develop skills in working with different age groups of students, including children with special needs. In addition, the academic discipline includes consideration of the professional ethics of the PE teacher, which is an important component of his professional skills.

Conducting optional classes (class topics "System of communicative skills of a physical education teacher", "Professional and communicative abilities of a physical education teacher as a subject of educational activity", "Methods of preventing and resolving pedagogical conflicts in physical education lessons", "Communicative skills of a physical education teacher in resolving pedagogical situations") within the discipline "Professional mastery (by professional direction)" allowed EG students to

familiarize themselves with the norms of professional behavior, in particular with the rules of communication in the conditions of the pedagogical process, which ensured mutual respect and productive interaction of the teacher with students. They also mastered the skills of organizing sports events and working with groups of schoolchildren with different levels of physical fitness.

Elective classes included:

- consideration by students of methods of monitoring and assessing the physical fitness of applicants of GSEI, which is important for monitoring their progress and correcting the results of the educational process;
- development of critical thinking among higher education students, as they learned to analyze and evaluate different approaches to organizing learning, select the most effective methods and techniques, depending on the conditions and tasks. This contributed to the acquisition of skills by future teachers to be flexible and adaptive in the learning process;
- work with parents of students, during which students learned to communicate effectively with parents, discuss PE issues with them, and involve them in organizing sports events. This allows future teachers to create a favorable environment for the physical development of students both at home and at school;
- developing teamwork skills, as PE teachers work as part of teaching teams, interacting with other teachers and school administration. Students learned the basics of effective teamwork, gained skills in coordinating efforts to achieve common educational goals;
- acquiring skills in creating a favorable atmosphere for the development of students' personalities, encouraging them to adopt a healthy lifestyle, physical activity, etc.;
- developing their own programs for working with students with special educational needs, which allows students to put their knowledge into practice and practice the skills of adapting educational material to such children.

Therefore, the formation of stable activity-communicative interaction contributes to the resolution of activity-pedagogical situations (including conflict) and

their possible consequences, allows to set various types of tasks and find effective ways out of them. Tolerant communication between participants in the process of conducting faculty classes develops the ability of future PE teachers to make well-reasoned and balanced decisions in limited periods of time and readiness for communicative self-development in accordance with the requirements of the profession. Therefore, the formation of CC of future PE teachers of EG provides them with scientific and communicative knowledge, innovative techniques and effective methods of communication.

The fifth (health-preserving) stage of the Program for the Formation of CC of future PE teachers of EG was based on the implementation of the fourth pedagogical condition (development of organizational-communicative skills and skills of future PE teachers). All academic disciplines involved in the experiment consider PE as part of the general culture and an effective factor in ensuring the health of GSEI students and leading a healthy lifestyle (specified in the Standard in the program learning outcome (PRN24)).

The formation of CC of students is closely related to their health preservation, since FT should always be satisfied with the process and result of communication with students, their parents and fellow teachers, as well as show a healthy interest in the development of their own communicative capabilities and abilities, and therefore in the acquisition of CC; be aware of the importance of self-control and self-assessment in communicative activity (these professional knowledge FT acquired within the framework of studying the disciplines "Theory and Methods of Physical Education" (Topic 2. Physical Education System, ULR: <https://tmfvs.khmnu.edu.ua/wp-content/uploads/sites/14/robocha-programa-dlya-sofk-1-tmfv.pdf>); "Theory and methodology of children's and youth sports" (Topic 2. Sports training as a pedagogical system of complex influence, ULR: https://tmfvs.khmnu.edu.ua/wp-content/uploads/sites/14/tmdyus-rp-2023_na-sajt.pdf); "Professional mastery (by professional direction)" (Topic 4. Teacher's personality and pedagogical activity, Topic 6. Teacher's speech is the main means of pedagogical activity, Topic 8. Mastery of

pedagogical communication, ULR: <https://tmfvs.khmn.edu.ua/wp-content/uploads/sites/14/prof-majsternist-rp-2023.pdf>).

An interdisciplinary approach to the formation of health-preserving competencies in each student includes the development of self-control skills, regulation of physical and psychological states of the individual and knowledge about a healthy lifestyle. In addition, the acquisition of this competency by the FT is aimed at developing the organizational ability to interact in society, build healthy relationships, and is also aimed at avoiding the negative influences of the social environment. Therefore, within the framework of this approach, communicative skills and skills are important for the PE teacher, mandatory for their PA.

In the elective classes "Development of communicative competence in future physical education teachers", EG students developed a health-preserving event and created a number of situational tasks (the scenario of the educational lesson "Formula of a healthy lifestyle" and situational tasks are listed in Appendix F), which covered the physical, psychological and social aspects of schoolchildren's health. Successful implementation of health-preserving events in GSEI requires systematic training of future PE teachers of EG, which includes both knowledge of human physiology and understanding of psychological and social mechanisms that affect students' health. An important factor is the creation of a health-preserving environment in educational institutions, as it stimulates schoolchildren to lead a healthy lifestyle. Accordingly, scientific approaches to the pedagogical activity of FT relate to health-saving technologies that are implemented at all levels of the educational process, in particular through interactive methods, an individual approach and systematic monitoring of students' health. Thus, when conducting optional classes, we take into account that health-saving is a necessary component of comprehensive education, which affects the formation of a physically and psychologically healthy personality, and an important condition for the formation of the CC in future PE teachers.

The sixth (analytical) stage of the Program for the formation of CC of future PE teachers EG is final. At this stage, a final diagnostic was carried out. The level of formation of the C of future PE teachers was checked after the completion of the

formative stage of experimental work according to the criteria and test sections identified in subsections 2.2 and 2.3.

Therefore, the implementation of the pedagogical conditions we have defined and the developed structural and functional model of the formation of the CC in future PE teachers in higher education institutions contributed to the creation of a communicative and developmental educational environment in which EG education seekers revealed their communicative readiness for PA based on:

a) stimulation (motivation) for achieving success in future PA as a personally realized need for conducting PE lessons in an effective communicatively saturated educational process;

b) acquired knowledge of the basics of communication, communication strategies and models, means and forms of communication necessary for effective professional communication in the field of PE and conscious communication in a professional environment;

c) acquired in the process of training the necessary practically-oriented communication skills, communication experience, communicative and organizational abilities for evaluating pedagogical situations, abilities for effective organization of learning and creation of a positive atmosphere in PE classes;

d) interdisciplinary communication skills for the successful realization of oneself as a health care specialist for students of the GSEI, which allow FT, using the communication skills acquired in the learning process, to effectively implement health technologies into their own PA in the future.

The effectiveness of the specific pedagogical conditions implemented in the educational process of the FT of EG and the implemented structural and functional model of the formation of the CC in applicants for higher education institutions has been proven by conducting an analysis of the results of experimental work obtained at the formative stage and confirmed by methods of mathematical statistics.

3.3 Results of the effectiveness of the formation of communicative competence in future physical education teachers in the process of professional training

The experimental work of the final stage of the ER was aimed at testing the effectiveness of the formation of CC in the process of PT of future PE teachers. In addition, the effectiveness of the pedagogical conditions implemented in the educational process of EG education seekers was investigated and the effectiveness of the structural and functional model of the formation of CC of future PE teachers was assessed. The purpose of the final stage was to compare the results of the input control with its quantitative results obtained within the formative experiment.

At the beginning of the formative stage, we identified certain tasks that require:

- equal initial conditions of training of future PE teachers of CG and EG;
- introduction into the training of EG education seekers of the author's methodology for increasing the level of formation of the CC in the process of studying the academic disciplines "Theory and Methods of Physical Education", "Theory and Methods of Children's and Youth Sports", "Professional Mastery (by professional direction)" and the effective completion of FT elective classes;
- monitoring the effectiveness of the pedagogical conditions used in student education and the implemented structural-functional model of the formation of the CC in future PE teachers in HEIs;
- processing numerical data obtained during the experiment using mathematical statistics;
- conducting a comparative qualitative and quantitative analysis of changes in the levels of formation of CC and summarizing the conducted research work with established statistically reliable results.

We note that the dynamics of changes in the formation of the CC in fourth-year bachelors was monitored by comparing the results obtained at the ascertaining and formative stages of ER taking into account the specified components (stimulating, cognitive, organizational-communicative and health-preserving), criteria (motivational, knowledge, communicative and health-preserving), indicators (high,

sufficient (optimal), satisfactory (productive) and low (basic)) of the formation of the CC. Control sections allowed us to assess the quantitative and qualitative changes that occurred in CG and EG students during the studied phenomenon and to fully describe the readiness of PE students for PA with a formed CC. At the same time, the above-mentioned level approach allowed us to consider the formation of CC as a transition from simpler (low, satisfactory) to more complex (sufficient, high) levels of this professional and communicative formation.

To evaluate the results of the ER we conducted, diagnostic methods were used, which were applied at the ascertaining stage and ensured the consistency and integrity of the study. Empirical data obtained during the diagnosis of the level of formation of the specified criteria were processed, presented in the form of tabular distributions by percentage and visualized graphically.

At the corrective-prognostic stage of the experimental research, a thorough analysis of the results obtained at the ascertaining and forming stages was carried out. In the process, a comparison was made of numerical indicators of the level of formation of the components of the CC of future PE teachers based on the data of the input (IC) and final (FC) control conducted among students of the CG and EG. Verification of the effective formation of the CC of FT of the CG and EG according to a specific criterion (the description of the criteria is provided in subsection 2.1) was carried out by us in accordance with the generalization of the obtained estimates from each diagnostic method in the form of self-assessment.

Thus, the effectiveness of the experimental implementation of the pedagogical conditions and structural-functional model in the educational process of future PE teachers, with the aim of forming the CC, was determined by comparing the digital indicators of the input and final levels of this formation in the CG and EG education seekers. At the same time, the reliability of the obtained experimental results was confirmed by the methods of mathematical statistics, which are usually professionally used in pedagogy. The comparison of the parameters of the general populations, namely their average values and variances, was carried out using the Fisher criterion

(F-criterion) and tabular data with the indicators of the theoretical F-criterion (F_{krit}) (Kyverialg A. A., 1980, p. 278).

The null hypothesis was defined as one that was compared with the alternative and was subject to control inspection. According to the null hypothesis, the difference in the indicators of the formation of the CC in CG students is the result of traditional teaching methods in HEIs. While according to the alternative hypothesis, we made an assumption that the difference in the results of the formation of the CC in the IC and FC of future PE teachers is due to the purposeful involvement of these students in completing the author's Program and mastering professional disciplines (three academic disciplines were involved in the ER, which were meaningfully supplemented by us with the necessary educational material on the formation of the CC). Thus, the confirmation of the alternative hypothesis occurred with the effective use in the ER of substantiated pedagogical conditions with their scientific-methodological support and the structural-functional model of the formation of the CC in future PE teachers effectively implemented in HEIs.

The reliability of experimental data was determined using the F-criterion and calculations performed to establish F_{emp-CG} i F_{emp-EG} , using formula 3.1 according to A. Kyveryalg (Kyveryalg A. A., 1980, p. 277):

$$F_{emp} = \frac{\sigma_1^2}{\sigma_2^2} \quad (3.1),$$

where σ_1^2 – more dispersion, and σ_2^2 – less dispersion.

The scientist A. Kyveryalg proposes to calculate the magnitude of the dispersion using the formula-algorithm 3.2:

$$\sigma^2 = \frac{\sum f(x_i - \bar{x})^2}{N} \quad (3.2),$$

where f – number of FT of CG and EG with an appropriate level of CC formation;

$(x_i - \bar{x})$ – the difference (determined in points) between the numerical value of each level (5; 4; 3; 2) of the formation of the CC and the average value (in points);

N – number of education seekers in the CG or EG where the dispersion was calculated.

The reliability of the obtained results of the experimental work was confirmed by comparing the numerical indicators of the empirical Fisher F-test for each of the groups – $F_{\text{emp-CG}}$ and $F_{\text{emp-EG}}$, which were calculated using the numerical indicators obtained during the experiment, and the theoretical F-criterion (F_{krit}), where the F-value was determined from a standardized table (Kyveryalg A. A., 1980, c. 278).

According to the corresponding table (Kyveryalg A. A., 1980, p. 278) we determine the value of the critical indicator of Fisher's F-test, which directly depends on the number of FT of each group involved in the experiment.

Therefore, comparing the value of the critical F-criterion (F_{krit}) with the empirical values that we calculated based on the indicators of the formation of the CC within each level and for each component of such formation in the CG ($F_{\text{emp-CG}}$) and EG ($F_{\text{emp-EG}}$), we took into account the number of FT degrees of freedom, which for CG is $29 - 1 = 28$ and for EG, respectively, $30 - 1 = 29$. However, provided that the number of degrees of freedom is from 28 to 30 (which is typical for our study and is 29 future teachers in the CG and 30 future teachers in the EG), then according to the standardized table, F_{krit} lies within 1.9 - 1.6. Therefore, if the values of the F-criterion for CG ($F_{\text{emp-CG}}$) and EG ($F_{\text{emp-EG}}$) are within the numerical values from 1.6 to 1.9, this confirms the reliability of the research results we obtained.

The values of the formation of the CC in the EG and CG at the formative stage were determined according to the methods of the ascertaining stage of the ED. Since in the CG and EG the number of FT was 29 and 30 people, respectively, we carried out a comparative analysis by the average value in points and by percentage indicators of the levels of formation of the CC in future PE teachers.

During the implementation of the IC and FC, information collection methods and mathematical statistics methods (F_{krit}) were used, with the help of which we calculated the statistical probability of various pedagogical influences throughout the experiment and objectified the results obtained with their further explanation. The effectiveness of the formation of CC of FT is identical to the levels of such formation at high, sufficient (optimal), satisfactory (productive) and low (basic).

The results of the formation of the stimulating component of the CC of FT of the first and second groups are shown in Table 3.8 (IC and FC of the formation stage of ER). The entered numerical data contributed to the implementation of an in-depth analysis of the formation of the CC in future PE teachers.

Table 3.8

**Results of the formation of the CC in future PE teachers by the
stimulating component**

Group	ER stage	Numerical indicators of the levels of formation of CC by the stimulating component								Average
		High (5)		Sufficient (optimal) (4)		Satisfactory (productive) (3)		Low (basic) (2)		
		num.	%	num.	%	num.	%	num.	%	
CG, 29	IC	2	6,9	6	20,7	17	58,6	4	13,8	3,21
	FC	4	13,8	15	51,7	9	31,1	1	3,4	3,76
EG, 30	IC	3	10,0	5	16,7	18	60,0	4	13,3	3,23
	FC	7	23,3	18	60,0	5	16,7	0	0	4,07

The results of the analysis of Table 3.8 show that a high level of formation of the CC by the stimulating component was confirmed in 23.3% of FT of EG, while in the CG students it is 13.8%, which is 9.5% less. The sufficient level increased by 43.3% in the EG education seekers and by 31.0% in the CG bachelors. The average level in the EG at the final stage is 16.7% and indicates a decrease in the resulting indicators by 43.3%, which indicates a positive dynamics of the formation of the CC in future PE teachers of this group. At the same time, in the EG applicants, the absence of a low level of formation of the CC at the stage of the final control of the knowledge section,

where the decrease occurred by 13.3%. We also monitor the same in the CG students (-10.4%). Such dynamics indicate a significant shift in emphasis at the average and sufficient levels with a separate transition to higher levels of CC formation.

Thus, the dynamics of the levels of formation of the CC by the stimulating component is more positively evident in EG applicants, which confirms the effectiveness of the implemented pedagogical conditions in the educational process and a higher degree of formation of the CC in future PE teachers of EG. The results are displayed in the form of a diagram in Fig. 3.3.

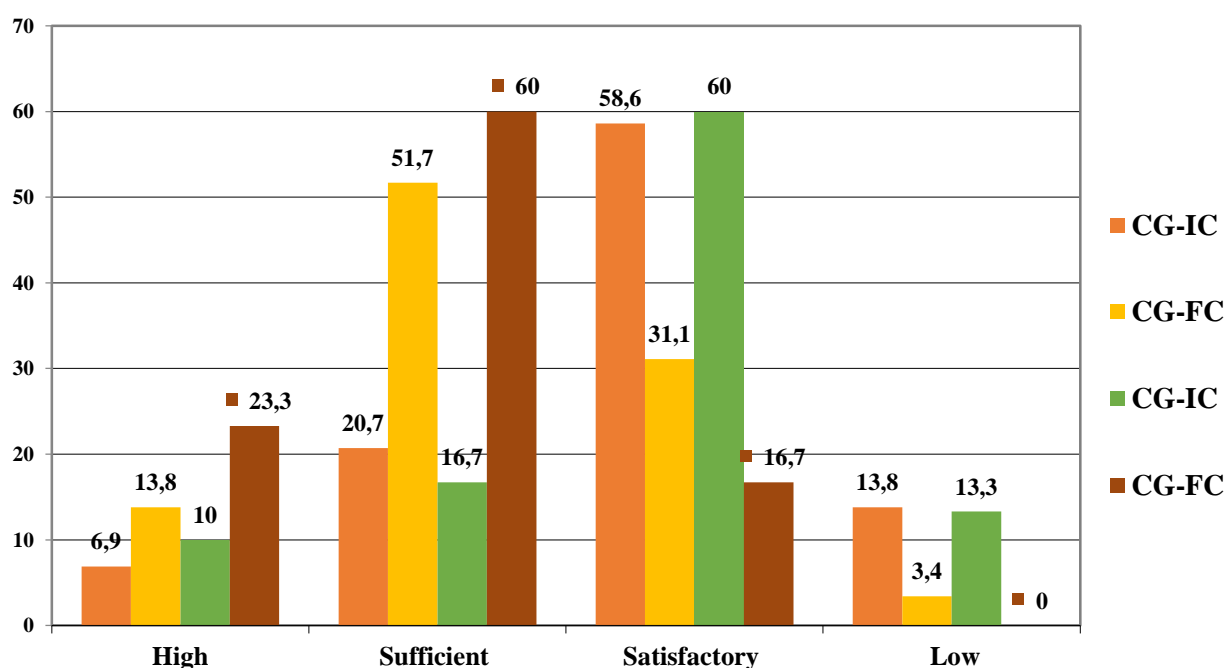


Fig. 3.3 Diagram of the results of indicators of formation of the CC in future PE teachers by the stimulating component at the formative stage of ER

The dispersion was calculated based on the deviations of the numerical values of the levels of formation ((5), (4), (3), (2)) from the average CC scores of FT, taking into account the number of respondents at each level. In the CG, the larger dispersion is equal to $\sigma_1^2 = 0,5778$, lower – $\sigma_2^2 = 0,5279$, which allowed to calculate the empirical value of the F-criterion for $F_{\text{emp}}\text{-CG} = 1,09$ (for $\sigma_1^2 = 0,5778$ and $\sigma_2^2 = 0,5279$), when in

EG $\sigma_1^2 = 0,6455$, $\sigma_2^2 = 0,3955$, which allowed to calculate the F-criterion for FT of EG: $F_{\text{emp-EG}} = 1,63$.

Verification of the reliability of the obtained results of the formation of the CC in future PE teachers of the CG and EG by the stimulating component allows us to draw the following conclusion (according to the Fisher criterion): the empirical value of the F-criterion in the CG ($F_{\text{emp-CG}}$) has a value of 1.09, which does not exceed the theoretical range of the critical indicator F_{krit} (1.9–1.6), but goes beyond its limits, while the calculated value of the F-criterion future PE teachers of the EG ($F_{\text{emp-EG}}$) has a value of 1.63, which indicates the reliability of the obtained results, since the obtained number is within the permissible value of F_{krit} (1.9–1.6).

Thus, the numerical indicators we obtained confirmed the formation of a certain level of CC of future PE teachers of the CG and EG for the motivational component. However, for all four levels (from low to high), the final control data obtained for EG education seekers are better than for CG students who studied traditionally.

Transformational processes of the formation of CC of future PE teachers of CG and EG with a cognitive component during the formative stage of ER are reflected in Table 3.9.

Table 3.9

Results of the formation of the CC in future PE teachers by the cognitive component

Group	ER stage	Numerical indicators of the levels of formation of CC by the cognitive component								Average
		High		Sufficient (optimal)		Satisfactory (productive)		Low (basic)		
		(5)		(4)		(3)		(2)		
		num.	%	num.	%	num.	%	num.	%	
CG, 29	IC	2	6,9	6	20,7	18	62,1	3	10,3	3,24
	FC	4	13,8	16	55,2	8	27,6	1	3,4	3,79
EG, 30	IC	2	6,7	7	23,3	18	60,0	3	10,0	3,27
	FC	6	20,0	20	66,7	4	13,3	0	0	4,07

Having analyzed table 3.9, we see that at the beginning of the experiment, the majority of students in the CG and EG demonstrated an average level of CC formation - 62.1% and 60.0%, respectively, the share of individuals with a high level was only 6.9% and 6.7%. At the end of the formation stage of ER, a sufficient level of development remained dominant in both groups (55.2% and 66.7%), the number of students with a high level in the CG increased slightly (+ 6.9%), while in the EG such growth was much greater (+ 13.3%). The number of PE bachelors who had a low level of CC formation also decreased in the EG - by 10.0% (from 10.0% to 0%), since they simply did not remain at this level, since the education seekers moved to a higher level of this formation.

In EG, a more pronounced positive dynamic is observed in relation to average scores. Thus, the average score of FT of CG increased slightly - from 3.24 to 3.79, i.e. by 0.55 points, which indicates insufficiently positive dynamics in mastering the cognitive component without specially organized pedagogical influence. The difference in the average score between IC and FC of FT of EG is much greater and is 0.80 points, which is 0.25 points higher than in the CG. This, in turn, is evidence of the effectiveness of pedagogical measures implemented within the ER.

