

UDC 373:3.015.31:811

DOI: 10.52534/msu-pp4.2023.76

Iryna Vakulova\*

Postgraduate Student, Senior Lecturer

Borys Grinchenko Kyiv Metropolitan University

04053, 18/2 Bulvarno-Kudryavska Str., Kyiv, Ukraine

Ukrainian Institute of Arts and Sciences

08292, 14 Instyutyska Str., Bucha, Ukraine

<https://orcid.org/0000-0002-7123-5646>

## Integration of the 4C and cordos-mediation concept as a national model for the development of a modern graduate

### Article's History:

Received: 22.09.2023

Revised: 03.12.2023

Accepted: 27.12.2023

### Suggested Citation:

Vakulova, I. (2023). Integration of the 4C and cordos-mediation concept as a national model for the development of a modern graduate. *Scientific Bulletin of Mukachevo State University. Series "Pedagogy and Psychology"*, 9(4), 76-86. doi: 10.52534/msu-pp4.2023.76.

**Abstract.** The reform of the education system in Ukraine involves the search for new approaches to the formation and development of a university student as a European-level competitive specialist. Therefore, the study aims to analyse and substantiate the model of development of a modern graduate, which consists of the 4C concept, containing four key skills of the future (creativity, critical thinking, cooperation, communication) and such a national phenomenon as cordos-mediation – the spiritual dominant of Ukrainian culture. Following the set goal, a range of theoretical methods was used, namely analysis, synthesis, comparison and generalisation - to determine the content of the main concepts; abstract-to-specific analysis - to explore and comprehend the concept of cordos-mediation; the abstraction and induction were used to study each element of the model separately; structural and logical method was used to determine the relationship between the components of the model; generalisation of personal and colleague pedagogical experience was introduced to determine the practical implementation of the model. The concepts of "skill", "creativity", "critical thinking", "aberrant thinking", "cooperation", "communication skill", "cordos-mediation", and "emotional intelligence" were analysed and summarised using the latest scientific research of Ukrainian and international scholars. All components of the model are interconnected and meet the requirements of the time, are future-oriented and contribute to achieving a high level of productivity when combined and complemented comprehensively. The development of the above skills is possible in any discipline and in a variety of ways, which are proposed at each stage of the study. The aberration-thinking prevention properties of these elements, ensuring no negative consequences, were addressed to ensure the readiness of future professionals to work in the context of globalisation, digitalisation, and future challenges. Each of the components of the model is a multifaceted concept, but unlike creativity, critical thinking, cooperation, and communication, which are the subject of many modern studies, the cordos-mediation phenomenon is still insufficiently studied, therefore determining the research relevance. To implement the concept of the model of development of a modern graduate, it is recommended to develop integrated 4C skills in combination with cordos-mediation, where the latter is a key linking element, without which it is impossible to form an Innovator, Patriot, Personality capable of preserving and restoring spiritual values, high moral, and universal principles. The practical value is determined by the possibility of using study results in the pedagogical process by teachers of educational institutions, in particular, in building an individual trajectory of development of students

**Keywords:** creativity; critical thinking; aberrant thinking; cooperation; communication skill; cordos-mediation; emotional intelligence

\*Corresponding author



Copyright © The Author(s). This is an open access article distributed under the terms of the Creative Commons Attribution License 4.0 (<https://creativecommons.org/licenses/by/4.0/>)

## INTRODUCTION

Globalisation, the Fourth Industrial Revolution (Industry 4.0), digitalisation, the COVID-19 pandemic – an incomplete list of the significant phenomena that have affected all spheres of human life, and especially education, one of the key tasks of which is to create conditions for the formation and development of a unique personality. After all, the twenty-first century requires people who have a set of certain skills necessary to meet modern challenges, including keeping up with constantly evolving technologies, being competitive in the world labour market and successfully functioning in a global society (Erdoğan, 2019). Recent studies show that employers expect not only professionally competent university graduates but also specialists with a set of key skills of the 21<sup>st</sup> century (soft skills), the most relevant of which are the so-called 4C skills, i.e. the four key competencies of the future: creativity, critical thinking, collaboration, and communication. According to the Concept of the New Ukrainian School, a graduate of a modern school is a Personality, Innovator and Patriot (Ministry of Education and Science of Ukraine, 2016). The higher education sector continues to pursue a certain vector of development of students, and the formation of the above-mentioned competencies of the future helps to cope with this task to some extent. However, a complete and holistic portrait of a Ukrainian graduate requires not only the acquisition of the four mentioned socio-psychological competencies, but also the formation and development of cordiality, which contains a certain national code and allows one to become not only a highly qualified specialist, but also to preserve humanity, mercy, compassion, spirituality, sensitivity, etc. in the conditions of war.

This issue of developing the skills of the future 4C is mostly covered in the scientific works of foreign scientists. For example, B. Thornhill-Miller *et al.* (2023), studying the 4C system as a managed, targeted model for modernising education, consider the process of independent assessment of 21<sup>st</sup>-century skills, the so-called “labelling”, offering it as a solution to both establish a socially credible assessment of 4C and promote their cultural validation. V. Erdoğan (2019) proves the effectiveness of integrating 4C skills with language skills (reading, writing, listening, speaking), suggesting appropriate methods for professional English classes. Results of the quasi-experimental study by I. Supena *et al.* (2021) show a positive impact of the 4C model on students’ learning outcomes in the Philosophy of Science course, especially in the cognitive, psychomotor, and affective domains. At the same time, the issue of cordocentrism in the philosophy, history and culture of Ukraine was studied by P. Hai-Nyzhnyk and L. Chupriy (2022), who concluded that this unique phenomenon is a cross-cutting motif in the history of the Ukrainian people. L. Trusei (2022), studying the nationally specific philosophical phenomenon of Ukrainian cordocentrism, considers it a manifestation of spirituality in Ukrainian philosophical thought and a tool for overcoming the spiritual crisis. The study by V. Konovalchuk (2017), who started a scientific

discussion on the integration of the phenomenon of cordos-mediation into the education system, is noteworthy. However, there are no studies that would combine the development of 4C skills with the introduction of the national phenomenon of cordos-mediation into a single educational model. Therefore, the study aims to analyse and define the essence of the national model of development of a Ukrainian graduate, which consists of four key skills of the future 4C (critical thinking, creativity, cooperation, communication) and the fifth component – cordos-mediation as a spiritual dominant of Ukrainian culture.

## MATERIALS AND METHODS

The study was based on modern scientific works of Ukrainian and international scholars in the fields of education, methodology, philosophy, history, cultural studies, etc. Scientific resources on the topic were retrieved from the following databases: Web of Science, Scopus, Google Scholar, ResearchGate and others. The key criteria for the literature search were the content, reasonableness, relevance, and practicality of the research. The definition of a methodological case for the practical implementation of the proposed model was based on both our own experience and several modern methodological literatures, mostly by foreign scholars and practitioners. For example, the following books “Blended learning in English language teaching: Course design and implementation” (Tomlinson & Whittaker, 2013), “100 TESOL activities: Practical ESL/EFL activities for the communicative classroom” (Dixon, 2016), “Innovative teaching and learning process during COVID 19” (Daniel *et al.*, 2020), “Fostering creativity and critical thinking in university teaching and learning” (Saroyan, 2022), etc. offer new ideas, practical experience, innovative technologies and methods, including new and modernised classical models, the synthesis of which provides high-quality results in the educational process.

A range of theoretical methods was used to achieve the set goal: systematic and analytical comparative analysis and synthesis of psychological, pedagogical, philosophical, scientific and methodological literature, data from Internet resources, etc.; methods of analysis, synthesis, comparison and generalisation contributed to the definition of the content of the main concepts of the research model; the abstract to concrete method was used to study the origin of the concept of borderline media, its place in the work of Ukrainian philosophers and cultural representatives and to determine its modern interpretation; abstraction method was used to separate each element of the model from the others for a detailed study; induction method was used to learn about the model of graduate development through the study of each of its components separately; system analysis, synthesis, comparison and structural-logical methods were used to combine the five elements and determine their interconnection and interdependence; the method of generalising own teaching experience and the experience of Ukrainian and international colleagues was used to identify forms,

technologies, methods and techniques for implementing the research. Thus, the combination of the above methods made it possible to comprehensively study the model of development of a modern graduate, which includes the 4C concept and the phenomenon of cordos-mediation, and to identify ways of its practical implementation.