Fig. 3.4 shows the dynamics of formation of CC of FT at the formative stage of ER, which are attributed to CG and EG by the cognitive component.

The results of calculating the dispersion according to the indicators of the formation of the cognitive component of the CC of future PE teachers were as follows:

- CG: $\sigma_1^2 = 0,5279$, $\sigma_2^2 = 0,5089$, thus $F_{\text{emp-EG}} = 1,04$;
- EG: $\sigma_1^2 = 0,5288$, $\sigma_2^2 = 0,3288$, thus $F_{\text{emp-EG}} = 1,61$.

Thus, in the CG $F_{\text{emp-EG}}$ (F-criterion) with a numerical value of 1.04 goes beyond the theoretical indicator F_{krit} (1.9 – 1.6), which does not allow us to state any significant changes in the level of formation of the cognitive component during the experimental work. In contrast, in the EG the calculated F-criterion $F_{\text{emp-EG}} = 1.61$ exceeds the lower limit of the theoretical interval F_{krit} (i.e., is within the permissible value of the probability of the results), which confirms the reliability of the obtained

results and the effectiveness of the implemented pedagogical conditions for the formation of the CC in future PE teachers by the cognitive component.

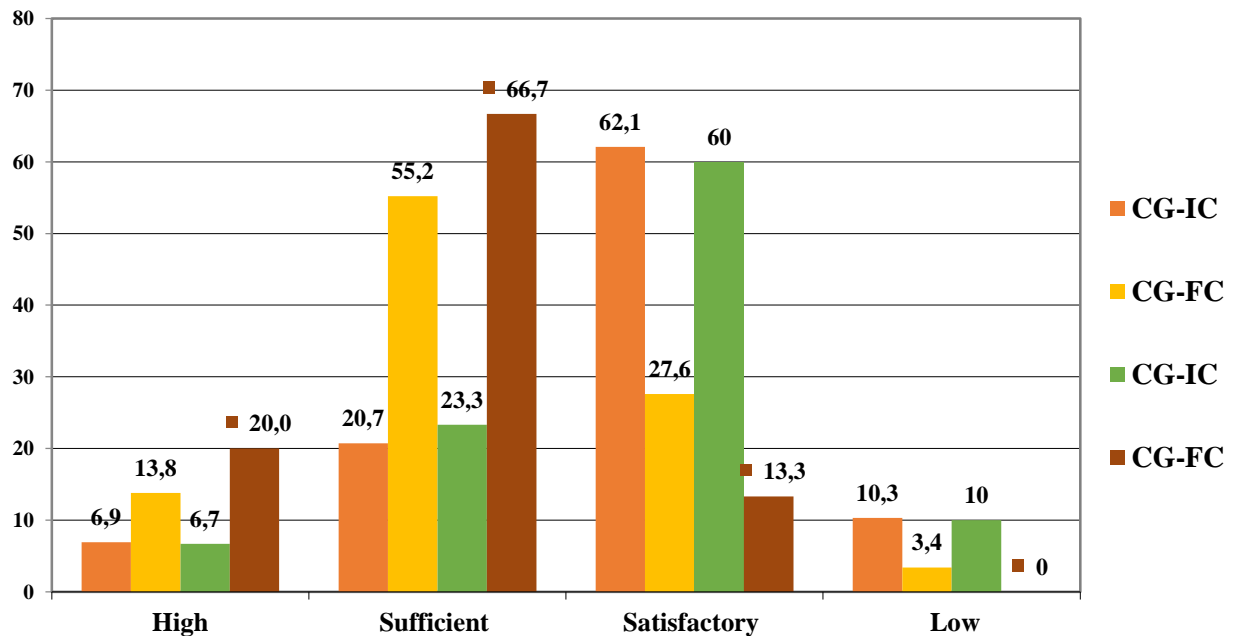


Fig. 3.4 Diagram of the results of indicators of formation of the CC in future PE teachers by cognitive component at the formative stage of ER

Comparative analysis of the formation of the cognitive component of the formation of CC of future PE teachers (results are presented in Table 3.9) reflects the dynamic changes in the CG and EG education seekers. A significant increase in indicators is observed in EG students, since the deep assimilation of the FT educational material took place according to the author's method of increasing the level of formation of the CC during the study of academic disciplines (three disciplines of the professional cycle included in the experiment) and the successful completion of elective classes by students. Accordingly, personal knowledge of the future specialty and understanding of the importance of PT in higher education institutions significantly deepened, which led to an increase in the level of understanding of the goals and objectives of the outlined educational process and the acquisition of fundamental knowledge by PE students.

The dynamics of the formation of the CC by organizational-communicative component is shown in Table 3.10.

Table 3.10

Results of the formation of the CC in future PE teachers by the organizational-communicative component

Group	ER stage	Numerical indicators of the levels of formation of CC by the organizational-communicative component								Average
		High		Sufficient (optimal)		Satisfactory (productive)		Low (basic)		
		(5)		(4)		(3)		(2)		
		num.	%	num.	%	num.	%	num.	%	
CG, 29	IC	1	3,4	4	13,8	20	69,0	4	13,8	3,07
	FC	1	3,4	11	37,9	16	55,3	1	3,4	3,41
EG, 30	IC	2	6,7	7	23,3	15	50,0	6	20,0	3,16
	FC	4	13,3	17	56,7	9	30,0	0	0	3,83

Analysis of the averaged indicators presented in Table 3.10 allows us to draw conclusions about the positive dynamics of the formation of the CC in future PE teachers for the organizational-communicative component throughout the entire ER.

1. The percentage of students with a high level of CC formation in the EG increased by 6.6% (from 6.7% to 13.3%), in the CG it remained constant at 3.4%. This indicates the effectiveness of the influence of pedagogical conditions and the effective introduction of the structural-functional model into the educational process of EG students with the aim of achieving a high level of CC formation of future PE teachers.

2. The indicator of sufficient level in the EG increased by 33.4% (from 23.3% to 56.7%), while in the CG it increased by only 24.1%, which confirms the advantage of experimental work in stimulating the formation of CC.

3. The average level of formation of the CC of EG students decreased from 50.0% to 30.0% (-20.0%), while in the CG changes of this indicator corresponded to 3.7%. The decrease in this indicator in EG indicates the gradual advancement of the FT to higher levels of formation of the CC, namely to sufficient and high (9 people were at these levels for IC, while 21 people were already at FC).

4. The low level in the EG is completely absent (the decrease occurred from 20.0% to 0%), while in the CG the indicator of this level decreased by 10.4% (from 13.8% to 3.4%), which is also evidence of the effectiveness of the implemented pedagogical conditions in the experimental work.

At the same time, generalized average score increased in both groups: in the CG - from 3.16 to 3.83 points (by 0.67 points), and in the EG - from 3.07 to 3.41 points (by 0.34 points). This indicates a greater effectiveness of the educational process with the implementation of the structural-functional model of the formation of the CC in future PE teachers.

Therefore, the quantitative changes in the indicators of the formation of the CC for the organizational-communicative component, which are most closely monitored in EG education seekers, obtained at the formative stage of ER, make it possible to make the following generalization: an effective combination of traditional, problem-based and interactive learning (conversations about the significance of communication for FT; active communication of education seekers during the solution of problem assignments (cases); participation in discussions, debates, didactic and professional games, etc.) in HEIs promotes the communicative development of students, enables high-quality conduct of PE classes in the future, and activates the ability of FT to properly communicate with colleagues, students and their parents.

The results of the state of formation of the CC in future PE teachers by organizational-communicative component are visualized in Fig. 3.5.

The reliability of the results obtained during the ER on the formation of the CC in future PE teachers within the organizational-communicative component indicate positive qualitative changes in the formation of the specified component among applicants who were part of the EG. Thus, σ^2 at the beginning of the IC in CG was $\sigma_1^2 = 0,4090$, at the end – $\sigma_2^2 = 0,3804$, which led to the calculation of the empirical indicator of Fisher's criteria $F_{\text{emp-CG}} = 1,08$; in EG $\sigma_1^2 = 0,6722$ and $\sigma_2^2 = 0,4055$, therefore $F_{\text{emp-CG}} = 1,66$.

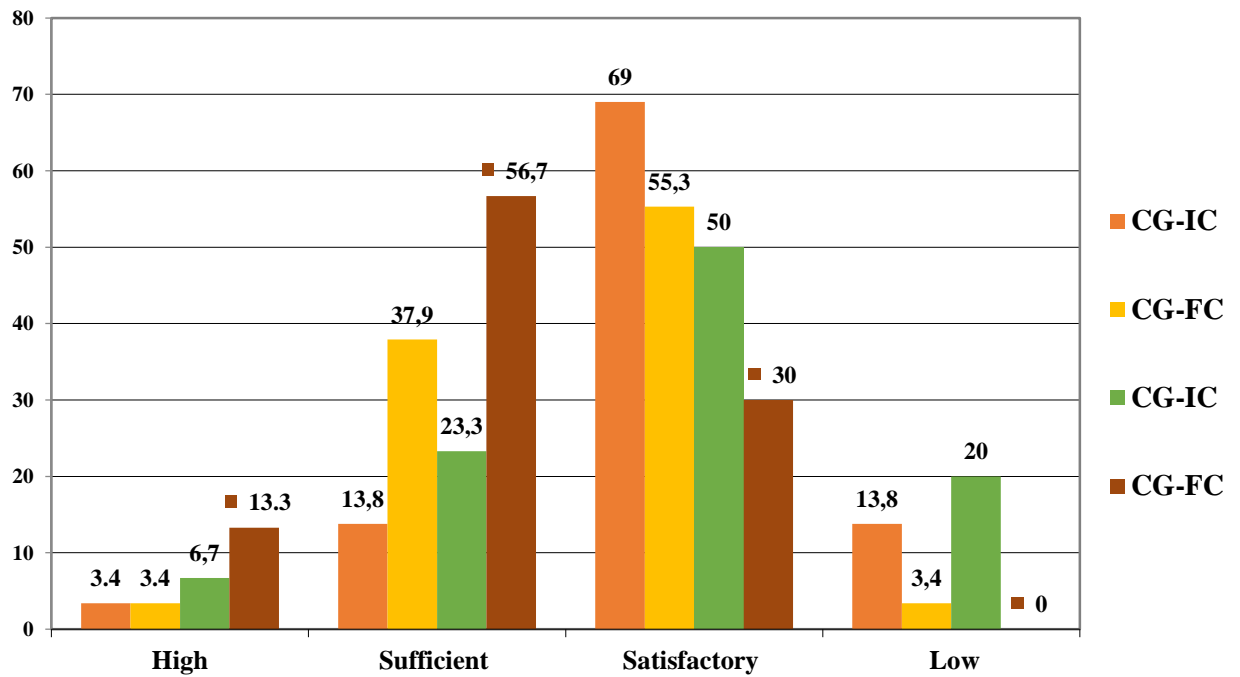


Fig. 3.5 Diagram of the results of indicators of formation of the CC in future PE teachers by organizational-communicative component at the formative stage of ER

Thus, the obtained F-criterion value for CG with a defined numerical value of 1.08 does not reach the lower limit of the tabular critical value F_{krit} (1.9–1.6), which indicates the absence of statistically significant shifts in the levels of formation of CC of future PE teachers in CG by the organizational-communicative component. In turn, the calculated F-criterion indicator (F_{emp-EG}) for EG education applicants is 1.66 and reaches the limit level of reliability (is within the permissible value of the probability of results), which confirms the reliability of the obtained results and allows us to verify the effectiveness of the implemented pedagogical conditions for the formation of CC of future PE teachers by organizational-communicative component.

Changes in the formation of CC for the health-preserving component of future PE teachers are presented in Table 3.11.

Based on a comparative analysis of the levels of formation of the CC in future PE teachers of the CG and EG, positive dynamics were found in the health-preserving component in representatives of both groups, with an advantage in EG students.

Table 3.11

Results of the formation of the CC in future PE teachers by the health-preserving component

Group	ER stage	Numerical indicators of the levels of formation of CC by the health-preserving component								Average
		High (5)		Sufficient (optimal) (4)		Satisfactory (productive) (3)		Low (basic) (2)		
		num.	%	num.	%	num.	%	num.	%	
CG, 29	IC	2	6,9	7	24,1	16	55,2	4	13,8	3,24
	FC	4	13,8	10	34,5	15	51,7	0	0	3,62
EG, 30	IC	3	10,0	6	20,0	18	60,0	3	10,0	3,30
	FC	9	30,0	18	60,0	3	10,0	0	0	4,20

A high level of formation of the CC was demonstrated by 30.0% of EG respondents (+20.0% increase, from 10% at the IC stage), while in the CG this indicator changed slightly - by 6.9%. This is evidence of the effective impact of experimental work on the growth of a high level of formation of the CC in education seekers. A sufficient level of formation of the CC in the health-preserving component in EG students at the IC stage was 20.0%, and at the FC stage - 60.0%, which indicates a significant positive growth of this indicator (+40.0%). In the CG, the dynamics of this level also increased by 10.4%. This gives grounds to argue that the experimental conditions contributed to a more active transition of students to higher levels of CC formation. The largest positive changes occurred at medium and low levels of FT of EG, where the indicators decreased by only 50.0% and 10.0%, respectively. The low level is absent for FT of CG in FC (the change was -13.8%) and EG (-10.0%), since no student remained with a low level of CC formation by the health-preserving component.

The average score of the formation of the CC in EG students by the health-preserving component increased from 3.30 to 4.20 points (by 0.90 points), while in the CG the increase was from 3.24 to 3.62 points (by 0.38 points), which is 0.52 points lower than FT of EG.

The quantitative results we tracked, reflecting qualitative and transformational processes of the formation of the health-preserving component in numerical indicators, are more pronounced for the FT of EG. The identified quantitative changes in students were influenced by the educational process effectively built by us in the HEI, which was purposefully directed within the framework of experimental work to the development of the CC in the direction of health preservation in students.

The results of the formation of CC of future PE teachers by a health-preserving component during the formation stage of ER are shown in Fig. 3.6.

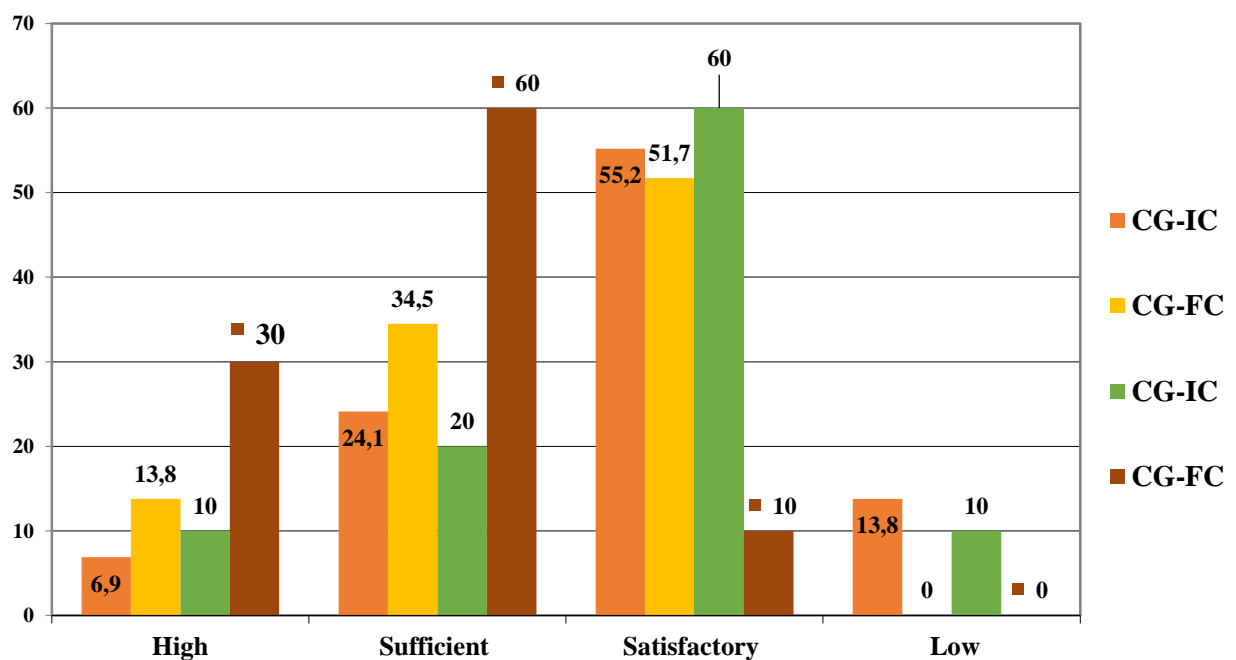


Fig. 3.6 Diagram of the results of indicators of formation of the CC in future PE teachers by health-preserving component at the formative stage of ER

Verification of the reliability of the results of the formation of the CC in future PE teachers by health-preserving component showed excellent positive dynamics in EG applicants compared to CG. Thus, the methods of mathematical statistics used to evaluate the obtained results of the formation of the CC in bachelor's students indicate: σ^2 for IC and FC of CG and EG are different, which confirms F-criterion for both groups.

For CG $\sigma_1^2 = 0,5969$, $\sigma_2^2 = 0,5112$, thus $F_{\text{emp-CG}} = 1,16$.

For EG $\sigma_1^2 = 0,6100$, $\sigma_2^2 = 0,3600$, therefore $F_{\text{emp}}\text{-EG} = 1,69$.

The empirical value of the F-criterion for CG is lower than the critical theoretical range (1.9–1.6), which indicates the absence of statistically significant changes in the levels of CC formation for the health-preserving component during ER. This result confirms the stability of the indicators and the low efficiency of traditional approaches to CC formation of future PE teachers.

In contrast, in EG, the F-criterion is 1.69, therefore exceeding the lower limit (1.6) of the standardized indicator. However, $F_{\text{emp}}\text{-EG}$ is within the permissible numerical value (1.9–1.6), which confirms the reliability of the obtained experimental data.

Therefore, the final statistical data convincingly prove the effectiveness of the implemented pedagogical conditions for the formation of the CC in future PE teachers.

The results of the formation of the CC in future PE teachers, summarized for all components, are shown in Table 3.12.

Table 3.12

Generalized results of the formation of the CC in future PE teachers for all components at the formative stage of ED

Group	ER stage	Levels of formation of the CC in future PE teachers in HEI								Average
		High		Sufficient (optimal)		Satisfactory (productive)		Low (basic)		
		(5)		(4)		(3)		(2)		
		num.	%	num.	%	num.	%	num.	%	
CG, 29	IC	2	6,9	6	20,7	17	58,6	4	13,8	3,21
	FC	3	10,4	13	44,8	12	41,4	1	3,4	3,62
EG, 30	IC	3	10,0	6	20,0	17	56,7	4	13,3	3,26
	FC	7	23,3	18	60,0	5	16,7	0	0	4,07

A generalized analysis of the results of the formative experiment averaged over all components is shown in Table 3.12, which presents numerical data on the distribution of future PE teachers by the levels of formation of their CC by implementing pedagogical conditions and the author's structural-functional model in the educational process of HEIs. The averaged results listed in Table 3.12 indicate

changes in the distribution of students by levels and indicate positive dynamics of growth in the level of formation of the CC in future PE teachers of EG compared to the CG. The most noticeable are changes in the percentage ratio of high and sufficient levels of formation of CC: in the EG, a stable growth of indicators is observed, while in the CG the dynamics was less pronounced.

Thus, over the entire period of study, the high level of EG education applicants increased on average by 13.3% (from 10.0% to 23.3%), and in the CG - by 3.5% (from 6.9% to 10.4%). The high growth of the formed CC in EG students was demonstrated by the generalized indicators of the sufficient level. They increased by 40.0% (from 60.0% to 20.0%) in EG, while in the CG - by 24.1% (from 20.07% to 44.8%), which is 15.9% less than in FT of EG. The average level of CC formation in the CG changed slightly (decreased by 17.2%), however, in the EG there was a tendency to its gradual decrease (decreased by 40.0%) in favor of the growth of sufficient and high levels. Particularly significant is the reduction in the low level among EG education seekers, where its complete elimination is recorded (from 13.3% to 0%), while in CG there were only minor changes (from 13.8% to 3.4%).

Additional confirmation of the effectiveness of the proposed pedagogical conditions is the average integral score: in the EG it increased by 0.81 points from 3.26 points at the IC stage to 4.07 points at the FC stage, while in the CG the fluctuations were insignificant and did not exceed 0.21 points.

Thus, the results obtained indicate that the introduction of pedagogical conditions into the educational process of PE bachelors and the effective introduction of the structural-functional model into the teaching of PE effectively influenced the stimulation of the formation of the CC of FT, which was manifested in interest in the chosen specialty, the acquisition of communicative and behavioral knowledge, skills and abilities for the successful resolution of pedagogical situations, the development of a conscious attitude to the health of young people and the proper organization of future PA. At the same time, the positive dynamics of the levels of formation of the CC in the EG is evidence of an effectively implemented author's Program, which

ensured the effectiveness of the systemic growth of the CC of future PE teachers in HEI.

The generalized results of the formation of the CC in future PE teachers at the formative stage of ER, obtained from CG and EG education seekers, are visualized in Fig. 3.7.