## RESULTS AND DISCUSSION

Thus, the combination of the aforementioned methods was used to comprehensively study the model of development of a modern graduate, which includes the 4C concept and the phenomenon of cordos-mediation, and to identify ways of its practical implementation. The concept of “skill” in the broadest sense means the ability to perform certain tasks at a predetermined level of performance, which is developed through practice, experience, and learning (Lamri *et al.*, 2022). In the context of the 4C concept, in international literature, this concept can be found both alongside terms “skills” and “competencies”, therefore, they are used synonymously in this study, even though in the Ukrainian terminology, “competence” has a broader meaning than “skills”. In contrast to professional hard skills, which are associated with a specific professional field, flexible and “supra-professional” skills, interactive and non-standard, were called soft skills by P. Whitmore and J. Frye in 1972 (Mykhailyshyn & Mandro, 2021). Practical tools for assessing these skills remain underdeveloped, as they are latent, complex, intersectional, difficult to identify, test, and rationally acquire, and often subjective in nature (Datsenko, 2020). They are also called “life skills”, or “generic or cross-cutting competencies”. The U.S. Department of Education launched the Partnership for 21<sup>st</sup> Century Learning (P21) project, which identified critical and creative thinking skills, as well as communication and collaboration skills, as competencies needed in the future (Ohio Department of Education, 2015). Subsequently, they became known as the 4C competencies. At the same time, the National Education Association (2015) noted that “80% of leaders believe that ... reading, writing, and maths skills are not sufficient if workers are not able to think critically, solve problems, collaborate, or communicate effectively”. Therefore, the concept of 4Cs, which includes four key skills of the future: creativity, critical thinking, collaboration, and communication, is gaining popularity in modern global education. B. Thornhill-Miller *et al.* (2023), exploring the 4Cs in education, define them as “meta-competencies” that allow people to remain competent and develop their potential in the professional world. The researchers emphasise that the 4C concept provides a relatively simple, convincing framework that has been recognised by leading organisations as a pedagogically and politically acceptable model that is gaining additional empirical validity, but requires comprehensive intervention and mobilisation of various resources, including significant changes in pedagogical methods and even more significant changes in institutional structures. Researchers argue that it is precisely because of the complexity and interconnectedness of

all four competencies that it is important and appropriate that the 4Cs be taught, assessed, and promoted together. It is worth learning more about each of them.

### Aspects of creativity in global and Ukrainian literature.

Foreign literature offers both a more traditional interpretation of the concept of creativity, such as the ability to create new, original products that meet the tasks and have value in their context (Lubart & Thornhill-Miller, 2019), and some unique and unusual interpretations of this concept, namely “intelligence that has fun” (Scialabba, 1984); or “figuring out how to use what you already know to go beyond what you currently think”, the latter in some way resonating with the essence of hidden potential that is realised under favourable conditions (Thornhill-Miller *et al.*, 2023). At the same time, Ukrainian scholars interpret creativity as the ability to create and the ability to implement it (Sysoieva, 2014); as the ability to comprehend innovations, transform them into a particular pedagogical situation, and the willingness to create innovations in professional activities (Kolisnyk-Humenuik, 2019); as the ability of a person to go beyond a given situation, to create unique values; as a mandatory characteristic of a representative of the teaching profession, etc (Pavlenko, 2016). At the same time, the Ukrainian Encyclopedia of Education states that creativity is the creative spirit, the creative potential of an individual, and creative abilities, which are manifested not only in original products of activity, but also in thinking, feelings, and communication with other people (Kremen, 2008b). In other words, creativity is, on the one hand, the ability of a person to abandon standard well-trodden paths and stereotypical ways of thinking, and on the other hand, it is the search for a new course, non-standard ways, and creative approaches to solving professional problems, and the generation of a new intellectual or creative product.

Contrary to many traditional beliefs, creativity can and should be taught and trained in a variety of ways, both through direct and active implementation of innovative methods and through more indirect means. An example is the creation of a special educational environment free from ridicule and mockery (a zone of trial and error, with an adequate attitude towards them); providing the necessary “creative” knowledge, in particular, related to understanding how the creative process takes place; developing internal reserves (creative and innovative potential) that determine the creative process and support it; rational time management (it is well known that the brain needs time to rest to generate new ideas); dialogue and reflexivity of interaction in the pedagogical process; introduction of special methods and techniques for the development of creative (divergent) thinking, for example: Design Thinking, Project-Based Learning, including Artbook, Lepbook, Scrapbooking methods, as well as Association, Non-standard Use, Inventive Problem Solution Theory (IPST) and many others, which are used depending on the objectives of the class to indirectly develop the creativity of students. Creativity is closely related to critical evaluation, which

adds an evaluative and reflective context to the process, so the next step is to consider critical thinking.

### **Critical thinking and creativity synergy in education.**

Foreign researchers identify the development of critical thinking skills as one of the highest educational priorities and social needs in modern society. Developed critical thinking, which allows a person to isolate the necessary information from a huge amount of data and give it an adequate assessment, often plays a significant role in solving routine and personal issues and in achieving academic success (Thornhill-Miller *et al.*, 2023). The ideal person with developed critical thinking is described as a person who is curious, open-minded, flexible, fair, well-informed, able to interpret and analyse information, assess its impact, draw conclusions, provide explanations, and exercise self-regulation (Facione, 1990). Therefore, when studying the development of critical thinking, foreign researchers interpret this competence as a person's ability to use a range of general cognitive skills that belong to high levels of thinking, such as analysing, evaluating and constructing new ideas (Kivunja, 2015); as "the ability to assess the epistemic quality of available information and, as a result of this assessment, to calibrate one's confidence to act on such information" (Pasquinelli *et al.*, 2021). The main properties of critical thinking are openness to contradictions and counterarguments (Stancato, 2000); reasonableness, controllability, purposefulness, reflexivity, independence, controllability, and contradiction as an impetus (Terno, 2023). Critical thinking, which is fully conscious, includes "synthetic and analytical, theoretical and practical, reproductive and productive thinking", as well as simultaneous thinking (simultaneously holding several logical chains in mind). The idea of critical thinking originates from J. Dewey's concept of reflective thinking, and the founder of this pedagogical innovation, M. Lipman, gave an expanded meaning to critical thinking, who considered it as learning to think, i.e. learning wisdom, and suggested reorganising the educational process from the standard paradigm of providing ready-made knowledge to the reflective paradigm of critical practices, the main difference of which is the transformation of a group of students into a community of researchers who, together with the teacher, reflect on the world, recognising knowledge about it as ambiguous and uncertain (Terno, 2023). At the same time, the development of critical thinking, according to K. Thomas and B. Lok (2015), focuses on the interaction between personal attitudes, evaluation and reasoning skills, and knowledge and experience.

The theory of the development of critical thinking in Ukraine has become particularly popular. The tragic situation that occurred due to the Russian aggression that began in 2014 and escalated into a full-scale invasion in February 2022 forced us to consider critical thinking not only as the antithesis of dogmatic (patterned) thinking, which is characterised by uncritically, conservatism, and blind faith in authority, but also as a healthy alternative to aberrant thinking, which is interpreted as "consciousness