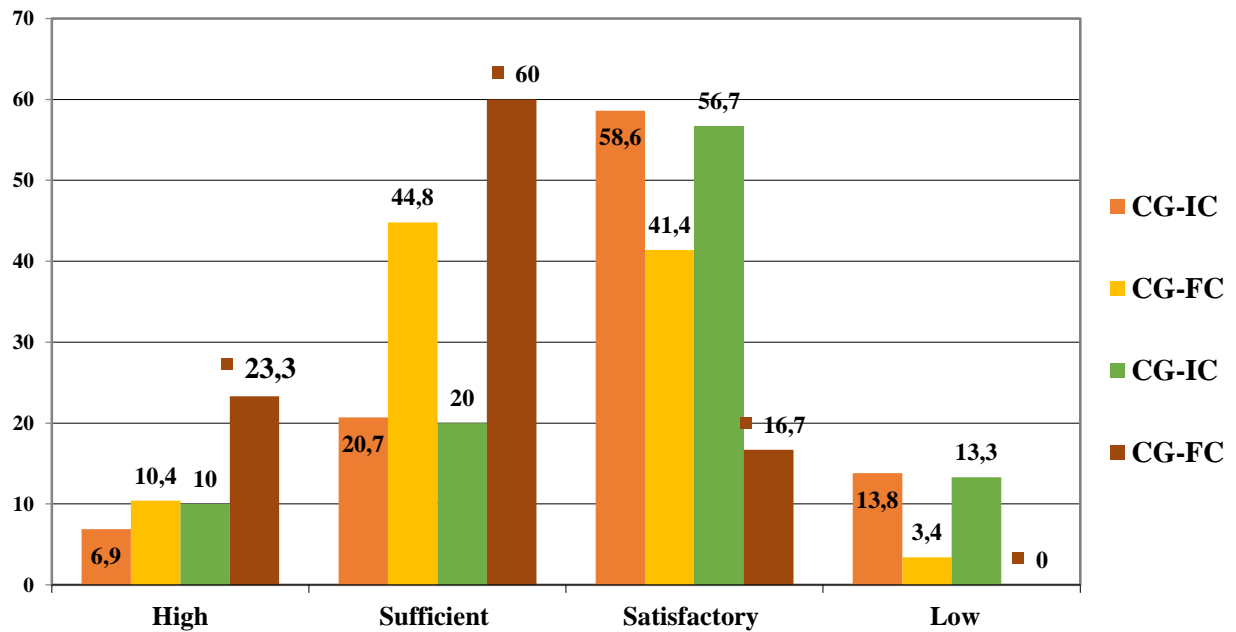


Fig. 3.7 Diagram of changes in generalized indicators of formation of the CC in future PE teachers in HEI

Verification of the reliability of the results of the formation of the CC in future PE teachers is confirmed by the obtained statistical indicators. Thus, for IC in the CG $\sigma_1^2 = 0,5788$, while for FC $\sigma_2^2 = 0,5098$. For CG F-criterion ($F_{\text{emp}}\text{-CG}$) = 1,13. In Eg $\sigma_1^2 = 0,6622$ (IC results), $\sigma_2^2 = 0,3955$ (FC results). For EG F-criterion ($F_{\text{emp}}\text{-EG}$) = 1,67.

Thus, the F-criterion for the CG with a numerical value of 1.13 goes beyond the tabulated value (1.9 – 1.6) of the permissible standardized indicator of the theoretical F-criterion, while the F-criterion for the EG with a quantitative indicator of 1.69 lies within the permissible numerical value, which indicates the reliability of the obtained results.

So we conclude: the effective conduct of the research and experimental work allowed us to effectively conduct a verification of the formation of the CC in future PE teachers in CG (29 students) and EG (30 students) at the formative stage of ER using the methods of the ascertaining stage. A comparative analysis of the obtained % by readiness levels (high, sufficient (optimal), average (productive) and low (basic)) on the IC and FC clearly confirms the positive-stable results and the effective-changing dynamics for all components of the formation of the CC in future PE teachers. In contrast, in the EG and CG, for the stimulating and cognitive components, there is an increase in the share of respondents with high and sufficient levels of the formation of the CC and a corresponding decrease in the share with a low level for the organizational-communicative and health-preserving components.

However, the generalized results of the increase in the numerical values of high and sufficient levels and the decrease in the number of EG bachelors with medium and low levels of CC formation are + 13.3%, + 40.0%, - 40.0%, - 13.3%, respectively. For CG students, the dynamics of changes in the indicators was less pronounced and amounted to + 3.5%, + 20.1%, - 17.2%, - 10.4%. The results of changes in the indicators of CC formation for each outlined component of CC formation of the future PE teachers are listed in Tables 3.8 - 3.12 and are displayed graphically in the form of diagrams in Fig. 3.3 - 3.7.

The general interpretation of the obtained results of the study on the formation of the CC in future PE teachers according to all its structural components (stimulating, cognitive, organizational-communicative, health-preserving) confirms the statistical reliability of the positive dynamics in the EG. The empirical values of the Fisher criterion for all components in the CG (ranging from 1.04 to 1.16) did not reach the theoretical critical range (1.9–1.6), which indicates the absence of significant changes in the levels of formation of the studied indicators.

The affirmative-positive and growing dynamics of the conducted research, namely the results of the formation of the CC in future PE teachers, allows us to conclude that the hypothesis outlined by us has been confirmed, the research tasks have been solved, and therefore the goal of the ER has been achieved.

Conclusions to the third chapter

The effectiveness of the implemented pedagogical conditions and the author's structural-functional model of the formation of the CC in future PE teachers was based on the experimental organization of pedagogical research taking into account the content of the students' educational process and the effective methodology of the experimental work. The implemented experiment, according to the purpose of the ER and the plan of the experimental work on the formation of the CC in future PE teachers, covered four logically structured and interconnected stages of scientific research.

At the analytical stage, a review of scientific and pedagogical, periodical and scientific methodological literature was implemented to study the degree of processing of the outlined problem by scientists, which allowed to reveal the experimental practice of forming the CC of future PE teachers, determine the goal and outline the tasks of the dissertation research, formulate a working hypothesis, define its categorical and conceptual apparatus, develop a program for conducting ER, determine the experimental base and duration of experimental work.

At the search and ascertainment stage of the experiment, criteria for assessing the formation of the CC in future PE teachers were developed, evaluation indicators were established to determine the levels of such formation, pedagogical conditions were identified and characterized, a structural-functional model of the formation of the CC in future PE teachers in higher education institutions was developed. An ascertainment experiment was conducted, the state of formation of the components (stimulating, cognitive, organizational-communicative and health-preserving) of future PE teachers was analyzed in accordance with a package of specially adapted methods to determine their initial state and level of formation; the educational and methodological support of ER was specified.

The formative stage involved conducting the experiment itself: selecting and distributing students into CG and EG; implementing the selected pedagogical conditions in the educational process of future PE teachers of the HEI and implementing a structural-functional model of the formation of the CC in students,

assessing the dynamics of the formation of the CC as the readiness of future PE teachers for the PA.

At the generalizing stage of the ER, a final diagnostic check of the formation of the CC in future PE teachers in the HEI was carried out. The obtained data was analyzed and its mathematical processing was carried out. The results of experimental work on determining the effectiveness of the influence of pedagogical conditions and the structural-functional model on the process of formation of CC of FT were summarized, and general conclusions were formulated.

The author's Program for the formation of the CC in future PE teachers in HEI combined the goal, tasks of the ER, created the same initial conditions for the FT of CG and EG and the forms of organizing the educational process. FT of the 1st-4th courses of the HEI were involved in the Program within the framework of studying the disciplines "Theory and Methods of Physical Education", "Theory and Methods of Children's and Youth Sports", "Professional Mastery (by Professional Direction)" and the optional course "Development of Communicative Competence in Future Teachers of Physical Education" in six (preparatory, motivational-stimulating, knowledge-content, activity-communicative, health-preserving and analytical-final) stages. The preparatory stage of the Program resolved issues related to the organization of the elective (its duration, frequency, and time of conduct in accordance with the schedule of classes in this specialty at the HEI) and included conducting an initial (input) diagnosis of the formation of the CC of FT of CG and EG at the formative stage of ER.

The motivational and stimulating stage was implemented in lecture and practical classes and elective classes, which provided ways to effectively develop the communicative activity of future PE teachers. EG education seekers adopted the communicative experience of HEI teachers, PE teachers of GSEI, contestants-readers and leading theater actors, participating in meetings-motivational conversations, professional debates and round tables; they took part in group classes on electives, where they developed presentations and watched films on communicative topics, wrote scientific papers and essays on the topics "Communicative interaction of teacher and students", "The influence of voice intonation on resolving conflict situations",

"Improvement of professional language of future PE teachers for PA", etc. Within the framework of this stage, the content of the disciplines involved in the ER was expanded with questions on individual topics for the formation of students' critical thinking, which provided for individual and group work.

The cognitive and content stage of the Program was based on the application of the method of mapping the mental perception of professional educational material by FT of EG (development by students of mind maps for each section of the discipline "Professional mastery (by professional direction)"); attendance by EG students of extracurricular seminar classes of the elective "Development of communicative competence in future physical education teachers"; use of SWOT analysis in PE classes; solving situational tasks; development of an algorithm for building effective training programs with the inclusion of interactive and communicative teaching methods.

The activity-communicative stage of the Program involved lectures and practical group classes in the studied disciplines, which had the following features: involving students in designing a positive microclimate in the lesson; mastering the methods and techniques of organizing a communicatively effective educational process; comprehensive use of interactive methods and methods of individualizing learning; modeling and solving activity-pedagogical situations (including conflict ones), including children with special needs, and their reflection; participation in making well-reasoned and balanced decisions in limited periods of time in order to form communicative self-development in accordance with the requirements of the profession.

The participation of EG applicants in the round table "The Place of Communicative Processes in the Pedagogical Activity of a Physical Education Teacher" and optional classes contributed to the formation of appropriate communicative strategies for PE teachers; solving problem tasks through jointly organized discussion and group feedback; mastering new approaches to interacting with different categories of students and actively applying the acquired knowledge in pedagogy and psychology; developing programs for effective teamwork.

The health-preserving stage was provided by considering PE as part of the general culture and an effective factor in ensuring the health of students of the GSEI and leading a healthy lifestyle. In the elective classes health-preserving event (educational hour "Healthy Lifestyle Formula") was developed by FT of EG. Situational tasks that comprehensively covered health-preserving technologies, means of communication and physical, socio-psychological and pedagogical aspects of schoolchildren's health were compiled. Communicative and organizational abilities for the effective implementation of health-promoting technologies in future PA were revealed.

The analytical and final stage involved conducting a final (summary) diagnosis of the communicative and developmental educational environment created in the ER process and analyzing the experimental results obtained at the formative stage.

The developed Program for the formation of the CC in future PE teachers is holistic and integrated, since all stages are subordinated to a single goal. Effectively conducted experimental work allows predicting the formation of the CC of FT, which is confirmed by empirical methods and methods of mathematical statistics. Comparative data of the formative and generalizing stages of the experimental work showed positive dynamics of the levels of formation of the CC in future PE teachers in all components (stimulating, cognitive, organizational-communicative and health-preserving).

It has been proven that the structural-functional model of the formation of the CC in future PE teachers, effectively developed and tested by us, together with specifically defined pedagogical conditions, effectively ensured the formation of CC throughout the entire research work and effectively served as a theoretical, organizational, technological and practical fundamental basis for conducting scientific research.

The main results of the chapter are reflected in the author's scientific works:
Cao X., & Liu H., 2024; Liu H., 2024j; Zhang J., Liu H., & Dai W., 2024

GENERAL CONCLUSIONS

The dissertation study analyzed, theoretically generalized and proposed a new solution to the problem of forming the CC of future PE teachers in HEI. The results of the conducted research confirmed the hypothesis, indicated the achievement of the goal and the effective solution of the tasks set, which made it possible to formulate generalized conclusions:

1. The analysis of scientific psychological, pedagogical and methodological literature, the main theoretical and methodological provisions, conceptual ideas and modern scientific approaches to the researched issues in Ukrainian and foreign science on the formation of the CC in future PE teachers allowed to outline the basic requirements related to the training of education seekers with the aim of forming their CC as a systemic and holistic process at all its levels. These requirements relate to ensuring and implementing the high educational standards of FT in the GSEI and include enhanced and intensive mastery of system-structured theoretical knowledge, practical skills and organizational and communicative skills of interpersonal and professional communication aimed at the development of CC, as an effectively necessary condition for the effective interaction of the teacher with students, their parents, colleagues, as well as the effective implementation of PA.

The main components of the formation of the CC in future PE teachers in HEI are recognized as the goal of this formation; the content of academic disciplines with proper organization of the educational process and its structuring aimed at the implementation of clearly defined initial, intermediate and final learning goals; the optimal combination of a set of effective forms and methods of forming the CC of students and control over their implementation.

The formation of the CC in future PE teachers in HEI was influenced by modern trends in the European educational space, focused on the formation of professional competencies, including communicative, and the requirements of the Higher Education Standard for the specialty 014.11 Secondary Education (Physical Education) of the first (bachelor's) level, which regulate the key competencies that the FT must acquire during studies in HEIs.

2. Scientific exploration of the basic conceptual and categorical constructs made it possible to determine in the dissertation research the pedagogical essence of the PT future PE teachers in the direction of the formation of CC in higher education applicants, to determine the components of formation, to identify the criteria, indicators and levels of formation of this competence.

The formation of the CC in future PE teachers is considered as a holistic multidimensional process that combines in-depth theoretical training with pedagogical practice and encompasses the development of professional and communicative knowledge, communicative and organizational skills and skills of effective communicative and pedagogical interaction and, accordingly, communicative reflection; includes stimulating, cognitive, organizational and communicative and health-preserving components; contributes to the resolution of conflict situations and the implementation of pedagogical dialogue; provides a dialogical educational environment favorable for the comprehensive development of the student's personality.

The CC of future PE teachers formed in HEI is a fundamental personal basis for mobilizing one's own professional capabilities in achieving high professional results in the future.

The structure of the formation of the CC in future PE teachers in higher education institutions reflects the unity of the *stimulating* (involves stable incentive-communicative motives in future activities and activates the motivational-value sphere of education seekers (their emotions, feelings, perception, reflective listening, which accompany, motivate and correct communication), *cognitive* (covers knowledge on the development of the ability to professional communication and the operational sphere of ideas about the content and tasks of effective, responsible-conscious communication in a professional environment; forms and methods of work on the development of students' communication skills; means of communication; ways of overcoming conflict and orientation towards a professional perspective), *organizational-communicative* (reflects the organizational and communicative spheres of pedagogical activity of PE specialists; covers professionally significant communication skills and the ability to effectively interact with students and other participants in the educational process;

reveals the experience of communication and methods of communicative influence; provides for a combination of communicative and organizational skills, personal and interpersonal culture of professional communication, communicative interaction and rules of behavioral actions in a team of students and colleagues), *health-preserving* (includes physical fitness and culture of a healthy lifestyle; creates an appropriate communicative and emotional mood in the process of conducting PE lessons in order to strengthen and maintain the health (physical and mental) of all participants in the educational process) components.

A criterion and evaluation apparatus for the study with clearly defined levels (high, sufficient (optimal), satisfactory (productive), low (basic)) of the formed CC of future PE teachers in higher education institutions has been developed in accordance with the identified indicators of such formation according to motivational, knowledge, communicative, and health-preserving criteria.

3. For increased growth of the quality of formation of the CC in future PE teachers in higher education institutions the influence of pedagogical conditions on the effectiveness of the formation of this competence in students was identified, theoretically substantiated, holistically studied and experimentally investigated. For this purpose, the following pedagogical conditions were identified: designing an educational environment that provides broad opportunities for the development of communicative activity of future PE teachers; implementation of active forms and methods of learning aimed at deepening and systematizing knowledge on the formation of the CC in future PE teachers; formation of general and professional competencies (including CC) in the context of an interdisciplinary approach to the PT of future PE teachers; development of organizational and communicative skills and abilities of future PE teachers.

A structural-functional model of the formation of the CC in future PE teachers in HEI has been developed as an effective pedagogical model, which includes a set of strategic, conceptual-methodical and criterion-diagnostic blocks. The strategic block covers the social order for PE teachers, educational goals (to ensure the effective formation of a high level of CC of future PE teachers as an integrated professional

education), research tasks aimed at the formation of CC in students of the HEI and the scientific and pedagogical principles of the formation of the specified competence (scientificity, professional orientation, taking into account individual characteristics, variability and innovation). The conceptual and methodological block of the model reflects the content of the process of formation of the CC of FT and during the study of professional disciplines and the interrelationship of pedagogical conditions and the author's Program for the formation of this competence in bachelors of the PE, which contains the technological component (means, methods, forms and types of training) of the educational process in the HEI; implements the four-stage (theoretical, conceptual-technological, organizational-practical and correctional-prognostic) process of forming the CC in higher education institutions. The criterion-diagnostic block of the model reveals the diagnostic apparatus/toolkit (a set of criteria, indicators and levels of formation) for assessing the formation of the CC in future PE teachers, establishes the relationship between the outlined goal and the specified result. The criterion-diagnostic block reflects three structural components: components of the formation of the CC in future PE teachers in higher education institutions, criteria for assessing the level of formation of the CC and levels of the corresponding formation, which serve as the expected result.

4. The effectiveness of the implemented pedagogical conditions in the educational process of future PE teachers and the effective author's structural-functional model made it possible to assess the state of the formation of CC in HEI applicants.

The comprehensively used diagnostic tools significantly indicate the positive dynamics of the formation of the CC in FT. The obtained generalized statistical results are evidence that in the EG, over the entire period of study, the percentage of students who achieved a high 13.3% (from 10.0% to 23.3%) and sufficient 40.0% (from 20.0% to 60.0%) levels of formation of CC for each component increased, compared to the CG indicators at a high level of 3.5% (from 6.9% to 10.4%) and sufficient 24.1% (from 20.7% to 44.8%), which is 9.8% and 15.9% less, respectively, than for EG education seekers. The effectiveness of the developed model is indicated by the decrease in the

number of FT of the EG at the satisfactory (by 40.0%, from 56.7% to 16.7%) and low (by 13.3%, from 13.3% to 0%) levels and for the CG at the satisfactory (by 17.2%, i.e. from 58.6% to 41.4%) and low (by 10.4%, from 13.8% to 3.4%) levels, respectively, which is due to the usual process of their education in higher education institutions.

Analysis of the results of the indicators of the formation of the CC in future PE teachers by the average value shows that in the CG there was an increase from 3.21 to 3.62 points (by 0.41 points), and in the EG - from 3.26 to 4.07 points (by 0.81 points), which is 0.40 points more than in the CG students.

The reliability of the obtained results and the reliable conduct of the formative experiment involving the Program for the formation of the CC in future PE teachers were proven by the application of statistical methods for processing the obtained data using the Fisher criterion (F-criterion) and tabular data with indicators of the theoretical F-criterion (F_{krit}). The obtained results of the formation of the CC indicate that in the CG σ_1^2 is 0,5788 for IC, and σ_2^2 equals 0,5098 for FC. The F-criterion obtained for the CG (F_{emp-CG}) is 1.13, which goes beyond the limits (1.9–1.6) of the standardized indicator of the theoretical F-criterion (for the number of FT involved in the formative experiment from 28 to 30 people, which is typical for the CG participants - 29 people and the EG - 30 people). In the EG $\sigma_1^2 = 0,6622$, and for FC $\sigma_2^2 = 0,3955$, thus the F-criterion for EG (F_{emp-EG}) with a numerical index of 1.67 lies within the permissible value (1.9–1.6), which indicates the reliability of the numerical results obtained during the conducted experiment.

The conducted experimental study is holistic and logically complete, but does not fully exhaust the raised problem of the formation of the CC in future PE teachers in higher education institutions. We see promising areas of further research in the study of the theoretical foundations of the formation of intercultural communication of FT and the introduction of pedagogical, innovative and communication technologies into the educational process of students in a mixed form of organization of learning, which will effectively influence the level of PT and making informed decisions in a multicultural environment.

REFERENCES

- Abramovych, T. V. (2018). Development of professional competence of a social educator in the system of postgraduate education. [Diss. Candidate of Pedagogical Sciences, Rivne State Humanitarian University].
- Abul'khanova-Slavs'ka, K., Ball, H., Kon, I., Semychenko, V., Tatenko, V., & Tytarenko, T. (2024). Development of assertiveness in adolescents. Assertiveness and self-development of pupils and students with signs of giftedness in war conditions: materials of the XVII scientific-practical seminar. Kyiv (pp. 64–69). Institute of Psychology named after GS Kostyuk NAPS of Ukraine.
- Akmaldinova, V., & Luzyk, E. (2019). Formation of readiness for professional activity as a pedagogical problem. Bulletin of the National Aviation University. Series: Pedagogy. Psychology, 15, 52–60.
- Alekseev, O. O. (2021). Organization and methodology of conducting a study of the professional training of future physical education teachers for organizing individual work with students. Innovative Pedagogy, 40, 114–118.
- Alekseev, O. O. (2022). Theoretical and practical principles of professional training of future physical education teachers for organizing individual work with students. Monograph. ZUNU.
- Aligning a European Higher Education Structure in Sport Science. (2006). URL: https://sporteducation.eu/wp-content/uploads/2018/06/AEHESIS_report_3rd-year.pdf
- Aliluyko, M. S., & Havryshchak, H. R. (2023). Interactive learning as a guarantee of high-quality professional education. Current problems and prospects of technological and professional education: materials of the VII All-Ukrainian scientific-practical internet conference. Ternopil (pp. 107-108). V. Hnatyuk National Technical University.
- Ammattikoulutuksen laki (2017). Ammattikoulutuksen laki (531/2017). URL: <https://www.finlex.fi/fi/laki/ajantasa/2017/20170531>

- Androschuk, I. (2022). Communicative competence as an important means of effective interaction between participants in the educational process. *Youth and Market*, 3-4(201-202), 34–38.
- Antipova, Zh. I., Hoholyeva, O. M., & Chertov, I. I. (2025). Application of innovative technologies in physical education classes in educational institutions. In *The 7th International scientific and practical conference "Sociological and psychological models of youth communication"*. Copenhagen, Denmark (p. 188–193). International Science Group.
- Antonova O. E. (2016.). A practice-oriented approach to the formation of professional skills of a future teacher // *Theory and practice of professional skills in the context of lifelong learning*. Monograph / edited by O. A. Dubasenyuk. Zhytomyr. Ruta Publishing House, 262–285.
- Armour, K. M. (2010). Physical education, pedagogy, and the development of professional practice. *Physical Education and Sport Pedagogy*, 15(4), 343–359.
- Atamanchuk, V. P., & Atamanchuk, P. S. (2022). Educational and cognitive activity of future teachers through the prism of worldview parameters. *Pedagogical Sciences: Theory and Practice*, 2(42), 139–145.
- Atamanyuk, S., Semenikhina, O. & Shyshenko, I. (2021). Theoretical Fundamentals of Innovation of Higher Education in Ukraine. *Pedagogy Educ. Manag. Rev.* 2, 30–36.
- Azhyppo, O. Yu. (2013). Theoretical and methodological principles of training future physical education teachers for professional activity in general education institutions. [Diss. Dr. Pedagogical Sciences, Kharkiv National Pedagogical University named after G. S. Skovoroda].
- Ball, D. L., & Forzani, F. M. (2009). The work of teaching and the challenge for teacher education. *Journal of Teacher Education*, 60(5), 497–511. [URL: https://doi.org/10.1177/0022487109348479](https://doi.org/10.1177/0022487109348479)
- Barbinova, A. (2021). The structure of teachers' readiness for professional activity in conditions of inclusion. *Ukrainian Pedagogical Journal*, 1, 58–64.

- Baybikov, M. V. (2024). Development of readiness of future physical education teachers for health-preserving activities. Master's thesis. Kryvyi Rih: KDPU.
- Bazylyak, N. O. (2023). State educational policy at the current stage of transformation of public-power relations: implementation of foreign experience of Italy. In Proceedings of the 7th International Scientific and Practical Conference "Science and Technology: Problems, Prospects and Innovations" Osaka, Japan, (pp. 245–249). CPN Publishing Group.
- Bekh, I. D. (2001). Problems of physical education and development of schoolchildren and ensuring their health. *Journal of the Academy of Medical Sciences of Ukraine*, 7 (3), 494–503.
- Berezivska, L. V. (2015). Variability and Innovations in the Context of Modernization of Higher Pedagogical Education. *Pedagogical Education: Theory and Practice*, 23, 3–9.
- Berlo, D. K. (1977). Communication as process: Review and commentary. *Annals of the International Communication Association*, 1(1), 11–27.
- Bermudez, D., Balashov, D., & Rybalko, P. (2021). Pedagogical conditions for the formation of readiness of future physical education teachers to apply a differentiated teaching approach. *Pedagogical sciences: theory, history, innovative technologies: scientific journal / MES of Ukraine*, Sumy State Pedagogical University named after A. S. Makarenko, 3 (107), 70–80.
- Bespalova, O. (2019). The essence and structural components of the readiness of future bachelors in physical therapy and occupational therapy to use physical education and health technologies. *Pedagogical Sciences: Theory, History, Innovative Technologies*, 5, 269–280.
- Bezcopylny, O. O. (2020). Training of future physical education teachers for health-preserving activities in primary school: theory and methodology. *Monograph*. B. Khmelnytskyi National University of Kyiv.
- Bida, O. A., Shevchenko, O. V., & Kuchay O. M. (2018). Innovative technologies in physical education and sports. *Scientific Bulletin of the Mykolaiv National*

- University named after V. O. Sukhomlynsky. Pedagogical Sciences*, 3 (2), 19–23.
- Bida, O. A., Syroezhko, O. V., & Shovsh, K. S. (2022). The role of research competence in the training of future specialists. *Scientific notes. Series: Pedagogical sciences*, 206, 12–17.
- Bielikova, N. O. (2014). From the experience of using interactive teaching methods in the professional training of future specialists in physical education and sports. *Modern information technologies and innovative teaching methods in the training of specialists: methodology, theory, experience, problems*, 37, 348–353.
- Bloom, B. S., Engelhart, M. D., Furst, E. J., Hill, W. H., & Krathwohl, D. R. (1956). *Taxonomy of educational objectives: The classification of educational goals. Handbook 1: Cognitive domain* (pp. 1103–1133). New York: Longman.
- Bohatov, A. O. (2019). Components, criteria and indicators of readiness of future physical education teachers for the formation of health-preserving skills and abilities in younger schoolchildren. *Bulletin of the National University "Chernihiv Collegium" named after T. G. Shevchenko. Series: Pedagogical Sciences*, 1, 23–27.
- Bohdanova, G. S. (2013). Characteristics of pedagogical conditions for increasing the level of professional competence of physical education teachers. *Bulletin of the Taras Shevchenko National University of Luhansk. Series: Pedagogical Sciences*. 8 (2), 18–24.
- Borbych, N. V., Denysenko, N. G., & Marchuk, S. S. (2020). Finland's experience in the system of training a professionally mobile physical education teacher. *The 1st International scientific and practical conference "European scientific discussions"*. Rome (pp. 310–317). Potere della ragione Editore.
- Bruner, J. S. (2006). In search of pedagogy volume I: The selected works of Jerome Bruner, 1957-1978. Routledge.
- Busel, V. T. (ed.). (2004). *Large Explanatory Dictionary of the Modern Ukrainian Language* (with additions and additions). VTF "Perun".

- Cao, X., & Liu, H. (2024). Preference Evaluation and Recommendation of Athletes for National Traditional Sports Training Using an Intelligent Method Based on Picture Fuzzy Knowledge. *IEEE Access*, 12, 164444–164461. URL: <https://doi.org/10.1109/ACCESS.2024.3490652>
- Casey, A., & O'Donovan, T. (2015). The role of reflection in developing professional identity and pedagogical skills in physical education. *Sport, Education and Society*, 20(4), 507–524.
- Chen, H., & Wu, N. (2024). Construction of "Three Exercises" Courses in Physical Education under the Background of Teacher Education Accreditation: Value Orientation, Adherence Principles and System Construction. *Journal of Capital University of Physical Education and Sports*. URL: <https://link.cnki.net/doi/10.14036/j.cnki.cn11-4513.2024.04.011>
- Cherusheva, G. B., & Parkhomenko, V. V. (2024). Guest lecture as an active teaching method in modern higher education. Development strategy of Ukraine: financial, economic and humanitarian aspects: materials of the XI International Scientific and Practical Conference. Kyiv (pp. 889–904). Information and Analytical Agency.
- Chopyk, T. V. (2012). Pedagogical aspects of forming readiness for professional activity of future trainers-teachers in the process of professional training. Health, physical education and sports in the present conditions: materials of scientific-practical conference Khmelnytskyi (pp. 100–103). KhNU.
- Classifier of professions. (2010). National classifier of Ukraine DK 003:2010. Kyiv. Publishing house "Sotsinform".
- Concept of the New Ukrainian School. (2017). URL: <http://nus.org.ua/wp-content/uploads/2017/11/NUSHporadnyk-dlya-vchytelya.pdf>
- Costituzione della Repubblica Italiana. (1948). <https://www.consiglio-bz.org/it/costituzione-della-repubblica-italiana>
- Council for the Accreditation of Educator Preparation. (2013). CAEP accreditation standards. URL: <https://caepnet.org/~media/files/caep/-standards/caep-2013-accreditationstandards.pdf>

- Daniels, H. (2002). *Vygotsky and pedagogy*. London; New York: Routledge.
- Danylenko N. V., & Batyr, R. Yu. (2021). Healthy lifestyle and means of its formation. *Grail of Science*, 4, 502–511.
- Danysko, O., Semenovska, L. (2019). Characteristics of methods of professional training of future physical education teachers in blended learning. *Pedagogical Sciences*, 74, 43–48.
- Decreto del Presidente della Repubblica 275/1999. (1999). <https://www.normattiva.it/uri-res/N2Ls?urn:nir:presidente.repubblica:decreto:1999-03-08;275>
- Decreto Legislativo 249/2010, (2010). <https://www.normattiva.it/uri-res/N2Ls?urn:nir:ministero.istruzione.universita.e.ricerca:decreto:2010-09-10;249!vig=%20>
- Dede, C. (2009). Immersive interfaces for engagement and learning. *Science*, 323(5910), 66–69. URL: <https://doi.org/10.1126/science.1167311>
- Denysenko, N. G. (2021). Theoretical and methodological principles of forming professional mobility of future physical education teachers. [Dissertation of Doctor of Pedagogical Sciences, National Pedagogical University named after M. P. Drahomanov].
- Denysova, L. V. (2019). Modeling the system of professional training of future masters of physical education and sports using information and communication technologies. *Scientific journal of the National Pedagogical University named after M. P. Drahomanov. Series 15: Scientific and pedagogical problems of physical education (physical education and sports)*, 8K(116) 19, 38–42.
- Denysova, L. V. (2020). Professional training of future masters of physical education and sports using information and communication technologies: theory and methodology. Monograph. Kyiv: 2020. – 462 p.
- Denysova, L. V., & Usychenko, V. V. (2020). Peculiarities of training masters of physical education and sports in higher education institutions of Austria. *Scientific Journal of the Mykhailo Drahomanov Ukrainian State University. Series 15*, 2 (122), 47–51.

- Dereka, T. (2016). Peculiarities of professional activity of physical education teachers in the USA. *Scientific Bulletin of the Mykolaiv National University named after V. O. Sukhomlynsky. Pedagogical Sciences*, 2, 59–63.
- Deutscher Akademischer Austauschdienst (DAAD). (n.d.). (1925) Studium und Forschung in Deutschland. Abgerufen am 12. April 2025 von URL: <https://www.daad.de>
- Deutsches Institut für Normung. (2015). DIN EN ISO 9001:2015. Quality management systems Requirements (ISO 9001:2015). URL: <https://www.iso.org/standard/62085.html>
- Dewey, J. (1938). *Unity of science as a social problem* (pp. 29-38). Chicago: University of Chicago Press.
- Dieker, L., Hynes, M., Hughe, C., & Smith, E. (2008). Implications of mixed reality and simulation technologies on special education and teacher preparation. *Focus Except. Child*, 40(6), 1–20.
- Dolynsky, B. T., Bukhovets, B. O., Dyshel, G. O., & Pohorelova, O. O. (2021). Theoretical and methodological principles of training future physical education teachers for the application of individual educational trajectories in the educational process of secondary school students. *Scientific bulletin of South Ukrainian National Pedagogical University named after K. D. Ushynsky: scientific journal*, 3 (136), 15–21.
- Dubaseniuk, O. A. (2016). Personal and professional development of a future teacher in the context of a creative approach. *Creative Pedagogy*, 11, 19–26.
- Dutchak, M. V. (2007). *Sport for All in the World Context*. Kyiv: Olympic Literature.
- Dutkevych, T. V., & Tereshchenko, V. A. (2010). Psychological readiness of future teachers for interactive interaction with students: Monograph. Kamianets-Podilskyi: PP Buynytskyi.
- Dyson, B. (2014). Teaching physical education: A case study in curriculum development and pedagogy. *European Physical Education Review*, 20(2), 152–169.

- Dzhurynskyi, P. B. (2010). Formation of students' readiness for the activity of a physical education teacher: current state. *Science and Education*, 7, 81–86.
- Dzhurynskyi, P. B. (2015). Interdisciplinary approach in the methodology of teaching sports disciplines to future physical education specialists. *Educational Discourse*, 1, 84–94.
- Eremenko, N. P., Kovaleva, N. V., & Sadovsky, O. O. (2023). Main problems of modern sports and the sphere of physical education during warfare in Ukraine. *Domestic science at the turn of the eras: problems and prospects for development: materials of the All-Ukrainian scientific-practical international conference*. Pereyaslav (pp. 79–83).
- Every Student Succeeds Act ESSA (2015). URL: <https://www.ed.gov/laws-and-policy/laws-preschool-grade-12-education/every-student-succeeds-act-essa>
- Fedorchuk, V. M., Komarnitska, L. M., & Storozhuk, N. R. (2023). Resilience of the individual in conditions of military state. Scientific monograph. Riga (pp. 113–126). Baltija Publishing. URL: <http://baltijapublishing.lv/omp/index.php/bp/catalog/download/351/9636/20073-1>.
- Fomin, K. V. (2020). Preparing a primary school teacher for organizing dialogic learning. [Dissertation of Candidate of Pedagogical Sciences, Lviv State University of Life Safety].
- Gardner, H. (1983). *Frames of mind: The theory of multiple intelligences*. Basic Books.
- Graham, G. (2018). Teaching children physical education: Becoming a master teacher. Human Kinetics.
- Hancheva, K., & Silaev, V. (2021). Foresight of professional training of future specialists in physical education and sports in Ukraine and foreign countries. Collective monograph (Edited by O. K. Kornosenko, O. V. Danysko). Poltava. National Pedagogical University named after V. G. Korolenko.
- Hattie, J., & Hattie, K. (2022). 10 Steps to Develop Great Learners: Visible Learning for Parents. Routledge.

- Havrysh, I. V. (2006). Theoretical and methodological foundations of the formation of readiness of future teachers for innovative professional activity. [Diss. Candidate of Pedagogical Sciences, Lugansk State Pedagogical University].
- Hetman, O. P. (2025). Formation of coloristic competence in future design specialists in the process of professional training. [Dissertation of the candidate of pedagogical sciences, Taras Shevchenko National University of Luhansk].
- Holubeva, I. M., & Vasyukova, M. M. (2023). Interdisciplinary integration is an important direction in creating curricula for elective disciplines. *Medical Education*, 3, 40–45.
- Honcharenko, S. U. (ed.). (1997). *Pedagogical Dictionary* (2nd ed., supplemented and revised). Kyiv: Lybid.
- Hordeeva, K. S., & Pozdnyakov, O. S. (2022). Health-preserving competence of a future physical education teacher and the integrity of health as a complex physiological category. *Science and innovation of modern world: materials of In The 2nd International scientific and practical conference*. London, United Kingdom (p. 508–510). Cognum Publishing House.
- Horishna, N. (2017). Current trends in the development of social work and training of social workers. *Social Work and Education*, 4 (2), 8–22.
- Horokhov, S., & Yaremenko, S. (2024). Methodological approaches in professional training of future specialists in physical education and sports. *Pedagogical Sciences*, 1, 96–102.
- Hryhorenko, V. (2024). Active learning methods in the formation of digital competence of bachelors in software engineering. *Youth and Market*, 5 /225, 180–183.
- Hrynchenko, I. B. (2011). Modern directions of introducing innovations into the professional training of future physical education teachers. *Higher Education of Ukraine. Theoretical and Scientific-Methodical Journal*, 7, 84–93.
- Hrynchenko, I. B. (2014). Professional training of future physical education teachers: experience of European countries. *Educational and research tools*, 42, 39–50.

- Hrynyova, V. M., & Skrypnikov, V. I. (2024). Business competence as a basis for a specialist's professional activity. *Universities and schools: methods of distance learning*: In The 25th International scientific and practical conference. Boston, USA (p.154–155). International Science Group.
- Hula, L. V. (2022). Methods of activating learning in higher education institutions: modern trends. *Innovative Pedagogy*, 54 (1), 133–136.
- Hura, T. E. (2016). Postgraduate pedagogical education in Ukraine: priority areas of development. *Image of a modern teacher*, 7, 3–5.
- Hurevych, R., Kademiya, M., Opushko, N., Ilitska, T., & Plahotniuk, G. (2021). The role of digital learning technologies in the era of civilizational changes. *Modern Information Technologies and Innovation Methodologies of Education in Professional Training Methodology Theory Experience Problems*, 62, 28–38.
- Huzhanova, T. S., & Panchenko, E. S. (2024). Formation of subject-practical, technological competence in normotypical and children with OOP of senior preschool age in the process of constructive activity. *Prospects and innovations of science. (Series "Pedagogy", Series "Psychology", Series "Medicine")*, 5 (39), 166–178.
- Institute of International Education Project Atlas Infographics 2017. (2017). URL: <https://www.iie.org/en/ResearchandInsights/Project-Atlas/Explore-Data/Finland.317>
- Ishchenko, O. S. (2016). Formation of teenagers' motivation to engage in physical education in the educational process of a secondary school. [Dissertation of Candidate of Sciences in Physical Education and Sports, National University of Physical Education and Sports of Ukraine].
- Ivanenko, O. O. (2024). Formation of readiness for professional activity of future physical education teachers in the process of blended learning. [Diss. Doctor of Philosophy. 011 Educational, pedagogical sciences, KhDADM].
- Ivaniy, I. (2019). Modern trends in professional and pedagogical training of physical education and sports specialists in universities of the European Union.

Pedagogical Sciences: Theory, History, Innovative Technologies, 1 (85), 159–171.

- Ivanova, K. I. (2022). Modern transformations of sports media discourse in the context of digital and social media. *Qualification work*. Zaporizhzhia: ZNU.
- Ivanova, N. O. (2016). Theoretical foundations of modeling pedagogical processes in the higher education system. *Pedagogy and psychology of professional education*, 3, 112–118.
- Josefsson, T., Ivarsson, A., Lindwal, M., et al. (2017). Mindfulness Mechanisms in Sports: Mediating Effects of Rumination and Emotion Regulation on Sport-Specific Coping. Springer Open Choice. URL: <https://www.doc88.com/p-7836414090303.html>
- Karpa, I., Fedyuk, A., & Shanta, I. (2023). The impact of the author's program to increase the efficiency of playing actions of qualified football players taking into account the coordination complexity of technical and tactical actions in separate zones of the playing field. *Sports Games*, 3 (29), 24–35.
- Khomyak, G. G. (2023). The essence and structure of the readiness of future physical education teachers for professional activity. *Scientific notes [Transcarpathian Hungarian Institute named after Ferenc Rákóczi II; Municipal institution of higher education "Academy of Culture and Arts of the Transcarpathian Regional Council"]*. Series: *Pedagogical sciences*, 3, 231–235.
- Khomyak, G. G. (2024). Training of future physical education teachers to organize group interaction of high school students in team sports. [Dissertation for the degree of Doctor of Philosophy, Pavlo Tychyna Uman State Pedagogical University].
- Kleopa, I. A. (2023). Formation of mathematical competence of future bachelors of computer science in the conditions of blended learning. [Diss. Cand. Ped. Sciences, Vinnytsia National Technical University].
- Klymniuk, V. E. (2018). Virtual reality in the educational process. *Collection of scientific papers of the Kharkiv National University of the Air Force*, 2, 207–212.

- Kobylyanska, T. (2018). Characteristics of readiness for professional activity as a pedagogical category. *Youth and Market*, 11, 164–170.
- Kokun, O. M., Pishko, I. O., Lozinska, N. S., Kopanytsia, O. V., Herasymenko, M. V., & Tkachenko, V. V. (2012). Collection of methods for diagnosing leadership qualities of cadets, sergeants and officers: Methodological manual. Research and Development Center of the Armed Forces of the Ukraine, 433.
- Kolesnyk, S. V. (2022). Formation of readiness of future physical education teachers for animation and group work. [Diss. Doctor of Pedagogical Sciences, Lesya Ukrainka Volyn National University].
- Konokh, A., Moseichuk, Y. Y., & Shukatka, O. V. (2024). Communicative Competence as a Component of the Pedagogical Skills of Future Physical Education Teachers in Distance Learning Conditions. *Pedagogical sciences: theory, history, innovative technologies*, 4(138), 469–477.
- Koshlyak, M. A. (2024). Preparation of future physical education teachers for professional activity in scientific research. *Scientific notes. Series: Pedagogical sciences*, 214, 207–210.
- Koshura, A. V. (2021). Theory and methods of sports training. *Textbook*. Yuriy Fedkovych Chernivtsi National University.
- Kovalenko, A. V., & Boyko, N. O. (2019). Formation of professional competence of a future physical education teacher in the conditions of a modern educational space. *Pedagogy of the formation of a creative personality in higher and general education schools*, 66, 141–146.
- Kovaleva, N. V. (2022). Current problems of forming women's motivation to engage in recreational and health-improving physical activity under quarantine restrictions. *Scientific journal of the National Pedagogical University named after M. P. Drahomanov: collection of scientific works*, 7 (152) 22, 66–70.
- Kremen', V. (2005). Formation of the personality of a professional. Didactics of a professional school: collection of scientific works. Khmelnytskyi (pp. 3–6). KhNU.

- Kremen', V. G. (2010). Philosophy of humanism in the educational space. Volume "Knowledge" of Ukraine, 384–395.
- Krutsevich, T. Yu. (2015). Theoretical and methodological foundations of physical education and training of specialists in the field of physical education. *Monograph. Olympic literature.*
- Kryvoruchko, I. I., & Titova, L. O. (2024). Cloud and mobile technologies in the training of future teachers. *Pedagogical Academy: Scientific Notes*, 10, 95–117.
- Kucheryavy, O. G. (2021). *Professional and personal development of a modern teacher. Monograph.* Kropyvnytskyi: Imeks-LTD.
- Kulchytskyi, S. I. (2017). Conceptual model of formation of readiness of future teachers for pedagogical support of socialization of students. *Pedagogical Almanac*, 34, 102–107.
- Kurakina, S. M. (2015). Modeling as a method of scientific research in pedagogy. *Pedagogy and Psychology of Professional Education*, 1, 145–150.
- Kurlyand, Z. N. (2005). Professional stability of a teacher – the basis of his pedagogical skills. Odesa.
- Kurlyand, Z. N., & Osypova, T. Yu. (2019). Formation of creative pedagogical position of future teachers in the process of professional training. *Innovative Pedagogy*, 19 (2), 17–22.
- Kuzikova, S., & Shcherbak, T. (2022). Theoretical and empirical analysis of the problem of resilience and stress resistance in pedagogical activity. *Psychological Journal*, 8, 39–46.
- Kuzminsky, O. I., & Omelyanenko, V. L. (2003). Pedagogy. Textbook. Knowledge-Press.
- Kyrylyuk, A. O. (2020). Assessment of personal and academic achievements of junior schoolchildren in physical education in the new Ukrainian school. *Scientific notes of young scientists*, 6. URL: <https://phm.cuspu.edu.ua/ojs/index.php/SNYS/article/view/1756/pdf>
- Kyseliiov, V. (2020). On the problem of informatization of professional training of future physical education teachers. *Electronic Learning Technologies*, 4, 31–35.