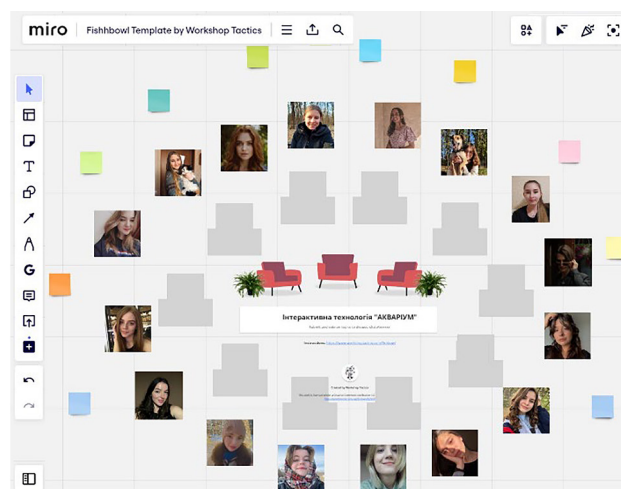
that has lost touch with reality and reflects the latter incorrectly, in an inverted, distorted form" (Kurylo & Karaman, 2023). Aberrant thinking has become the main basis of information and psychological warfare, which is based on half-truths and lies, spreading rumours and false versions, fictional events, and their deceptive interpretations, which generally causes modification of the psyche, negative transformation of the system of values, views, positions, and motives of the individual, which directly affects human behaviour (Kurylo & Karaman, 2023). Propaganda, which necessarily has a seeming logic, can be defeated by a person with developed critical thinking, so the concept of developing critical thinking becomes an antidote to aberrant thinking. However, as it gained popularity, it began to suffer from populism, which led to heated discussions in the scientific community about the correct definition of the key concept. In particular, the Ukrainian scholar S. Terno (2023) emphasises that critical thinking does not contribute to the awareness of one's position, as some scholars argue, but to choose the best possible position by restructuring one's way of thinking. Critical thinking is "the kind of thinking that concentrates knowledge, intellectual abilities, intrinsic motivation, values, perseverance and self-control", the scientist says. The thesis of S. Terno (2023), that critical thinking involves the comprehensive development of the student's personality, the disclosure of potential as a historical subject who needs and is capable of self-change and self-improvement, is valid. Furthermore, the organisation of critical thinking development involves a subject-subject learning format, reflective and meaning-making activities, and the creation of an educational environment in which the teacher acts not as a translator of knowledge but as a facilitator and assistant, with the subject matter itself becoming an intermediary, a means of communication. Therefore, the key feature of the methodology for developing critical thinking is to involve students in solving problematic tasks through the introduction of problem-based learning, case method, blended learning, and interactive forms of learning, including scientific dialogue, reflection on cognitive activity, research work in the classroom and at home, etc. Therefore, it is possible to support the development of critical thinking in higher education institutions in any discipline and a variety of ways, including at the institutional level by considering the development of critical thinking in educational programmes, creating important aspects of the educational environment, ensuring the continuous professional development of higher education teachers to master and improve methods and techniques responsible for student development, etc. Finally, it should be noted that it is difficult to separate critical thinking from creative thinking, which is not a priority, because the development of both has a better result if it occurs in synthesis, mutually reinforcing each other. In addition, critical thinking is a property of a community, not just an individual (Chuba, 2013), which is why there is a need to analyse the third 4C skill, cooperation, in more detail.

**Development of cooperation skills in the educational process.** The ability to cooperate is a competence associated with collaborative problem solving, which is now recognised as an educational priority, covering emotional, social, and cognitive skills in demand in the modern world. Foreign scholars consider cooperation as mutual participation in coordinated efforts to achieve a common goal, which involves the exchange of certain resources and ideas related to the joint activities of participants, based on mutual respect, trust, responsibility, and accountability within the framework of situational rules and norms (Détienne *et al.*, 2012). At the same time, some scholars somewhat separate the concepts of collaboration and cooperation, emphasising that collaboration is a philosophy of interaction, while cooperation is a structure of interaction (Panitz, 1996). In this study, both terms are used interchangeably, as is the case with D. Nunan (1992), who, studying cooperative learning, identifies three areas in which it exists, namely: social tasks and the classroom environment; technological tasks, such as mutual mentoring and goal setting; and evaluation tasks – monitoring the team’s progress. In addition, foreign researchers describe teamwork in three aspects: knowledge required to collectively achieve a common goal; behaviour, including communication, coordination, and interaction skills; and attitudes towards teamwork, team orientation, cohesion, team spirit, etc. (Thornhill-Miller *et al.*, 2023).

The success of educational collaboration is also confirmed by Ukrainian scientists, who define the concept of “cooperation” as a process of “mutual influence of subjects, and, above all, specially organised educational and cognitive activities with a pronounced communicative and social orientation” (Sydorenko, 2014). One of the conditions for cooperation, according to V. Sydorenko, is the existence of a certain problem and its solution by students united in pairs, threes, and groups; their joint decision-making, discussion, discussion of options, reflection on the results of joint work, “transition from monological learning to multi-positional personality-oriented interaction, cooperation”. The principle of cooperation is implemented through the active involvement of all subjects of the educational process in searching educational and cognitive activities based on the formation of internal motivation; searching for a common solution to educational, scientific, innovative, creative, and other tasks; participation in joint projects; organisation of dialogue communication, which involves creative productive activity of all subjects of the educational process (Kozak, 2011). Furthermore, the use of interactive teaching methods, the principle of “subject-subject” interaction, current methodological approaches to the development of students’ innovative potential, updating the content of academic disciplines, and development of teaching and learning tools enables higher education students not only to acquire the knowledge and skills necessary for tolerant interaction but also directs them to continuous self-development and self-improvement.