- Kyveryalh, A. A. (1980). Research methods in professional pedagogy. Tallinn: Valgus.
- Laki korkeakouluista (2009). *Laki korkeakouluista* (558/2009). URL: <https://www.finlex.fi/fi/laki/ajantasa/2009/20090558>
- Lariontseva, A. (2022). Formation of readiness of future masters of psychology for professional activity as a psychological and pedagogical problem. *Bulletin of the National Academy of Sciences. Series: Pedagogy. Psychology*, 2(21), 37–42.
- Law of Ukraine "On Education". No. 2145-VIII dated 05.09.2017. (with amendments and supplements). URL: <https://zakon.rada.gov.ua/laws/show/2145-19#Text>
- Law of Ukraine "On Higher Education". No. 1556-VII dated 01.07.2014 (as amended in 2024). URL: <https://zakon.rada.gov.ua/laws/show/1556-18>
- Law of Ukraine "On Physical Education and Sports" No. [1021-V of 15.05. 2007](#) URL: <http://zakon.rada.gov.ua/laws/show/ru/3808-12>
- Lazos, G. P. (2018). Resilience: conceptualization of concepts, review of modern research. *Current problems of psychology. Consulting psychology and psychotherapy*: collection of scientific works of the Institute of Psychology named after G.S. Kostyuk of the National Academy of Sciences of Ukraine. Kyiv, 3 (14), 26–64.
- Legge 59/1997. (1997). <https://www.parlamento.it/parlam/leggi/970591.htm>
- Ley Orgánica 2/2006, de 3 de mayo, de Educación. (2006). *Boletín Oficial del Estado*, 106, 17158–17207. URL: <https://www.boe.es/buscar/doc.php?id=BOE-A-2006-7891>
- Ley Orgánica 2/2020, de 3 de mayo, de Educación. (2020). <https://www.boe.es/buscar/doc.php?id=BOE-A-2020-17264>
- Ley Orgánica para la Mejora de la Calidad Educativa. (2013).). URL: <https://www.boe.es/buscar/act.php?id=BOE-A-2013-12886>
- Li, Q., & Qin, W. (2022). Cultivation mode of leisure sports professionals in colleges and universities. *Journal of Shanxi University of Finance and Economics*. URL: https://kns.cnki.net/kcms2/article/abstract?v=BlOUhu2v8Y_qgTRSRCVneIITKRIRc5ZHAFPtr_SO6xdsWX3NNOnRDkyepRnqQKQbob0p2Ps4g7Frqt_bV

[O1WjL7cmBhDIDQyJHF2GOP43m6FL8eIoJkH46pzbQkYs3qIX41pSsUm9aq7N6fn9mpjdz8NazFIzEYnwehrCGi_cTdUQ6x6NLnGPjBbYNv87Urdas9X7Q=&uniplatform=NZKPT&language=CHS](https://ojs.znu.edu.ua/index.php/PE/article/view/10111)

- Lisovyi, V. A. (2021). Personal-activity approach to the professional development of a future specialist in the field of music pedagogy. *Professional Education: Methodology, Theory and Technologies*, 13, 54–63.
- Liu, H. (2022 a). Sharing method of non-professional sports training information resources based on private cloud. *Innovations in education: realities and prospects for development: materials of the IV International Scientific-Practical Conference, Ternopil* (pp. 66–72). ZUNU.
- Liu, H. (2022). Main management activities of teaching institutions in distance learning. *Innovations in education: realities and prospects for development: materials of the III International Scientific-Practical Conference Ternopil* (pp. 157–162). ZUNU.
- Liu, H. (2023). Innovative technologies in education: Application and their significance. *Innovations in education: realities and prospects for development: materials of the V International Scientific-Practical Conference Ternopil* (pp. 119–121). ZUNU.
- Liu, H. (2024 a). Modern approaches to the training of physical education and sports future teachers in higher education. *Current problems of development of pedagogical education: innovations, challenges, prospects: materials of the International Scientific-Practical Conference Mukachevo* (pp. 258–259). MDU.
- Liu, H. (2024 b). Peculiarities of formation of the future physical education and sports specialists` communicative readiness for professional activity. *Bulletin of Science and Education*, 6(24), pp. 417–427.
- Liu, H. (2024 c). Pedagogical conditions for forming the readiness of future specialists in physical education and sports for professional activity. *Proceedings. Series: Pedagogical sciences*, 11, 135–140.
- Liu, H. (2024 d). To cultivate the communicative competence of future sports experts in the process of learning in colleges and universities. *Development of*

professional skills of a teacher in the conditions of a new socio-cultural reality: materials of the VII International Scientific-Practical Conference in Ternopil (pp. 337–339). TOKIPPO.

Liu, H. (2024 f). Training of Future Physical Education and Sports Teachers in Higher Education Institutions: Modern Trends. *Pedagogical Discourse*, 35, 86–91.

Liu, H. (2024 g). Cultivation of intercultural communication ability in physical education. Innovative processes in the educational sphere of Ukraine and the countries of Central Europe: state, problems and prospects, materials of the International Scientific and Practical Conference, Ternopil (pp. 162–164). ZUNU.

Liu, H. (2024 h). The personal and professional development of managers in educational institutions under the background of decentralization. Development of professional skills of a teacher in the conditions of a new socio-cultural reality: materials of the VII International Scientific-Practical Conference in Ternopil (pp. 336–337). TOKIPPO.

Liu, H. (2024 j). Essence of the peculiarities of communicative competence of future specialists in physical education and sport. Transformational processes of social and humanitarian education in modern Ukraine in conditions of war: challenges, problems and prospects: materials of the II International Scientific and Practical Conference Ternopil (pp. 129–130). ZUNU.

Liu, H. (2024). Communicative Culture as an Important Component of the Professional Activity of the Future Teacher of Physical Education and Sports. Innovative approaches to the development of technologies and economics: materials of the scientific and practical conference. *Svalyava* (pp. 191–193). ZUNU.

Livak, P. E. (2024). Peculiarities of training physical education teachers in foreign higher education institutions in the context of using modern digital platforms in a distance environment. *Academic Visions*, 36 URL: <https://academy-vision.org/index.php/av/article/view/1401/1279>

- Lu, H. (2018). Development status and countermeasures of physical education majors in Guangdong vocational colleges. *Journal of Physical Education*. URL: <https://link.cnki.net/doi/10.16237/j.cnki.cn44-1404/g8.2018.04.013>
- Lukatska, Ya. S. (2021). Analysis of the concept of "social competence of the individual" in Ukrainian and foreign scientific works. *Bulletin of the Alfred Nobel University. Series: Pedagogy and Psychology, 1*, 49–55.
- Lutsan, N. I., Struk, A. V. (2022). Interdisciplinary integration as a pedagogical condition for the professional training of future teachers. *Innovative Pedagogy, 54* (1), 154–156.
- Lytvyn, A. V. (2022). Methodological principles of the concept of "pedagogical conditions". Practical manual. LDUBZHD.
- Manuylov, E. M. (2010). Social activity of youth: to the problem of understanding the essence. *Bulletin of the National University "Yaroslav the Wise Law Academy of Ukraine". Series: Philosophy, philosophy of law, political science, sociology, 3*, 3–12.
- Manuylov, N. M. (2014). On the problem of defining the concept of "Social activity". *Ukrainian Polish Studies, 11*, 129–137.
- Mariychyn, A. (2021). An empirical study of communicative competence in the structure of professional mobility of athletes. *Psychology and Social Work, 54* (2), 168–183.
- Markova, O. V. (2015). Expanding parents' knowledge of physical education as a condition for implementing a healthy lifestyle in the family of a modern teenager. *Scientific Journal [of the National Pedagogical University named after M. P. Drahomanov]. Series 15: Scientific and pedagogical problems of physical education (physical education and sports), 5* (1), 157–160.
- Masenko, L. V., Lytovchenko, M. S., & Melnychenko, O. S. (2024). Rational combination of program modules from sports games within the framework of the "New Ukrainian School" concept to optimize the process of physical education in 5th and 6th grades. *Scientific Journal of the Ukrainian State University named after Mykhailo Drahomanov, 15* (3K (176)), 313–316.

- Máster en Formación del Profesorado. (2008). <https://www.todofp.es/comunidad-docente/acceso-funcion-publica-docente/master-formacion-profesorado.html>
- Matlasevich, O. (2016). Component composition and structure of pedagogical abilities. *Scientific notes. Series "Psychology"*, Ostroh, 3, 119–133.
- Matvienko, O. (2012). Readiness of a future primary school teacher for creative educational activities. *Problems of Modern Teacher Training*, 6 (1), 238–244.
- McClelland, D. C., & Boyatzis, R. E. (1982). Leadership motive pattern and long-term success in management. *Journal of Applied Psychology*, 67(6), 737–743.
- Mchelidze, D. (2024). Technical training of freestyle wrestlers at the stage of basic training. Qualification work. Kyiv; NUFVSU, 71.
- Melnychuk, I. Ya. (2024). Theoretical and methodological foundations of the development and correction of resilience. *Scientific notes. Series: Psychology*, 2, 82–87.
- Melnyk, A., & Duda, O. (2024). Communicative competence as the basis of professionalism of border guards. *Scientific notes of the University "KROK"*, 3 (75), 269–279.
- Methodological recommendations for the development of higher education standards: approved by the order of the Ministry of Education and Science of Ukraine. No. 600 dated 01.06.2016 (as amended by No. 1648 dated 21.12.2017) URL: <https://mon.gov.ua/storage/app/media/vishcha-osvita/rekomendatsii-1648.pdf>
- Mishchykha, L. P. (2009). Psychological readiness of the individual for creative activity. *Current problems of psychology. Problems of the psychology of creativity*: collection of scientific works of the Institute of Psychology named after G. S. Kostyuk of the Academy of Sciences of Ukraine. Zhytomyr: Publishing house of the I. Franko State University, 12(6), 177–184.
- Moray House School of Education and Sport. (2025). URL : <https://www.ease.ed.ac.uk/cosign.cgi?cosign-eucsCosign-idp.ed.ac.uk&https://idp.ed.ac.uk/idp/Authn/RemoteUser?conversation=e1s>
- Moseichuk, Y., & Tsybanyuk, O. (2022). European experience in training physical education teachers for individual work with students. *Scientific Journal of the*

- National Physical Education University named after M. P. Drahomanov*, 6(151), 102–105.
- Moseichuk, Y. Y., Konokh, A. P., & Shukatka, O. V. (2025). Development of Communicative Competence of Future Specialists in the Field of Physical Education in Higher Education Institutions. Prospects and innovations of science. Series: Pedagogy, Series: Psychology, Series: Medicine, 5(51), 121–129.
- Moseychuk, Yu. Yu. (2017). Systemic and praxeological approaches in the formation of a health culture of future physical education teachers: general theoretical explorations. *Scientific Bulletin of Uzhgorod University. Series: Pedagogy. Social Work*, 1, 164–167.
- Muzychko, L. V. (2023). Psychological resourcefulness of the individual and its resilience. *Journal of Social and Applied Psychology*, 1, 28–33.
- Myronchuk, N. M. (2024). Pedagogical tools for developing students' organizational skills and abilities. *Prospects and innovations in science Pedagogy Series*, 36, 330–341.
- National Association for Sport and Physical Education. (2008). National standards for initial physical education teacher education (2nd ed.). American Alliance for Health, Physical Education, Recreation and Dance. URL: <https://hawaiiteacherstandardsboard.org/content/wp-content/uploads/2008-NASPE-PE-Standards.pdf>
- National Curriculum/Department for Education, 1987/1991–1995. URL : <https://publications.parliament.uk/pa/cm200809/cmselect/cmchilsch/344/34405.htm>
- National Erasmus+ Office in Ukraine. (2020). Bologna Process in Ukraine 2005-2020: Achievements, Challenges and Prospects. URL: https://erasmusplus.org.ua/wp-content/uploads/2022/03/BolognaStudy_Ukraine2005_2020_NEO_eng1.pdf
- National People's Congress, 1993/2009. (1993). URL: http://www.moe.gov.cn/-jyb_sjzl/sjzl_zcfg/zcfg_jyfl/tnull_1314.html

- National People's Congress, 1995/2009. (1995). URL: http://www.moe.gov.cn-/jyb_sjzl/sjzl_zcfg/zcfg_jyfl/202107/t20210730_547843.html
- National People's Congress, 1998/2015. (1998). URL: http://www.npc.gov.cn-/c2/c30834/201905/t20190521_296658.html
- National Report of Ukraine on the Implementation of the Bologna Process Provisions in 2003-2005 (2005). European Higher Education Area. URL: https://ehea.info/Upload/document/members/ukraine/National_Report_Ukraine_2005_572281.pdf
- Naumchuk, V. I. (2002). Professional training of future physical education teachers in the process of independent work on sports games. *Educational and methodological manual*. Aston.
- No Child Left Behind Act of 2001, Pub. L. 107-110, 115 Stat. 1425 (2002).
- Nychkalo, N. G. (2007). Ukrainian concepts of vocational education. Trends and prospects. *Pedagogical and psychological sciences in Ukraine*, 5, 27–50.
- On approval of the Concept of Development of Pedagogical Education. (2018). Order of the Ministry of Education and Science of Ukraine. No. 776 from 16.07.2018. URL: <https://mon.gov.ua/npa/pro-zatverdzhennya-koncepciyi-rozvitku-pedagogichnoyi-osviti>
- On approval of the list of fields of knowledge and specialties in which applicants for higher education are trained. (2015). Resolution of the Cabinet of Ministers No. 266 of 29.04.2015. URL: <http://zakon.rada.gov.ua/laws/show/266-2015-п>
- On approval of the National Qualifications Framework. (2011). Resolution of the Cabinet of Ministers of Ukraine No. 1341 of 23.11.2011. URL: <http://zakon.rada.gov.ua/laws/show/1341-2011-п>
- On approval of the standard of higher education in the specialty 014.11 Secondary education (Physical education) for the first (bachelor's) level", Order of the Ministry of Education and Science of Ukraine No. 945 dated 01.10.2022. URL: <https://mon.gov.ua>
- Opetushallitus (1991). URL: <https://finlex.fi/fi/viranomaiset/maarayskokoelmat/-opetushallitus/1991>

- Opetusja kulttuuriministeriö. (2009). URL: <https://okm.fi/hanke?tunnus=OPM0-26:00/2009>
- Opetusja kulttuuriministeriö. (2017). URL: <https://okm.fi/etusivu>
- Otravenko, O. (2019). Innovative teaching methods as the basis for high-quality professional training of future physical education teachers. *Open educational e-environment of a modern university*, 222–230. URL: <https://doi.org/10.28925/-2414-0325.2019s2>
- Otravenko, O. V., & Bryukhovetska, I. M. (2021). Peculiarities of conducting a modern physical education lesson for students of basic secondary education in the variable module "Athletics". *Scientific research and methods of their implementation: world experience and domestic reality*, 3, 12–15.
- Palchynska, M. V. (2015). Innovative technologies in social design *Scientific knowledge: methodology and technology: scientific journal*. 1, 114–121.
- Panchenko, T. L. (2023) Resilience as an adaptive resource for a teacher in difficult life situations. *Society, science, education: current research, theory and practice*: materials of the All-Ukrainian scientific-practical conference (pp. 172–175). Bila Tserkva Institute of Economics and Management, University of Ukraine.
- Pashchenko, M. (2016). The use of active forms and methods of teaching pedagogical disciplines in the training of future teachers. *Collection of scientific works of the Uman State Pedagogical University*, 1, 258–267.
- Perusopetuslaki (1998). Laki perusopetuksesta (628/1998). URL: <https://www.finlex.fi/fi/laki/ajantasa/1998/19980628>
- Petryk, K. Yu. (2021). Foreign language communicative competence as one of the priority areas of the content of professional training for higher education applicants. *Foreign languages in higher education: linguistic, psychological, pedagogical and methodological perspectives*: materials of the V All-Ukrainian scientific-practical online conference. Kharkiv (pp. 98–103). Yaroslav the Wise National University of Law.

- Philipsen, B., Tondeur, J., McKenney, S., & Zhu, C. (2019). Supporting teacher reflection during online professional development: a logic modelling approach. *Technology, pedagogy and education*, 28(2), 237–253.
- Piaget, J. (1950). *The psychology of intelligence*. Harcourt, Brace.
- Pitik, O. V., & Hryban, G. P. (2024). Formation of organizational competence in future physical education teachers during their studies at a higher education institution. *Current problems of physical education and sports in modern society: materials of the VI All-Ukrainian scientific-practical conference*. Zhytomyr (82– 85.). Publishing house of the I. Franko State University of Ukraine.
- Pomytkin, E. O. (2017). Psychological mechanisms of the teacher's influence on the emotional development of the individual. *Psychological Sciences: Problems and Achievements*, 3, 45–56.
- Prusik, K., Iermakov, S., & Kozina, Z. L. (2010). Indexes of physical development, physical preparedness and functional state of polish students. *Pedagogy, Psychology and medical and biological problems of physical education and sport*, 12(1), 113–122.
- Pshenichna, N. S., & Rastorhueva, I. S. (2019). Professional training of future physical education teachers for the implementation of the provisions of the NUSh concept. *Current issues of the impact of the environment, physical education and sports on the health of student youth: materials of the IV International Scientific and Practical Conference*. Berdyansk (pp. 119–121). Publishing house of the Melitopol City Printing House.
- Pyehota, O. M., & Stareva, A. M. (2005). Personality-oriented learning: teacher training. *Monograph*. Ilion Publishing House.
- Radionova, O. L. (2022). Levels and criteria of readiness of future physical education teachers for the formation of health-preserving competence of students. *Scientific notes. Series: Pedagogical sciences*, 207, 279–282.
- Real Decreto 1393/2007, de 29 de octubre, por el que se establece la ordenación de las enseñanzas universitarias oficiales. (2007). *Boletín Oficial del Estado*, 260,

43656-43672. URL: <https://www.boe.es/buscar/doc.php?id=BOE-A-2007-18770>

Real Decreto 1834/2008, de 8 de noviembre, por el que se regula el régimen de los estudios oficiales de doctorado. (2008). *Boletín Oficial del Estado*, 272, 43174-43184. URL: <https://www.boe.es/buscar/doc.php?id=BOE-A-2008-18676>

Rebukha, L. Z. (ed.). (2022). Innovative learning technologies in the context of modernization of modern education. Collective monograph. ZUNU.

Rebukha, L. (2018). Pedagogical conditions for implementing the system of fundamentalization of professional training of future social workers based on the integration of innovative technologies. *Collection of scientific works of the National Academy of the State Border Guard Service of Ukraine. Series: Pedagogical Sciences*, 2 (13), 377–388.

Rebukha, L. Z. (2019). The influence of value orientations on the formation of professional competence of future psychologists. *Bulletin of the Bohdan Khmelnytskyi National Academy of the State Border Guard Service of Ukraine. Series: Pedagogical Sciences*, 9. URL: <http://periodica.nadpsu.edu.ua/index.php/pedvisnyk/article/view/358>

Rebukha, L. Z. (2019). Theoretical and methodological principles of fundamentalization of professional training of future social workers. [Diss. Dr. Pedagogical Sciences, Khmelnytskyi Humanitarian and Pedagogical Academy].

Rebukha, L. Z. (2021). Professional training of future specialists in the management of educational institutions on the basis of interdisciplinary integration. *Humanities Studies*, 1, 113–123.

Rebukha, L., & Liu, H. (2023). Comparative analysis of the physical culture and sports specialists training for the future professional activities in Ukraine and abroad. *Humanitarian studies: history and pedagogy*, 2, 102–112. <https://doi.org/10.35774/gsip2023.02.102>

Ridkodubaska, A. A. (2017). Synergistic approach in preparation for professional mobility of future specialists. *Physics and Mathematics Education: Scientific Journal*, 1 (11), 93–96.

- Ridkodubska, H. A. (2019). Theory and practice of training for professional mobility of future social workers. [Diss. Dr. Pedagogical Sciences, Khmelnytskyi Humanitarian and Pedagogical Academy].
- Rogers, C. R. (1961). The process equation of psychotherapy. *American journal of psychotherapy*, 15(1), 27–45.
- Romanyshyna, L. M., & Ostrovska, N. D. (2012). Theoretical foundations of scientific activity of teachers of higher education institutions. *Bulletin of the National Defense University of Ukraine*, 5, 110–112.
- Ryabovol, L. T. (2022). Organization of student-centered learning as a component of the professional activity of a higher education teacher. *Scientific notes. Series: Pedagogical sciences*, 205, 54–58.
- Rybalka, V. V. (2023) Psychology of the development of personal readiness of teachers for professional activity: methodological recommendations. Kyiv: Ivan Zyazyun Institute of Pedagogical Education and Adult Education of the National Academy of Sciences of Ukraine.
- Rybalko, L. M. (Ed.). (2019). Health-Saving Technologies in the Educational Environment: Collective Monograph. Ternopil: Osadtsa V. M.
- Safonov, D. A. (2020). Professional training of specialists in physical education and sports abroad (United States of America). *Pedagogy and modern aspects of physical education: materials of the VI International Scientific-Practical Conference*. Kramatorsk (pp. 312–320). DSEA.
- Samsutina, N. (2013). Pedagogical conditions for the formation of professional functional competencies of future physical education teachers. *Sports Bulletin of the Dnieper Region*, 2, 232–235.
- Sbrueva, A. A. (Ed.). (2021). Theories and technologies of innovative development of professional training of future teachers in the context of the concept of "New Ukrainian School" Monograph. Publishing house of Sumy State University named after A. S. Makarenko.
- Selye, H. (1955). Stress and disease. *Science*, 122, 625–631.

- Shamykh, O. M., Serdyuk, L. Z., & Ivannikova, G. V. (2023). Physical education and sports as the basis of health and well-being of the individual. *Textbook*. KNUBA, Talkom.
- Sheludchenko, L. S., Komarnitsky, S. P., Firman, Y. P., & Melnyk, V. A. (2024). The role of social and communicative skills in the preparation of higher education applicants. *Professional and Applied Didactics*, 2, 100–104.
- Shevchuk, S. S., & Kulishov, V. S. (2021). Didactics of vocational education: a practice-oriented aspect. *Teaching and methodical manual*. BINPO DZVO "UMO" NAPNU.
- Sheyan, M. O. (2021). Pedagogical conditions for the development of health-preserving competence of primary school teachers in the system of postgraduate pedagogical education. [Diss. Dr. Ped. Sciences, Khmelnytskyi Humanitarian and Pedagogical Academy].
- Shukatka, O., Konokh, A., Moseychuk, Yu., & Borysevich, L. (2025). On the problem of forming communicative competence of future physical education specialists in higher education institutions. *Education. Innovation. Practice*, 13(5), 100-105.
- Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 57(1), 1–22.
- Shumilova, I. (2017). A personal-active approach to forming common cultural competence of the future teacher of the humanitarian specialties. *Science and Education a New Dimension. Pedagogy and Psychology*, V63 (135), 29–31. URL: <https://seanewdim.com/wp-content/uploads/2021/03/A-personal-active-approach-for-forming-common-cultural-competence-of-the-future-teacher-of-the-humanitarian-specialities-Shumilova-I..pdf>
- Shutov, D., Anosova, A., Krychkivska, O., Vorona, A., & Solodka, L. (2022). Implementation of Self-Education Principles as a Background of Quality Professional Education. *International Journal of Computers*, 16, 75–86.
- Shynkareva, O. D. (2020). Pedagogical conditions for the formation of readiness of future bachelors of physical education and sports for the organization of leisure

- and recreational activities. *Bulletin of the Taras Shevchenko National University of Luhansk. Series: Pedagogical Sciences, 1* (332), 292–302.
- Sichkaruk, O. I. (2006). Interactive teaching methods in higher education: *Teaching and methodological manual*. Taxon.
- Sogokon, O., & Donets, O. (2023). Improving professional training and implementing a model for the formation of professional competence of a modern physical education teacher. *Physical Education and Sport: Scientific Perspective, 1*, 13–21.
- Sokolenko, L. S. (2018). Peculiarities of forming a culture of a healthy lifestyle among student youth – the basis for educating an attitude towards health in the modern world. URL: <https://dspace.udpu.edu.ua/handle/6789/8799>
- Sokolenko, O. I. (2018a). Professional competencies of a future physical education teacher. *Bulletin of the Taras Shevchenko National University of Luhansk. Pedagogical Sciences, 4* (1), 50–57.
- Sokolova, S. V. (2017). Professional mobility as a component of the legal culture of future engineering teachers. *Educational Dimension, 50*, 75–85.
- Soltyk, O. O. (2019). Training of physical education teachers for health-preserving work: foreign experience. *Health-preserving technologies of educational institutions in the conditions of modern educational changes: materials of the All-Ukrainian scientific-practical conference*. Ternopil. (pp. 124–129). Published by the TOKIPPO center.
- Spencer, L. M. & Spencer, S. M. (1993). Competence at work – Models for superior performance, New York.
- Stasyuk, V. V. (2014). Development of achievement motivation in students as a condition for the effectiveness of the learning process. *Bulletin of the National Defense University of Ukraine, 3*, 149–153.
- Stasyuk, V. V. (2020). Analysis of approaches to assessing and predicting the psychological readiness of military personnel (Forces): structure of factors. *Bulletin of the National University of Defense of Ukraine, 54* (1), 160–166.

- Stepanchenko, N. (2017). System of professional training of future physical education teachers in higher education institutions. [Diss. Dr. Ped. Sciences, Vinnytsia National Pedagogical University].
- Stepanenko, L. V. (2021). Peculiarities of the relationship between coping-protective mechanisms and adaptive personality properties. *General psychology. History of psychology. Series: Psychology*, 32 (71), 21–25.
- Stern, G. G., Stein, M. I., & Bloom, B. S. (1956). *Methods in personality assessment*. Free Press.
- Stetsenko, N. M. (2016). Communicative competence as a component of professional training of a modern specialist. *Pedagogical Almanac*, 29, 185–191.
- Straub, C., Dieker, L., Hynes, M., & Hughes, C. (2014). Using virtual rehearsal in TLE TeachLivE™ mixed reality classroom simulator to determine the effects on the performance of mathematics teachers. In C. Straub, L. Dieker, M. Hynes, & C. Hughes (Eds.), *Proceedings of the Ludie Convergence: The Second National TLE TeachLivE™ Conference* 49–109.
- Struk A. (2022). The problem of training future primary school teachers in the theory of higher education pedagogy. *Modern Information Technologies and Innovation Methodologies of Education in Professional Training Methodology Theory Experience Problems*, 52, 401–405.
- Sukhomlynska, O. (2008). *Pedagogy: Fundamentals of General Pedagogical Theory*. Kyiv: Litera LTD.
- Sukhomlynska, O. V., & Luhova, V. D. (2019). Competency-based approach in the context of European educational development guidelines. *Pedagogy and Psychology*, 1, 7–14.
- Sushchenko, L. P. (2003). Theoretical and methodological principles of professional training of future specialists in physical education and sports in higher education institutions [Dissertation of Dr. Pedagogical Sciences. Institute of Pedagogy and Psychology of Professional Education of the Academy of Sciences of Ukraine].
- Sushchenko, L. P. (2020). Development of resilience as a component of professional competence of future teachers. *Pedagogical Almanac*, 45, 109–113.

- Sutula, V., Deyneko, A., & Bulgakov, O. I. (2016). On the essence of the concept of "physical culture". *Sports Bulletin of the Dnieper Region*, 3, 218–221.
- Svatiev, A. V., & Bezkorovayna, L. V. (2010). Analysis of the preparation of future trainer-teachers for professional activity in higher education institutions. *Pedagogy, Psychology and Medical and Biological Problems of Physical Education and Sports*, 11, 106–109.
- Tatsenko, N. V. (2009). Means of implementing megaconcepts space, time, information in modern English (based on virtual reality innovations). [Dissertation of the candidate of philological sciences, V. N. Karazin Kharkiv National University].
- The State Council of the People's Republic of China issued the Outline of the "Healthy China 2030" Plan/ Retrieved from [EB/OL]. (2016-10-25) [2022-04-04]. URL: https://www.gov.cn/zhengce/202203/content_3635233.htm
- Tkachivska, I. M. (2024). Structure of subject-methodical competence of a future physical culture teacher. *Pedagogical Innovation: Modernity and Prospects*, 5, 59–66.
- Tolochny, V. M. (2012). The use of information and communication technologies in the training of future physical education teachers. *Bulletin of the Chernihiv National Pedagogical University named after T.H. Shevchenko* Chernihiv: ChNPU, 102 (II), 111–113.
- Tovkanets, H. V., & Tovkanets, O. S. (2023). Stimulating social activity of future teachers in university settings. *Innovations and Prospects in Modern Science: proceedings of the 1st International Scientific-Practical Conference*. Stockholm (pp. 270–276). SSPG Publish.
- Trotsenko, V., & Dolinin, H. (2023). Modern approaches to the development of a model of professional training of future physical education teachers. *Scientific Innovations and Advanced Technologies*, 2 (16), 397–406.
- Tsybulina, I. Yu. (2019). Psychological factors of resilience development in student youth. *Bulletin of the G. S. Skovoroda KhNPU. Psychology*, 61, 155–163.

- Turchyk, I. (2014). Physical education in school education in Italy. *New pedagogical thought*, 2, 82 – 84.
- Turchyk, I. Kh. (2017). Physical culture and sports in school education in Europe. *Monograph*. Drohobych: Shvydkodruk.
- Tsaryk, O., & Krychkivska, O. (2025). Communicative competence formation as a psychologicalpedagogical problem of professional training of future specialists in physical education. *Scientific Notes. Series: Pedagogical Sciences*, 13, 45–52.
- Tsaryk, O., & Krychkivska, O. (2025). Methods and technologies for developing communicative competence in physical education students. *Bulletin of Science and Education. Series “Philology”, Series “Pedagogy”, Series “Sociology”, Series “Culture and Art”, Series “History and Archaeology”*, 4(34), 974–986.
- Tsaryk, O., Krychkivska, O. (2024). Peculiarities of Communicative Competence Formation of Future Physical Education Specialists, *Pedagogical Discourse*, 36, 65–70.
- U.S. Congress. (2015). URL: https://ballotpedia.org/114th_United_States_Congress
- UK Goverment. (1988). URL: <https://www.legislation.gov.uk/ukpga/1988/9/contents>
- Vakolyuk A., Shelyuk V., & Symonovich N. (2021). Innovative technologies in the system of physical education of higher education students. *Innovation in education: collection of scientific works*. Issue 14. Rivne (pp. 128–134). RDGU.
- Vasko, O., & Kruhova, A. (2016). Students’ readiness for independent educational and cognitive activity. *Pedagogical Sciences: Theory, History, Innovative Technologies*, 4, 207–213.
- Vaskov, Yu. V. (2006). Conceptual foundations for improving physical education programs for secondary schools. *Physical Education Theory and Methodology*, 2, 31–33.
- Vaskov, Yu. V. (2006a). Communicative competence of a teacher. *Theory and methods of physical education*, 1, 44–46.
- Vasylyuk, A. (2023). Theoretical foundations of inclusive education. *Inclusive education: idea, strategy, result: materials of the III All-Ukrainian*.

- interdisciplinary. scientific-practical conference with international participation. Ternopil (pp. 40–45). TNPU.
- Vernyhora, I. O. (2024). Development of communicative self-regulation of college students in project activities. ZNU, 85.
- Vlasyuk, R. A. (2017). Training of future physical education teachers based on a differentiated approach. *Collection of scientific works of the National Academy of the State Border Guard Service of Ukraine. Series: Pedagogical Sciences*, 4, 100–109.
- Volkova, N. P. (2017). Means of stimulating and motivating students' creative activity. *Bulletin of the Alfred Nobel University. Series: Pedagogy and Psychology*, 1, 161–169.
- Vyala, O. M. (2017). Theoretical basis for the formation of readiness of future physical education teachers for professional self-realization in health education. *Scientific notes of the Berdyansk State Pedagogical University. Series: Pedagogical Sciences*, 2, 195–200.
- Wenger, G. S. (2024). Psychological training in the work of a clinical psychologist. *Teaching and methodological manual*. Ushinsky University.
- Yan, Z., & Tian, X. (2018). Research on the Reform of College Physical Education Talent Training under the Perspective of Competence-based Education. Educational Theory and Practice. URL: https://kns.cnki.net/kcms2/article/abstract?v=BIOUhu2v8YDRvn0xjvTcoRbpABHIKfPKdaPZYb0Im4JOx5S_ovEFN4fCsd_c7CzmhrB7EKVKDZMMwf2AoHLDw5LSLeteNak_EiuBaXSbqap3VIKWiXN15nIzRRMT4EBcddj9AR_rF35bBi65bS7WM7Z1xgp7aMxb21QW6fUDvQntnaWdcP1UJHcxD56wXarO45t0iU=&uniplatform=NZKPT&language=CHS
- Yazlovetska, O. V. (2022). Innovative technologies in the system of physical education of schoolchildren. *Scientific notes. Series: Pedagogical sciences*, 205, 224–229.
- Yazlovetsky, V. S. (2004). Fundamentals of Physical Rehabilitation. *Textbook*. Kirovograd.

- Yu, S. (2017). Construction of the Framework System of Core Competencies in Chinese Students' Physical Education. *Journal of Physical Education*. URL: <https://link.cnki.net/doi/10.16237/j.cnki.cn44-1404/g8.2017.04.002>
- Zabiyako, Yu. O. (2013). Pedagogical technologies of teaching physical education. *Physical education, sport and health culture in modern society, 1* (21), 103–106.
- Zaitseva, Y. V., Taranenko, I. V., & Kornosenko, O. K. (2020). Integration of educational and professional activities of future physical education teachers in the process of professional training. *Pedagogical Sciences, 75/76*, 50–55.
- Zhalat-Lozynska, L. O. (2024). Resilience of Higher Education Teachers as the Basis of Psychological and Pedagogical Support of the Educational Process in Wartime. *Current problems of the educational process in the context of Ukraine's European choice: materials of the VII International Conference Kyiv* (pp. 144–148). Kyiv.
- Zhang, J., Liu, H., & Dai, W. (2024). Physical exercise and positive coping styles of Chinese college students: Psychological resilience as a mediator. *Social Behavior and Personality: an international journal, 52*(5), 13098E–13106E(9). <https://doi.org/10.2224/sbp.13098>
- Zhoga, R. A. (2021). Personalized educational environment as an innovative direction of development of modern education. *Innovative Pedagogy, 36*, 165–171.
- Zubchenko, O. S. (2017). From the experience of supporting and developing gifted children in Italy. *Education and Development of the Gifted Individual, 10*, 67–73.
- Zyazyun, I. A. (2011). Educational paradigms and pedagogical technologies in the dimensions of the philosophy of education. *Scientific Bulletin of the V. O. Sukhomlynsky Mykolaiv State University. Series: Pedagogical Sciences, 1* (33), 22–27.

APPENDICIES

APPENDIX A

METHODOLOGICAL RECOMMENDATIONS FOR INCREASING THE EFFICIENCY OF THE EDUCATIONAL PROCESS BY FORMING CC OF FUTURE PE TEACHERS DURING THE STUDY OF PROFESSIONAL DISCIPLINES

In order to increase the effectiveness of the educational process in the process of studying professional disciplines with the aim of forming CC of future PE teachers in HEI, teachers are obliged to:

1. Improve the methodological planning of practical classes to ensure effective and dynamic work of students, taking into account the rational distribution of time.
2. Develop comprehensive educational and methodological support for each topic, which will indicate the goal, a list of problematic issues, tasks for independent work, examples of completing tasks, as well as recommended literature and possible practice-oriented tasks and Internet sources.
3. Improve the technology of teaching lecture material, using such forms and methods as presenting part of the topic in full or all topics using lecture presentations and video lectures using multimedia tools, which will allow structuring the main material or implementing the main ideas through dual lectures.
4. Motivate students to solve practice-oriented tasks using additional information resources and communication tools.
5. Apply various forms of organizing students' independent work, including individual research tasks, work with additional literature, writing creative essays, completing test tasks, preparing for and participating in Olympiads and scientific conferences.
6. Regularly conduct individual classes with young people to timely identify problems in learning the material and find ways to solve them.

Continuation of Appendix A

7. Systematically monitor the level of competencies of education seekers through tests, interviews, and colloquiums, using appropriate control programs.

APPENDIX B

**ASSESSMENT OF THE PROFESSIONAL ORIENTATION OF THE
PERSONALITY OF A FUTURE PHYSICAL EDUCATION TEACHER**

(modified method of E. Rogov)

The methodology allows us to identify the importance of certain aspects of professional activity (organization, tendency to integrate knowledge, client-centeredness, communication, tolerance) for future PE teachers.

Instruction.

The questionnaire below lists the characteristics that may be inherent in you to a greater or lesser extent. There are two possible answers:

- a) "the named property is typical of my behavior or is inherent in me to a greater extent";
- b) "the named property is atypical for my behavior or is inherent in me to a lesser extent."

After reading the statement and choosing one of the answer options, you need to cross out the corresponding letter on the answer sheet.

Questionnaire text

1. Fundamental interdisciplinary knowledge can significantly facilitate a person's life (a, b).
2. I show interest in the fate of others (a, b).
3. Others say that I have my own opinion on the subject of activity, I like to do the work in my own original way (a, b).
4. Among my ideals are self-sufficient, competent individuals, humanist teachers, and masters of teaching (a, b).
5. It is important to me that there is no disorder in everything that surrounds me (a, b).
6. I always analyze my behavior (a, b).
7. I cannot be indifferent to the problems of others (a, b).
8. The main thing in the professional activity of a teacher is humanism, empathy, and the desire to help everyone (a, b).

Continuation of Appendix B

9. Most people I hang out with are undoubtedly happy to see me (a, b).
10. In the learning process, I prefer integrated knowledge (a, b).
11. The main task of future PE teacher is to teach the child(ren) to solve problems independently (a, b).
12. I often oppress others with my self-confidence (a, b).
13. I live for today more than other people (a, b).
14. Integration of knowledge is the basis for readiness for CC, professionalization of future PE teachers (a, b).
15. In the company, I provide opportunities for others to communicate freely and tell all kinds of stories (a, b).
16. Children's interests, their preferences, and their diverse inner world are the subject of my attention (a, b).
17. If I could travel into the future for a while, the first thing I would do would be to talk to my work colleagues (a, b).
18. I get annoyed by people who can't make decisions quickly (a, b).
19. People around me think that I am simply incapable of being rude (a, b).
20. I limit myself to narrow subject competence (a, b).
21. Raising a child's personality is my future professional priorities (a, b).
22. I avoid community service and the associated responsibilities (a, b).
23. Diverse scientific information is what interests me most in life (a, b).
24. My credo is tolerance, accepting another person as they are (a, b).
25. Sometimes I don't want to talk to anyone all day (a, b).

Processing results

Each answer is scored with one point. All statements of the questionnaire (taking into account the possibility of answering a) or b) are "divided" into scales that correspond to the professional orientation of future PE teachers' personality. For each of the selected scales that correspond to a certain position of the questionnaire, a maximum of 5 points can be scored, namely:

"Organization" - 3a., 5a, 6a, 18b, 22b.

Continuation of Appendix B

"Tendency to integrate knowledge" - 1a, 10a, 14a, 20b, 23a.

" Child-centeredness " - 4a, 8a, 11a, 16a, 21a.

"Need for communication" - 9a, 13a, 15a, 17a, 25b.

"Tolerance" - 2a, 7a, 12b, 19a, 24a.

Conclusions. The scale on which the respondent scores 3-5 points characterizes the pronounced personal and professional orientation of future PE teacher.

*Continuation of Appendix B***METHODOLOGY "REFLECTION ON SELF-DEVELOPMENT"****(modified version of L. Berezhnaya's test)**

Instructions: Answer 14 questions by choosing one of the suggested answer options.

Questionnaire

1. Based on your comparative self-assessment, choose the characteristic that best suits you:

- a) purposeful;
- b) hardworking;
- c) disciplined

2. What do your colleagues (classmates) appreciate you for?

- a) for being responsible;
- b) for standing my ground and not changing my decisions;
- c) for being an erudite, interesting conversationalist

3. How do you feel about the idea of empathetic support?

- a) I think it's a waste of time;
- b) I did not delve deeply into the problem;
- c) I am positively and actively involved in the project

4. What is the biggest obstacle to your professional self-improvement?

- a) not enough time;
- b) there is no necessary literature and conditions;
- c) lacks willpower and perseverance

5. Based on your comparative self-assessment, choose the characteristic that best suits you:

- a) demanding;
- b) persistent;
- c) indulgent

Continuation of Appendix B

6. Based on your comparative self-assessment, choose the characteristic that best suits you:

- a) determined;
- b) clever;
- c) inquisitive

7. What is your position on the empathetic support project?

- a) idea generator;
- b) critic;
- c) organizer

8. Based on a comparative self-assessment, choose which qualities you have developed to a greater extent:

- a) willpower;
- b) perseverance;
- c) obligation

9. Which of the following areas has been of cognitive interest to you recently?

- a) methodological knowledge;
- b) theoretical knowledge;
- c) innovative professional activity

10. What do your friends most often think of you as?

- a) fair;
- b) friendly;
- c) sensitive

11. Which of the following principles is closest to you and which one do you follow most often?

- a) one must live in such a way that it is not painful for the aimlessly lived years;
- b) there is always place for self-improvement in life;
- c) enjoying life through creativity

12. Who is closest to your ideal?

- a) a person who is strong in spirit and strong-willed;

Continuation of Appendix B

b) a skilled creative person who knows a lot;

c) a person who is independent and self-confident

13. Will you be able to achieve what you dream of professionally?

a) I think so;

b) most likely yes;

c) as luck would have it

14. What excites you most about the empathetic support project?

a) the fact that most scientists approve of this idea;

b) I don't know yet;

c) new opportunities for professional activity and the prospect of self-realization

Processing results

The results of the test determine the level of desire for self-development. The answers to the test questions are evaluated as follows:

Question: Answer scores:

1. a – 3; b – 2; c - 1

2. a - 2; b - 1; c - 3

3. a - 1; b - 2; c - 3

4. a – 3; b – 2; c - 1

5. a – 3; b – 2; c - 1

6. a – 2; b – 3; c - 1

7. a – 3; b – 2; c - 1

8. a – 2; b – 3; c - 1

9. a - 1; b - 2; c - 3

10. a – 3; b – 2; in - 1

11. a – 1; b – 3; in - 2

12. a – 1; b – 3; in - 2

13. a – 3; b – 2; in - 1

14. a – 2; b – 1; in – 3

Continuation of Appendix B

The total number of points is determined as follows:

Total number of points; Level of desire for self-development

18-24 to 18 - very low

25-29 low

30-34 medium

39-42 above average

39-42 high

A person's self-assessment of their qualities that contribute to self-development is determined by the answers to questions 1, 2, 5, 6, 8, 10.