Support for the development of cooperation skills takes many forms, including through the social impact of the ed-

ucational organisation; the nature of work embedded in the curriculum and work programmes; the content of the curriculum, the emphasis on cooperation and the development of specific and generic skills; and the involvement of opportunities for extracurricular cooperative activities. It is worth emphasising the contextual support that has emerged from the expansion of online digital media and the new blended realities of the workplace and the learning environment. The availability of a large number of online educational platforms, services, applications, and tools has proven to be extremely useful and effective for fruitful collaboration both in the online and offline education format. Recent studies show that students who receive interactive assignments perform significantly better because they are working towards a common goal, and the ability to exchange ideas in a less anxious environment encourages them to interact and collaborate successfully (Bekteshi, 2017). Properly constructed collaboration, which involves the exchange of knowledge, experience, and useful information, leads to the creation of a developmental educational environment that provides for the systematic and continuous development of its participants. An example of such interactive interaction with the use of digital educational tools is the interactive technique “Aquarium”, adapted for the online learning format and designed on the Miro board (Fig. 1).

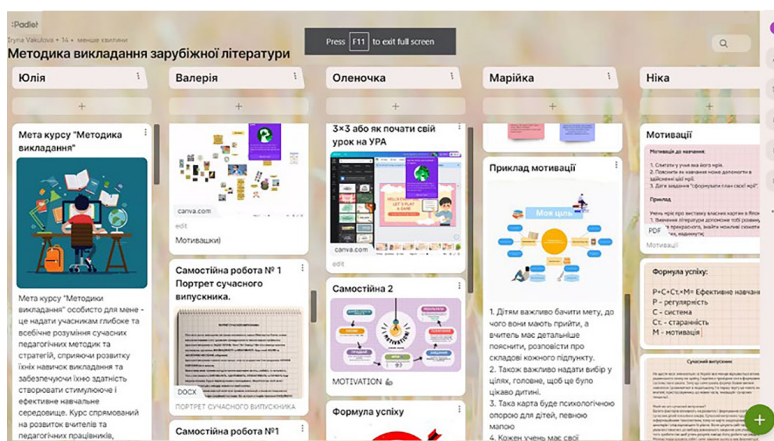


**Figure 1.** “Aquarium” technique on the Miro board  
**Source:** screenshot of the application window during training

Forming two groups, the first part of the students “sits down” in a circle (on the Miro board, the prepared photos move on the “aquarium” chairs) and starts discussing the chosen problem situation, while the part of the students from the outer circle, not having the right to voice their position and interrupt the discussion of the “aquarium”, write down their ideas on stickers located next to their photos. The teacher acts as a facilitator and consultant. During the reflection, the thoughts expressed by the first group and the ideas written on Post-it notes by the second group are

analysed and summarised. Such techniques prove the effectiveness of most interactive methods in distance education. Alternatively, Mindmapping technique is a unique, popular, and productive method of visual, hierarchical, and creative-associative thinking that helps to structure, systematise, and visualise information and, thanks to a large number of educational IT tools, is accessible and especially effective in digital format. Practice shows that students

collaborate effectively and with pleasure on online whiteboards such as Miro, Padlet, Jamboard, and others (Fig. 2). In addition, the visualisation of individual or joint projects on such platforms, on the one hand, provides an opportunity to share their own experiences and creative ideas, and on the other hand, to receive motivational incentives that inspire them to generate their ideas and create their creative product.



**Figure 2.** Padlet board, visualisation of independent activities

**Source:** screenshot of the application window during training

Thus, successful collaboration of students in the educational process, regardless of the learning format, involves the simultaneous development of all 4C skills: creativity, critical thinking, and communication. The latter is worth a closer look.