The total number of points is distributed in the following order:

Total number of points; Self-assessment of one's qualities by the individual

18-17 very high

16-15 overrated

14-12 normal

11-9 underrated

8-7 low

6-3 very low

The assessment of empathic support project as an opportunity for professional self-realization is determined by the answers to questions 3, 7, 9, 14.

The total number of points is distributed in the following order:

Total points; Evaluation of the pedagogical support project

15-14 as opportunities for professional self-realization

13-11 as necessary and sufficient for self-realization

10-8 rather as promising for self-realization

7-6 uncertain assessment, rather as unpromising for self-realization

*Continuation of Appendix B***"MOTIVATION FOR SUCCESS"****(methodology of T. Ehlers)**

(Kokun O.M., & Tkachenko V.V., 2012)

*You will be asked 41 questions, each of which you can answer with "yes" or "no".***Test material (questions) of the Ehlers questionnaire**

1. If there is a choice between two options, it is better to make it sooner than to postpone it for later.
2. If I notice that I can't complete a task 100%, I get irritated easily.
3. When I work, it feels like I'm putting everything on the line.
4. If a problem situation arises, I am often one of the last to make a decision.
5. If I have nothing to do for two days in a row, I lose my temper.
6. Some days my performance is below average.
7. I am more demanding of myself than of others.
8. I am friendlier than others.
9. If I refuse a difficult task, I severely judge myself later because I know I would have succeeded in it.
10. During work, I need short breaks to rest.
11. Diligence is not my main trait.
12. My achievements at work are not always the same.
13. Another job attracts me more than the one I am busy with.
14. Criticism stimulates me more than praise.
15. I know that my colleagues consider me a business person.
16. Overcoming obstacles helps my decisions become more categorical.
17. My ambition is easy to play on.
18. If I work without inspiration, it is usually noticeable.
19. When doing work, I do not count on the help of others.
20. Sometimes I put off until tomorrow what I should do today.
21. You need to rely only on yourself.

Continuation of Appendix B

- 22. Few things in life are more important than money.
- 23. If I have to complete an important task, I never think about anything else.
- 24. I am less ambitious than many others.
- 25. At the end of my vacation, I am usually happy that I will be back to work soon.
- 26. If I am prepared for work, I do it better and more competently than others.
- 27. It is easier and more comfortable for me to communicate with people who are able to work hard.
- 28. When I don't have work, I feel uncomfortable.
- 29. I have to do responsible work more often than others.
- 30. If I have to make a decision, I try to do it as well as possible.
- 31. Sometimes my friends think I'm lazy.
- 32. My success depends to some extent on my colleagues.
- 33. It is pointless to oppose the will of the leader.
- 34. Sometimes you don't know what kind of work you'll have to do.
- 35. If something doesn't go my way, I become impatient.
- 36. I usually pay little attention to my achievements.
- 37. If I work together with others, my work is more effective than others'.
- 38. I don't finish many of the things I start.
- 39. I envy people who are not overloaded with work.
- 40. I do not envy those who strive for power.
- 41. If I am sure that I am on the right path, I will go to extreme measures to prove my rightness.

Key to the questionnaire by T. Ehlers.***Calculation of values.***

1 point is awarded for answering "yes" to questions: 2-5, 7-10, 14-17, 21, 22, 25-30, 32, 37, 41

and "no" to the following: 6, 13, 18, 20, 24, 31, 36, 38 and 39.

Continuation of Appendix B

Answers to questions 1, 11, 12, 19, 23, 33-35 and 40 are not counted. The total score is calculated.

Interpretation of the motivation for success method (Ehlers test norms):

The higher the score, the higher the level of motivation to achieve success.

From 1 to 10 points - low motivation to succeed;

from 11 to 16 points - average level of motivation;

from 17 to 20 points – moderately high level of motivation;

more than 21 points - a very high level of motivation for success.

APPENDIX C

TEST TASKS ON THE ACADEMIC DISCIPLINE "INTRODUCTION TO THE SPECIALTY" (compiled by H. Liu)

Option 1

1. Explain the meaning of the concept of "professional competence of a physical education teacher" and describe its main components.
2. Describe the role of communication skills in the professional activities of a physical education teacher.
3. Make a plan for a motivational speech for students who have lost interest in physical education classes.

Option 2

1. Identify the features of pedagogical communication of a physical education teacher.
2. Analyze the role of reflection in the pedagogical activities of a future physical education teacher.
3. Create a dialogue between a teacher and the parents of a student who has low motivation to do physical education.

Option 3

1. Describe the main teaching methods in physical education.
2. What psychological factors influence the effectiveness of a physical education teacher's pedagogical communication?
3. Develop an explanation of the technique of performing an exercise (e.g., long jump) for elementary school students.

Option 4

1. Describe the main functions of a physical education teacher.
2. Identify communication barriers in pedagogical communication and ways to overcome them.
3. Formulate the rules of effective pedagogical communication in the format of a memo for a physical education teacher.

Option 5

Continuation of Appendix C

1. Define the concept of "physical activity" and its structural components.
2. Describe nonverbal means of communication in the professional activities of a physical education teacher.
3. Describe your reaction as a teacher to a conflict situation between students during a sports game.

Option 6

1. Reveal the essence of pedagogical ethics in the work of a physical education teacher.
2. Identify the basic techniques of active listening and their importance in communicating with students.
3. Create a scenario for holding an educational event on the topic "Healthy Lifestyle" in the format of an interactive dialogue with students.

Option 7

1. Describe the main difficulties that a physical education teacher may encounter when communicating with students.
2. Determine the role of emotional intelligence in the professional activities of a teacher.
3. Make a plan for a speech to parents on the topic "The role of physical activity in the comprehensive development of a child."

Option 8

1. What requirements are placed on the personality of a modern physical education teacher?
2. How to properly give constructive feedback to students during physical education classes?
3. Develop an algorithm for explaining the rules of a new game or sports exercise to middle school students.

Option 9

1. Analyze the impact of pedagogical communication styles on the learning process.

Continuation of Appendix C

2. Identify the principles of effective verbal communication for a physical education teacher.
3. Write a motivational speech for students before a sports event or competition.

Option 10

1. Reveal the essence of pedagogical tact in the professional activities of a physical education teacher.
2. How do communicative competencies help a physical education teacher in working with students with special educational needs?
3. Develop practical recommendations for a young teacher on effective communication with students in a physical education class.

QUESTIONS FOR SELF-MONITORING OF LEARNING RESULTS

1. Explain the meaning of the concepts of physical culture, sports, physical education, physical training, training, physical rehabilitation, recreation.
2. What is the place of physical culture in the general culture of humanity?
3. What is the place of physical culture in ancient Greek culture?
4. What do you know about physical culture during the existence of Kyivan Rus?
5. Tell us about the features of physical culture during the Cossack period.
6. Why does the role of physical culture increase with the development of civilization?
7. What basic means of physical education do you know?
8. What is the state's attention to the development of physical education?
9. What are the main tasks of society that physical education solves?
10. What other areas of social activity is physical education closely related to?
11. In what forms are physical education classes held in educational institutions?
12. What are the similarities and differences between physical education and physical training?
13. Which categories of the population mainly engage in recreational physical education?

Continuation of Appendix C

14. Describe the recreational impact of physical education.
15. What forms of organizing physical education classes do you know?
16. What categories of the population are subject to physical rehabilitation?
17. Describe physical exercise as a primary means of physical rehabilitation.
18. Describe sports as a specific part of physical education.
19. What organizations that conduct sports work are you aware of?
20. What sports associations do you know and what category of employees do they work with?
21. How is the process of physical education of schoolchildren organized?
22. What sports club do you belong to?
What are its governing bodies in the center and the region?
23. What sports organizations are designed to organize and conduct physical education and sports work with the rural population?
24. Describe the vertical of state bodies managing the physical education and sports movement.
25. When and how was the modern Olympic movement revived?
26. What is the IOC? When was it founded and what are its activities?
27. What is the system of international sports competitions?
28. When was the NOC of Ukraine established and what are its main tasks?
29. What functions do sports federations perform and what is their structure?
30. What are the main legislative acts that regulate the activities of physical education and sports organizations?
31. What do you know about the Law of Ukraine "On Physical Education"?
32. What do you know about the targeted comprehensive program "Physical Education - Health of the Nation"?
33. What problems of physical education development in Ukraine are you aware of?
34. What is sports classification and what is its role in sports?

Continuation of Appendix C

35. What do you know about the State tests and standards for assessing the physical fitness of the population of Ukraine?
36. How is the scientific support of the field of physical education and sports carried out?
37. How is information support for the development of physical education and sports carried out?
38. What are the components of the material base of physical education?
39. How is the development of physical education and sports financed?
40. Name and describe the most influential international sports organizations.
41. How is Ukraine represented in the international sports movement? What outstanding athletes do you know?
42. What are the historical features of the development of physical education in different regions of Ukraine?
43. What contribution did Ukrainians make to the development of modern Olympism?
44. What are the results of Ukrainian athletes in the international arena?
45. What is the state-building and consolidating function of sport?
46. What is invasport? How is it organized?
47. What is the main difference between amateur and professional sports?
48. What healing powers of nature are used as a means of physical conditioning and development?
49. Describe physical exercise as the main means of physical education.
50. What is the structure of education in Ukraine?
51. What challenges does higher education face?
52. How do higher education institutions differ in terms of ownership, subordination, and funding sources?
53. Describe the main forms of education in a higher education institution.
54. What are the levels of accreditation of higher education institutions and how is state certification carried out?

Continuation of Appendix C

55. What is a degree education system?
56. What types of activities do higher education institutions carry out?
57. How do scientific educational and methodological (sports) complexes work?
58. Give a general description of higher education institutions that train specialists in the field of physical education?
59. What is the typical structure of a higher education institution?
60. What do you know about the legislative and regulatory framework for the functioning of higher education?
61. What is the essence of reforming the higher education system?
62. What are the rights of a student of a higher education institution?
63. What are the responsibilities of a student of a higher education institution?
64. How is sports training carried out in a specialized higher education institution? The concept of sports specialization.
65. What are the forms of monitoring and evaluating the quality of education?
66. What forms of incentives and punishments are applied to students?
67. Why is independent work of students an integral part of specialist training?
68. How is scientific and scientific-pedagogical personnel for the industry trained?
69. The place of your chosen higher education institution in the system of training specialists for the industry.
70. What positions can physical education specialists work in?
71. What is the main purpose of a physical education specialist?
72. What is the main purpose of a physical rehabilitation specialist?
73. What is the main purpose of an Olympic and professional sports specialist?
74. How do the personal qualities of specialists influence the choice of specialties and specialization?

Continuation of Appendix C

75. What are the criteria for evaluating the work of physical education and sports specialists?
76. What are the forms of remuneration for physical education and sports specialists?
77. What is the industry's need for physical education specialists? The problem of employment.
78. What are the mutual obligations of a higher education institution and a student?
79. What components of the preparedness of physical education specialists do you know?
80. What are the professional specialties in the field of physical education and sports?

Continuation of Appendix C

**SELF-ASSESSMENT TEST OF STUDENTS' ABILITIES IN SOLVING
PROFESSIONAL SITUATIONS (compiled by H. Liu)**

Instructions: Dear student, from the proposed test answer options, choose one for yourself - the optimal one!

Questionnaire questions

1. In the professional situation of a physical education teacher, I can identify contradictory facts:

- A) quickly and clearly, based on professionally oriented knowledge;
- B) slowly, not clearly enough, relying on existing knowledge;
- C) slowly and inaccurately, relying on outdated knowledge

2. I can reproduce the nature and content of a professionally oriented situation:

- A) accurately and completely;
- B) almost correct, but not completely;
- B) approximately and partially

3. I am able to analyze a professionally oriented situation:

- A) deeply and well-founded;
- B) logical, but not justified;
- B) intuitively and superficially

4. I can determine the essence of conflict in a professional situation:

- A) demonstratively;
- B) motivated;
- B) spontaneously

5. I am able to identify the main tasks of a professional situation:

- A) appropriate, taking into account all its objective circumstances;
- B) almost appropriate, but not taking into account all its objective circumstances;
- C) partially appropriate, taking into account one's subjective perceptions.

6. When solving professional situations, I can find ways to:

- A) the most effective and practically proven;
- B) are quite optimal, but not tested;

Continuation of Appendix C

C) original but false

6. *I am able to analyze and evaluate a decision made in a professional situation:*

A) deeply and adequately;

B) logical, but not entirely adequate;

B) intuitively and inadequately

Processing results:

A – 3; B – 2; C - 1

The total number of points is determined as follows:

Total number of points; Gradual manifestation of the ability to resolve professional situations

1-5 passive

6-8 limited-search

8-10 active-search

11-15 conscious-active

APPENDIX D

**INTEGRATIVE ASSESSMENT OF THE EFFECTIVENESS OF
COMMUNICATIVE ACTIVITIES**
(modified method of M. Fetyskin)

Instructions. The questionnaire contains statements that will allow you to clarify your thoughts, interests, attitudes, and assessments. For each statement, choose several letter options that, in your opinion, are optimal for a specific academic discipline (defined by us in accordance with the logic of the study). Pay attention to when you need to assess individual qualities of a future teacher, and when your own educational actions.

Questionnaire

1. In this lesson (.....) I:

- a) discover a lot of new things;
- b) am a subject of pedagogical interaction with the teacher;
- c) receive a setup for independent work;
- d) enrich the experience of creative pedagogical activity;
- e) do not receive complete educational information.

2. The teacher in this lesson:

- a) strictly controls all my actions;
- b) creates an atmosphere of relaxation;
- c) tries to interest students, to get them excited about the subject;
- d) strives for dialogue and cooperation;
- e) focuses only on interested students.

3. In a lesson on the academic discipline, I:

- a) strive to improve my intellectual level;
- b) acquire subject-subject interaction skills;
- c) actively cooperate with my classmates;
- d) master situational modeling skills;
- e) strive to affirm my status and position in the group.

Continuation of Appendix D

4. *This teacher*:

- a) is fluent in the material;
- b) is passionate about his subject;
- c) stimulates the educational, scientific and research activities of students;
- d) is indifferent to his subject;
- e) presents the material in a dry, formal manner

Data processing key

1. *Informativeness of the lesson:*

- a, b, c, d - high; e - low

2. *Pedagogical leadership style:*

- a – authoritarian leadership style;
- b, c, d – democratic leadership style;
- e – liberal-postural style.

3. *The dominant goal-setting orientation of students:*

- a, b, c – creative personal and professional self-realization;
- d – enrichment of experience in project activities;
- e – increase in social status.

4. *Professional and methodological competence:*

- a, b, c – high;
- d, e - low

Note: When analyzing and interpreting these obtained results, one should take into account the quantitative and qualitative criteria of the studied scales, the systematic comparison of the relationships between them. The presence of positive and negative correlations between the scales allows one to determine the main points regarding the improvement of one's professional activities.

*Continuation of Appendix D***SITUATIONAL EXERCISES FOR THE DEVELOPMENT OF
COMMUNICATIVE COMPETENCE IN FUTURE PHYSICAL EDUCATION
TEACHERS****Exercise 1**

One of the key components of the professional training of future physical education teachers is the formation of readiness for effective communication in the pedagogical process. Performing situational exercises will contribute to the development of appropriate skills and abilities necessary for successful interaction with students, parents, and colleagues.

The future teacher is faced with the task of properly organizing the introductory part of the lesson, in particular, establishing trusting contact with students, motivating them to engage in physical education and sports, and creating a favorable psychological climate.

Situational exercise "First contact"

Situation: A future teacher needs to conduct the first physical education lesson in a new class. The task is to introduce themselves, talk about the importance of physical activity, arouse interest, and motivate students to work productively.

Exercise 2

The ability to provide students with constructive feedback is of particular importance. If technical errors are made during the exercise, it is necessary to correctly and clearly explain how to correct them, using verbal and non-verbal means of communication.

Situational exercise "Error correction"

Situation: A student performs a long jump from a running start incorrectly. The task is to explain the movement technique so that he understands and can correct the mistakes.

*Continuation of Appendix D***Exercise 3**

Equally important is the ability to effectively resolve conflict situations in the educational process. In the event of disputes between students during a game, the teacher must quickly assess the situation and find the optimal way to reconcile, emphasizing the values of fair play, teamwork, and mutual respect.

Situational exercise "Conflict on the playground"

Situation: During a game of football, two students argued about the rules. The task is to find a reasoned way to reconcile, emphasizing the principles of fair play and mutual respect.

Exercise 4

A teacher's communicative competence is also manifested in interaction with parents. In situations where parents express concern about their child's reluctance to engage in physical education, the teacher should conduct a reasoned conversation, explain the importance of physical activity for health and harmonious development of the personality, and find an individual approach to the student.

Situational exercise "Working with parents"

Situation: Parents complain to the teacher that their child does not want to attend physical education classes. The task is to have a conversation with the parents, explain the benefits of sports, and find an individual approach to the student.

Exercise 5

To maintain students' motivation for classes, it is advisable to use motivational influence methods, including stories about outstanding athletes, stories of personal success, or examples of graduates' achievements.

Situational exercise "Motivational speech"

Situation: Students are losing interest in physical education classes. The task is to tell a motivational story or your own experience to interest them and increase their level of involvement in classes.

*Continuation of Appendix D***Exercise 6**

The effectiveness of the pedagogical process also depends on the teacher's ability to explain the educational material in an accessible way. When demonstrating and explaining the technique of performing complex physical exercises, it is important to use methods of presenting information adapted to the level of perception of students, combining verbal, visual and practical instructions.

Situational exercise "How to explain a complex exercise?"

Situation: The technique of throwing a small ball needs to be explained. The task is to develop verbal and nonverbal means of communication that will allow students to better understand the task.

Exercise 7

One of the challenges of pedagogical activity is the organization of team interaction during sports games. If students do not demonstrate team spirit, the teacher must find ways to unite them, explain the importance of cooperation and effective distribution of roles in the team.

Situational exercise "Team spirit"

Situation: In a classroom game, each student acts individually, not interacting with others. The task is to find ways to encourage them to work together, to explain the importance of teamwork.

Exercise 8

Special attention is required when working with students who feel fear or lack self-confidence. The teacher must have knowledge of psychological support methods, help students overcome the fear of failure and create conditions for gradually increasing their confidence in their own abilities.

Situational exercise "Overcoming fear"

Continuation of Appendix D

Situation: A student is afraid to perform a backflip due to fear of falling. The task is to find words of support and teaching methods that will help him perform the exercise confidently.

Exercise 9

The development of public speaking skills is another important aspect of communicative competence. A teacher must be able to express his/her thoughts clearly, logically, and convincingly, convey information in understandable language, using vivid examples and arguments.

Situational exercise "Public speaking"

Situation: It is necessary to prepare a short lecture for students on the topic "The Role of Physical Education in a Healthy Lifestyle." The task is to formulate the main theses, choose a presentation style, and use illustrative examples.

Exercise 10

A key stage in the professional training of a future teacher is planning and conducting an open lesson, which involves not only methodological preparation, but also effective interaction with students and colleagues.

Situational exercise "Preparation for an open lesson"

Situation: It is necessary to develop a plan for an open lesson for the school administration. The task is to prepare methodological materials, think over explanations of exercises, anticipate possible questions and ways of interacting with the audience.

APPENDIX E
TEST
TO DETERMINE THE LEVEL OF YOUNG PEOPLE'S KNOWLEDGE
ABOUT HEALTH
(Yazlovetsky V., 2004)

Instructions: Dear student, from the proposed test answer options, choose one for yourself - the optimal one!

Questionnaire questions

1. Human health is:

- a) variability of the internal state;
- b) a state of complete physical, mental and social harmony;
- c) disharmony between soul and body;
- d) high level of activity;
- e) absence of complaints and physical defects.

2. The following factors contribute to the preservation and strengthening of health:

- a) environmental pollution;
- b) active motor mode;
- c) limited motor activity and short sleep;
- d) significant emotional and mental stress.

3. Learning to be healthy means:

- a) gaining health through education;
- b) the use of constant and significant willpower;
- c) spending free time at the computer and with gadgets;
- d) limited exposure to the fresh air.

4. A healthy lifestyle is:

- a) a way of life of a person aimed at preserving, strengthening and forming health;
- b) a complex of health-improving activities;
- c) a life aimed at satisfying material needs;
- d) maintaining life with the help of medication;
- e) restriction of movement and excessive eating.

Continuation of Appendix E

5. *Physical activity is:*

- a) biological need for movement;
- b) hypodynamia;
- c) a stimulant of growth and development of the organism;
- d) a negative factor for the development of the organism.

6. What daily rate (in hours) of physical activity is optimal for you?

- a) 1-2;
- b) 2.5-3;
- c) 5-6.

7. *Tempering the body means:*

- a) increasing resistance and improving the body's thermoregulation system;
- b) weakening of the immune system;
- c) the path to disease.

8. *What is aerobic exercise?*

- a) speed and strength exercises;
- b) cyclic endurance exercises;
- c) exercises for flexibility and coordination of movements.

9. *What is the duration of sleep as a physiological need for you (in hours)?*

- a) 7-8;
- b) 8-9;
- c) 9-10.

10. *Indicators of mental health are:*

- a) neurotic state and anxiety;
- b) high arousal and aggressiveness;
- c) absence of nervous system disorders and adequate behavior.

11. *The components of the daily routine include:*

- a) rational alternation of work and rest in accordance with biorhythms;
- b) sleep duration, nutrition and exercise regimen;
- c) autogenic training and meditation;

Continuation of Appendix E

d) level, quality and style of life.

12. Rational nutrition means:

- a) eating food containing a large amount of fats and carbohydrates;
- b) eating food that contains the full range of vitamins and trace elements;
- c) eating food that quantitatively and qualitatively meets the body's needs.

13. Systematic physical exercise contributes to:

- a) increasing muscle strength and expanding the functional capabilities of the cardiovascular and respiratory systems;
- b) the occurrence of injuries and pathological conditions;
- c) the occurrence of disorders of the nervous system and coordination of movements.

14. The degree of fatigue during physical exercise can be determined by the following external signs:

- a) by heart rate;
- b) by skin color change, significant sweating and complaints;
- c) by indicators of increased efficiency, increased speed, and agility.

15. Personal hygiene includes:

- a) a set of measures, norms, and requirements for caring for the activities of the human body;
- b) features of human mental activity;
- c) laws of human growth and development;
- d) the impact of the natural environment on human health.

16. You can prevent stress by observing the following conditions:

- a) systematic performance of physical exercises and hardening procedures;
- b) mastering the techniques of mental self-regulation;
- c) increased demands on oneself and other people;
- d) information overload and inability to solve the tasks set.

17. P. Ivanov's natural hardening system "Baby" contains the following tips:

- a) 6;
- b) 8;

Continuation of Appendix E

c) 12.

18. The basic rules of communication culture are:

- a) the ability to listen attentively to the interlocutor;
- b) not to interrupt another person's conversation;
- c) show interest during the conversation.

19. The call "Know thyself" means:

- a) know the structure and functions of one's own body, psycho-emotional and intellectual characteristics;
- b) know your lineage;
- c) adaptation to the natural and social environment;
- d) increase in body mass and proportions.

20. The concept of "self-realization" means:

- a) achieving comprehensive harmonious development as the highest goal in life;
- b) the desire to fully reveal a person's genetically inherent abilities and predispositions;
- c) uncontrolled spontaneous process.

Evaluation

Correct answers: 1- b, d; 2 - b; 3 - a, b; 4 - a, b; 5 - a, c; 6 - b; 7 - a; 8 - b; 9 - b; 10 - c; 11 - a, b; 12 - c; 13 - a; 14 - b; 15 - a; 16 - a, b; 17 - c; 18 - a; 19 - a; 20 - a, b.

Evaluation of test results

Low level – up to 50% of correct answers;

Average level – 60-79%;

High level – 80-100% (16-20 correct answers).

*Continuation of Appendix E***Test questionnaire****"ASSESSMENT OF THE MOTIVATION OF FUTURE PE TEACHERS TO IMPLEMENT HEALTH-PROTECTING ACTIVITIES WITHIN THE LIMITS OF THE FORMATION OF CC" (developed by H. Liu)**

Instructions. The assessment is carried out in points (from 1 to 5), which expresses a positive or negative attitude towards the upbringing of a health-preserving culture in students of the GSEI. The overall assessment consists of points by line.

The answer options for the judgments offered to you can be "yes", "more likely yes than no", "can't answer", "more likely no than yes", "no".

Questionnaire

1. What is the choice of your future profession related to?
2. Has your choice of the profession of a physical education teacher affected your personal health?
3. Are you ready for surprises in your professional activities that require new approaches to ensuring the educational process of PE?
4. Do you think that physical education classes contribute to maintaining students' health?
5. Would you attend additional classes in physical education and sports to gain new professional knowledge about health-preserving activities in the GSEI?
6. Do you see the student as an active participant in the educational process of PE?
7. Do you believe that the knowledge you have acquired at higher education institutions enables you to effectively carry out professional activities that will be aimed at protecting the health of younger schoolchildren in the future?
8. Do you think that your professional activities related to PE will help improve the health of schoolchildren?
9. Are you sure that your proper organization of health-preserving activities for students contributes to the preservation and strengthening of their health?

Continuation of Appendix E

10. Do you agree that students, regardless of what grade they are in, need to develop health-preserving competence?

11. Is it necessary to form health-preserving competence in schoolchildren at physical education lessons?

12. Do you have any difficulties in using innovative health-saving technologies in the process of solving situational tasks?

13. Did you take into account your own health when choosing the profession of a physical education teacher?

14. Does your research activity on health preservation affect the effectiveness of the educational process in higher education institutions?

15. Are you interested in innovative health-saving technologies?

The overall total score of the results is calculated according to the key, given in the table

Question	Evaluating the response
Yes	5
More likely than not	4
I can't answer.	3
More likely no than yes	2
No	1

Motivation level _____

Motivation level	Low	Average	High
Total points	15-44	45-59	60-75

APPENDIX F
ELECTIVE PROGRAM
"DEVELOPMENT OF COMMUNICATIVE COMPETENCE IN FUTURE
PHYSICAL EDUCATION TEACHERS"

1. Goals and objectives of the elective

The elective is a component of the Program for the Formation of CC of future PE teachers of EG and an effective component of the preparation of FT of EG for the future PA. Elective classes are aimed at FT acquiring skills and abilities of effective communication, which involves obtaining appropriate communicative knowledge in higher education institutions. The need for an elective for FT of EG is determined by their mediated PT and is realized in the process of involving EG students in elective classes and other educational activities.

The elective course involves students who have studied during the second to fourth years. Accordingly, the elective course contains 66 hours (33 two-hour classes) and 28 hours of independent work, and ends with a test and final diagnostics (4 hours). In total, it is 98 hours.

The goal of conducting an elective course is to promote the formation of the CC in future PE teachers of EG to increase their level of this competence, which significantly affects the successful development of the pedagogical future.

Methods – explanatory, illustrative, reproductive, problem-based presentation of educational material within the framework of the elective.

Stages of implementing the elective program:

1. Preparatory stage - studying the opinions of the future PE teachers on identifying the problems of the formation of the CC in HEIs; holding an organizational and methodological meeting with students to conduct an initial diagnosis of the level of formation of CC using a set of tests and questionnaires; studying the results of the initial diagnostic sections obtained.

2. The motivational and stimulating stage contributes to motivation and stimulates FT to participate in non-standard group classes in order to obtain communicative knowledge, skills and abilities necessary for effective PA.

Continuation of Appendix F

3. *Cognitive-substantive* aims at higher education students to obtain new communicative knowledge, effective skills, and structured professional skills to build effective communicative interaction in the future during physical education classes.

4. *The activity-communicative stage* helps to develop bachelors' competence and practice the acquired competence in order to form effective readiness for professional development as a teacher of physical education.

5. *The health-preserving stage* ensures the development of students' organizational and communicative skills for the formation of a healthy lifestyle and health-preserving physical qualities in students.

6. *The analytical and final stage* contributes to the organization of conversations with students in order to assess the dynamic growth of their CC and obtain a final diagnosis of the formation of CC; conduct an analysis of the levels of formation of CC of future PE teachers in higher education institutions.

2. Requirements for the content of elective classes

Successful completion of elective classes allows students studying in the specialty of PE:

a) *to know*: the essential features, structure and content characteristics of effective communication; features of professional communicative activity and its organization;

b) *to be able to*: implement organizational measures by establishing effective communication and conduct PE classes at a high level; effectively motivate students to effectively complete the assigned tasks; organize and effectively solve the assigned pedagogical tasks.

3. Types of optional educational work and the amount of hours

No.	Types of extracurricular activities	Hours
1.	Total elective course volume	98
2.	Group lecture classes	24
3.	Group practical classes	42
4.	Independent work	28
5.	The type of final control is a test. Final diagnosis	4

*Continuation of Appendix F***4. Content of elective classes****4.1. Elective topics and types of classes**

No.	Topics	Number of hours		
		GLC	GPC	IW
<i>Optional classes within the framework of studying the discipline "Theory and Methods of Physical Education" (3rd semester)</i>				
1.	Introductory lesson. Determining the initial diagnosis of CC of future PE teachers	2	-	-
2.	Physical education as a social phenomenon	2	4	2
3.	Conceptual and categorical apparatus and its influence on the formation of fundamental knowledge in the theory of physical education	2	2	2
4.	Physical education and its importance in satisfying the biological and social needs of the individual	-	2	2
5.	Basic and auxiliary means of physical education	-	2	2
6.	Basic principles of building an effective physical education process	-	2	2
7.	Methods of using the word and methods of demonstration	2	4	2
	Methods for improving the physical qualities of schoolchildren	2	2	2
<i>Optional classes within the framework of studying the discipline "Theory and Methods of Children's and Youth Sports" (5th semester)</i>				
8.	Motivational-value sphere of the personality of FT of PE and its importance for choosing strategies for effective interaction with students, parents and colleagues	2	4	2
9.	Physical development of children with special needs	4	6	2
<i>Optional classes within the framework of studying the discipline "Professional skills (by professional direction)" (7th semester)</i>				
10.	System of communicative skills of PE teacher	2	2	2
11.	Professional-communicative abilities of the PE teacher as a subject of educational activity	-	4	2
12.	Methods of preventing and resolving pedagogical conflicts in physical education lessons	2	2	2
13.	Communicative skills of the PE teacher in solving pedagogical situations	-	4	2
14.	Development of communicative competence of future PE teachers	2	2	2
15.	The place of communicative processes in the pedagogical activity of a PE teacher (round table)	2	-	-
16.	Final lesson (test). Final diagnostics	4	-	-
TOGETHER		96		

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Note: GLC - group lecture classes; GPC - group practical classes; IW - independent work of FT

5. Questions for preparing for the test

1. The professional competence of PE teacher as a component of his pedagogical skills.
2. The importance of skills in establishing communication with students in any professional situation
Nonverbal means of communication with students and their parents.
3. Norms of speech etiquette.
4. Communicative competence as an important condition for the quality of the organization of the educational and educational process in physical education classes.
5. Teamwork and modeling positive relationships within it.
6. Ability to withstand stress and communicate tolerantly.
7. Development of conflict management skills.
8. Communication as the basis of psychological and pedagogical interaction between subjects of the educational process.
9. Communication styles (authoritarian, democratic, liberal, communication-intimidation, communication-flirtation).
10. Positive and negative communication styles of a teacher.
11. Correspondence of the teacher's communicative actions to the age and individual characteristics of students.
12. Professional communication skills and personal traits of a physical education teacher as a subject of educational activity.
13. Typical mistakes and pedagogically inappropriate actions of a physical education teacher in a problem situation.
14. Components of communicative competence.
15. Professional communication of a physical education teacher in non-formal education.

Continuation of Appendix F

16. Linguistic and communicative competence of a teacher to ensure effective professional and pedagogical communication.
17. Barriers to pedagogical communication.
18. The social role of a physical education teacher, main tasks and personal qualities and skills.
19. An inclusive approach to understanding students' educational needs in physical education classes.

6. Educational and methodological support for elective courses.***6.1. Recommended reading***

1. Androschuk, I. (2022). Communicative competence as an important means of effective interaction between participants in the educational process. *Youth and Market*, 3-4(201-202), 34–38.
2. Barbinova, A. (2021). The structure of teachers' readiness for professional activity in conditions of inclusion. *Ukrainian Pedagogical Journal*, 1, 58–64.
3. Bezcopylny, O. O. (2020). Training of future physical education teachers for health-preserving activities in primary school: theory and methodology. Monograph. B. Khmelnytskyi National University of Kyiv.
4. Bielikova, N. O. (2014). From the experience of using interactive teaching methods in the professional training of future specialists in physical education and sports. *Modern information technologies and innovative teaching methods in the training of specialists: methodology, theory, experience, problems*, 37, 348–353.
5. Hrynchenko, I. B. (2014). Professional training of future physical education teachers: experience of European countries. *Educational and research tools*, 42, 39–50.
6. Ishchenko, O. S. (2016). Formation of teenagers' motivation to engage in physical education in the educational process of a secondary school. [Dissertation of Candidate of Sciences in Physical Education and Sports, National University of Physical Education and Sports of Ukraine].
7. Kovalenko, A. V., & Boyko, N. O. (2019). Formation of professional competence of a future physical education teacher in the conditions of a modern

8. Continuation of Appendix F

educational space. Pedagogy of the formation of a creative personality in higher and general education schools, 66, 141–146.

9. Krutsevich, T. Yu. (2015). Theoretical and methodological foundations of physical education and training of specialists in the field of physical education. Monograph. Olympic literature.

10. Markova, O. V. (2015). Expanding parents' knowledge of physical education as a condition for implementing a healthy lifestyle in the family of a modern teenager. Scientific Journal [of the National Pedagogical University named after M. P. Drahomanov]. Series 15: Scientific and pedagogical problems of physical education (physical education and sports), 5 (1), 157–160.

11. Otravenko, O. (2019). Innovative teaching methods as the basis for high-quality professional training of future physical education teachers. Open educational e-environment of a modern university, 222–230. URL:<https://doi.org/10.28925/2414-0325.2019s2>

12. Sheludchenko, L. S., Komarnitsky, S. P., Firman, Y. P., & Melnyk, V. A. (2024). The role of social and communicative skills in the preparation of higher education applicants. Professional and Applied Didactics, 2, 100–104.

13. Sheyan, M. O. (2021). Pedagogical conditions for the development of health-preserving competence of primary school teachers in the system of postgraduate pedagogical education. [Diss. Dr. Ped. Sciences, Khmelnytskyi Humanitarian and Pedagogical Academy].

14. Shynkareva, O. D. (2020). Pedagogical conditions for the formation of readiness of future bachelors of physical education and sports for the organization of leisure and recreational activities. Bulletin of the Taras Shevchenko National University of Luhansk. Series: Pedagogical Sciences, 1 (332), 292–302.

6.2 Means of support: class presentations, demonstration posters and tables, situational tasks, forms for practical work.

6.3 Material and technical support for the elective: video projector, screen, laptop.

APPENDIX G

Content analysis of

optional classes within the framework of studying the discipline

"Theory and Methods of Physical Education",

aimed at forming CC of EG students

Topics of elective classes	Content of the lesson
Topic 1. Motivational and value sphere of the personality of a PE teacher and its importance for choosing strategies for effective interaction with students, parents and colleagues	Awareness of the importance and value of the profession of a physical education teacher, the value of social and interpersonal interaction in establishing favorable communicative relationships. Demonstration methods, narration, discussion, persuasion, design of professional motivation for the profession were used. Filling out a form for planning tasks for the half-year.
Topic 2. Conceptual and categorical apparatus and its influence on the formation of fundamental knowledge in the theory of physical education	Familiarization with the main categories and concepts. Supplementing one's own communicative vocabulary with socio-psychological and professional-pedagogical categories. Establishing the relationship between verbal and non-verbal means of communication in the PA of future PE teachers.
Topic 3. Physical education and its importance in satisfying the biological and social needs of the individual	Characteristics of the features of the biological and social needs of young people. Determination of key components of effective interaction between a teacher and students; work in groups, creation of a model of the physical education system. Application of interactive methods in improving interaction. Use of an individual approach to the learning process.
Topic 4. Basic and auxiliary means of physical education	Physical education tools used for forming physical fitness. Using sports games to develop team interaction and increase the level of mutual understanding between students. Taking into account the specifics of age when organizing group classes.

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Topic 5. Basic principles of building an effective physical education process	Compliance with scientific principles of pedagogy and innovative pedagogical methods of interaction when organizing physical education and health activities. Formation of a education of communication in students through the principles of accessibility, scientificity and differentiation of learning. The importance of socio-emotional support for effective physical development.
Topic 6. Methods of using the word and methods of demonstration	The use of communicatively oriented methods in physical education. Adaptation of communication processes and motivational approaches to a specific group of students. The role of individual and group instruction in teaching movement techniques. Methods of video demonstration to form positive motivation for health-preserving physical education classes. Development of tasks aimed at forming the ability to ask questions and listen to the interlocutor.
Topic 7. Methods for improving the physical qualities of schoolchildren.	The influence of physical exercises on the development of physical and communicative abilities. Interactive interaction of participants in group physical activities. Development of preventive measures to minimize risks during physical education lessons. Mastering the algorithm for building effective training programs taking into account the age and individual characteristics of students. Formation of the ability to constructively resolve conflicts when performing joint tasks.

APPENDIX H

EDUCATIONAL HOUR

on the topic "Formula for a healthy lifestyle"

(the material of the educational lesson contains fragments of the creative work of

N. Krasotkina , URL : <https://krasotkina.com/вырши/Здоровья.html>)

Introductory speech of the class teacher (PE teacher)

Scientists and practicing doctors believe that health depends on each of us, that is, on a person, their conscious and active attitude to personal health. Statistical data shows that 75% of diseases in adulthood are a consequence of living conditions in childhood and adolescence (incorrect moral and psychological attitudes towards the awareness of the value of health, and therefore an indifferent attitude to one's own health).

Practical formation of a teenager's positive attitude to own health

I. In order to develop a teenager's interest in their own health, the teacher suggests:

1. Fill out the questionnaire and write a thesis-essay on self-analysis of your own physical and psychological well-being at the moment.
2. Draw a self-portrait, looking at yourself in the mirror and reflecting on who you really are (emphasize your positive aspects).
3. Form a life motto for five years, which will be your guide to maintaining own health.
4. Answer the questions:
 - a) what is your favorite season, best friend, favorite sport, favorite book, hobby, favorite movie, song, color, food;
 - b) continue the sentence:
 - I need a daily routine for...;
 - what I do to be healthy ...;
 - what I like most about myself is...;
 - I would like to change something about myself...;

Continuation of Appendix H

- I need health for

II. During the educational lesson, it is important for the teacher to stimulate the willpower of students to find ways to improve their health based on leading a healthy lifestyle.

III. Increasing the level of formation of a positive attitude of teenagers towards their own health is facilitated by discussing the following issues:

1. My strengths.
2. Responsibility for one's own life.
3. What is the meaning of my life?
4. Self-education. Where does it begin?
5. Why is indifference to health my biggest enemy?

IV. Considering the most common negative habits with students (smoking, addiction to social networks, laziness, etc.), therefore, to pay special attention to their prevention and overcoming among teenagers. Educational work on the prevention of bad habits consists in forming a negative attitude and teaching to abandon them in order to preserve one's own health (to provide students with suggestions and outline ways to get rid of bad habits).

Conclusions

A positive result of effective work on the formation of a healthy lifestyle of teenagers includes monitoring the state of their health and the formation of a healthy lifestyle.

At the same time, prevention includes: the use of recommended methods (vitaminization of the body, prevention of vision disorders, posture, etc.), which do not require the intervention of doctors; regular discussion of the health status of students with parents, the nurse of the educational institution, keeping a health diary by each student (allows you to track the disease, analyze the causes of its occurrence and take the necessary preventive measures in a timely manner).

Continuation of Appendix H

The health status of teenagers is manifested in their behavior and actions, which include physical development, physical activity, temperance, adherence to a rational work and rest regime, conscious compliance with personal hygiene requirements, and proper nutrition.

It is important that every educational activity conducted by a teacher regarding health preservation helps the teenager to consciously and responsibly treat his health and lead a healthy lifestyle.

List of used literature

1. Bekh, I. D. (2001). Problems of physical education and development of schoolchildren and ensuring their health. *Journal of the Academy of Medical Sciences of Ukraine*, 7 (3), 494–503.
2. Bohatov, A. O. (2019). Components, criteria and indicators of readiness of future physical education teachers for the formation of health-preserving skills and abilities in younger schoolchildren. *Bulletin of the National University "Chernihiv Collegium" named after T. G. Shevchenko. Series: Pedagogical Sciences*, 1, 23–27.
3. Rybalko, L. M. (Ed.). (2019). *Health-Saving Technologies in the Educational Environment: Collective Monograph*. Ternopil: Osadtsa V. M.
4. Sokolenko, L. S. (2018). Peculiarities of forming a culture of a healthy lifestyle among student youth – the basis for educating an attitude towards health in the modern world. URL: <https://dspace.udpu.edu.ua/handle/6789/8799>
5. Shamykh, O. M., Serdyuk, L. Z., & Ivannikova, G. V. (2023). *Physical education and sports as the basis of health and well-being of the individual*. Textbook. KNUBA, Talkom.
6. Health-preserving activities at school. URL : <https://naurok.com.ua/zdorov-yazberigayuchi-zahodi-v-shkoli-138295.html>

*Continuation of Appendix H***SITUATIONAL PROBLEMS**

(ways of solving them were compiled and discussed by participants of the elective course "**Development of communicative competence of future PE teachers**")

Task 1. I usually don't eat breakfast. It's better for me to spend this time (15-20 minutes) in bed (sleeping, browsing social networks, etc.). I thank my parents because they give me money to go to school every day (for travel and small personal expenses). Therefore, when I want to eat, I can buy something in the school cafeteria. I mostly buy chips, crackers, and soda. Now I almost don't eat in the cafeteria because I'm afraid of looking "strange," incomprehensible to my friends, or "a white crow," since it's not fashionable to eat porridge or soup in the cafeteria these days. I don't know why I've been having stomachaches lately. I think that's normal for a 13-year-old. However, I told my mom, and she made me an appointment with a doctor.

What should a teenager do in this situation, since it is about personal health? Is the teenager doing the right thing in each described episode? If not, then his mistakes need to be corrected.

Task 2. I have a game console at home, on which you can play various computer games. My friends often ask permission to play, and I have fun with them. Because of this, I start doing lessons in the evening, or I don't have time to finish them at all, so I go to bed late. Honestly, I'm already tired of it. I'm sure my friends won't understand me if I refuse. They will decide that I'm greedy and stop being friends with me.

What should a boy do? What choice should he make and in whose favor? Is it worth being friends with such friends?

Task 3. I have 6-7 lessons at school every day. I have to work a lot. I come home tired, so after eating I want to rest. Dad always insists that I go outside with my friends (to run, to do exercises on the horizontal bar), but I don't even want to think about it. For me, it's better to lie on the couch and watch TV or dive into social networks. And you can relax that way, and learn a lot of new and interesting things. But in the morning I always wake up tired and irritated, because I have a headache, I

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don't feel like going to school, but if I do go, I don't have enough strength to fully work on the lessons.

Why did the student take this particular position regarding his rest after intense lessons? How to motivate a child to spend his free time differently? Is a healthy lifestyle not relevant/fashionable now?