**The key role and development of communication competence.** Scientists define communication as the effective and unhindered exchange of information that leads to the achievement of a desired result or goal (Thornhill-Miller *et al.*, 2023). Communication is defined as a skill that includes the ability to express ideas, thoughts, knowledge, or new information in both written and oral forms; essentially, it is the ability to listen, write, and speak (Supena *et al.*, 2021). The main aspects of communication are linguistic skills (the ability to express oneself orally or in writing), pragmatic skills (the ability to apply the communication system in practice) and social skills (the ability to establish communication links, the ability to “read” others and the knowledge of the rules of behaviour in society) (Thornhill-Miller *et al.*, 2023). At the same time, while linguistic competence is acquired throughout the entire education process, the pragmatic and social aspects of communication skills are provided only indirectly in the course of education, as there are no subjects in the curriculum that would directly from these competencies either in foreign or Ukrainian practice. Moreover, such skills are latent and incomparable, which leads to difficulties with their assessment. Therefore, a special responsibility falls on the shoulders of the teaching staff, which is forced to look for information and communication technologies that can ensure the formation of all

aspects of communication. As noted by B. Thornhill-Miller *et al.* (2023), communication is linked to all 4C skills. Thus, critical thinking is linked to communication, as the latter becomes effective when it is based on a fair and critical assessment of reality. Communicating one’s idea to others through the creation of high-quality communication, when “creative work takes place in a team context”, is an example of the connection between communication and creativity. Finally, the close relationship between cooperation and communication is manifested in a certain dependence on the success of the former on the quality of communication and the way knowledge is shared, because there is no cooperation without communication.

Communicative competence is also considered one of the main goals of education by Ukrainian scientists, who define “communication” as a process of communication through verbal or non-verbal means to exchange information, such as ideas, beliefs, facts, emotions, etc (Ponomarova, 2020). At the same time, in the process of transmitting and receiving information, subjects accumulate communicative experience that affects the self-actualisation of the individual, that is, the higher the level of communicative culture, the better the self-actualisation and self-realisation will be (Andriychuk, 2022). However, the principles of forming communicative competence may include clarity and accessibility of explanations, encouraging active communication, introducing effective and appropriate innovative technologies, providing opportunities to apply their skills in extracurricular activities, ensuring timely reflection, etc. The development of communication competence will contribute to the competitiveness of future specialists

in the labour market and further successful professional and personal growth throughout their lives. The generalisation of scientific research on this topic suggests that interactive approaches in small groups are more effective for the development of communication competence, allowing to practice of communication skills in an open and safe environment for feedback, namely: participation in various projects, including PBL (Problem/Project – Based Learning), role-playing games, simulations, etc. The blended learning format facilitates successful communication as it allows students to read the learning material in advance and communicate productively with their classmates during the class, teaching others and improving their knowledge and skills. Among the innovative methods that are effective in the blended learning format are Flipped Classroom, Flex Model, Station/Laboratory Rotation, etc. In addition, traditional methods, updated with new expedient ideas and interactive elements, can significantly improve the quality of the pedagogical process and positively influence the successful development of the above skills.

As an example, effective for developing all four of the above 4C skills are the methods of the author of many books and a supporter of creative thinking Edward de Bono, who proposed several technologies, among which the most popular is Six Thinking Hats (n.d.), which involves considering a problem from different points of view. Another E. de Bono method for developing different types of thinking is Six Value Medals (Edward de Bono's Six..., n.d.), a technology that enables certain value scanning, i.e. specifying and systematising values. Six Action Shoes technology helps to identify situations, allowing us to take control and respond most effectively. In essence, this technology is a practical framework for making decisions about the next steps to take in the current situation. Such technologies contribute to the development of self-analysis and self-knowledge of higher education students, creating certain algorithms for solving everyday issues, and providing them with tools to effectively overcome obstacles that arise on the way to life and professional goals. At the same time, improving communication competence, increasing the level of tolerance and correct behaviour during discussions, impartiality of judgements and reasoned positions, and the ability to generate new ideas – all this together indicates the development of critical and divergent thinking of students. Furthermore, the following interactive methods ensure the effectiveness of 4C skills development: Jidsaws, Bar Camp, Synergy, and others. The high quality of these technologies is ensured by the Scrum methodology (as an ideal approach to teaching time management), which can be easily implemented in educational practice together with the digital tool Trello. It should be noted that all of the above methods are available for both classroom and distance learning.

To summarise the review and analysis of studies on the 4C concept, it is worth noting that all four skills are closely interconnected, interdependent and interrelated. The development of each of them can bring future professionals closer to professional and personal success. At

the same time, the theory of the “4C” concept fits perfectly with the principle of borderline media (conventionally “5C”), which, when combined with the above skills, will not only enhance the effect of each but also add the necessary value orientations that are extremely relevant in today's realities. The concept of cordos-mediation is complex. One of the cordos-mediation aspects is the development of the soul mind – “emotional intelligence”, a phenomenon that is part of the “soft skills” group (Konovalchuk, 2017) and refers to the ability of a person to identify their needs, control their emotions, recognise the feelings and desires of others, and be able to find an approach to people, regardless of their age, status, and capabilities. Developed emotional competence allows a person to interact effectively with others and be in harmony with themselves. After the publication of the bestselling book of the same name by D. Goleman (1995), the topic of emotional intelligence research has gained particular interest. Scientists offer three approaches to understanding the phenomenon of emotional intelligence (EI), namely, the approach of J.D. Mayer and P. Salovey (1997), according to which scientists interpret this concept as the ability to perceive, understand, manage and use emotions to facilitate thinking; D. Goleman's approach, which interprets “emotional intelligence” as a set of different competences that contribute to successful managerial activity; and R. Bar-On (2010), the author of the acronym EQ, who, developing this theory, describes emotional and social intelligence as a set of interrelated emotional and social skills that determine how effectively people understand and express themselves, interact with others, understanding them, and cope with everyday demands, challenges and pressures. The connection between emotional intelligence and the previously mentioned competencies is obvious, as effective communication or collaboration is impossible without emotional intelligence, and the latter is enhanced by the ability to think critically and creatively.

Emotional intelligence in professional training can be developed through various means, including the introduction of interactive teaching methods, which facilitates effective communication in which a person learns to control his or her own emotions and understand the feelings of others. However, in this context, a suggestive methodology that engages the emotional sphere of students, involving different senses, inspiring a certain mood, creating an appropriate atmosphere, and focusing attention on the necessary aspects of the topic is also effective and has a positive impact on the quality of learning and student development. Cordos-mediation is not limited by the emotional intellect theory. Following V. Konovalchuk (2017), this phenomenon includes the development of “feelings, heart, spiritual intuition, integrated with the functions of the cerebral cortex centres that give rise to feelings, emotions, intuition”. Moreover, cordomediation (cordis – Latin for heart), mediation as “heart-oriented” is based on emotionality, sincerity, sincerity, sensitivity, and mercy. Reflection on heart-centredness is typical of Ukrainian culture and philosophy.

A valuable study on this topic was conducted by P. Hai-Nyzhnyk and L. Chupriy (2022), who argue that the unique phenomenon of cordocentrism is a distinctive theme throughout the history of the philosophical and religious thought of the Ukrainian people, which is in some way related to the peculiarities of the national character. Scholars have traced its entire path, starting with the thinkers of Kyiv Rus (Hilarion, Danylo Zatochnyk, etc.), and have determined that the Ukrainian symbolic and humanistic “philosophy of the heart” runs through the poetry of P. Kulish, becomes “the truth of the ‘living’ heart and a sequence of emotions” in the poems of Taras Shevchenko, and, finally, is most fully revealed in the works of Ukrainian philosophers H. Skovoroda and P. Yurkevych. One of the foundations of H. Skovoroda’s philosophical thought is the doctrine of human integrity, which will eventually “be embodied in the concept of “philosophy of the heart”, acquire the term “cordocentrism” and be developed by his philosophical descendants in the “Ukrainian cordocentrism” concept”. The process of cognition, according to the great Ukrainian philosopher and thinker, is reduced to the acquisition of a new heart, because the rebirth of a person is the result of the rebirth of the heart through the evolution of the person’s spirituality, which begins with the touch of the Spirit of God. The heart is the true essence of a person, the philosopher and poet say, and is the centre of his or her life: “Everyone is what his heart is. The basis of everything in a person is the heart of a person”. The perfect person for H. Skovoroda (1973) is a cordocentric person. “Our thoughts spring from the cordocentric depths, setting in motion our external, bodily, physical being” (Chyzhevsky, 2004). The heart, more than any other part of the human body, can pave the way to the perception of the fullness of the human personality; since the heart precedes cognition, it is the conviction that moves a person to action, not cognition. However, the cordocentric self is a value that cannot be accurately measured: no matter how perfectly a person knows himself, he will not know the depths of his heart, only God can do this, – believes H. Skovoroda, who throughout his work referred to the “heart” as an indivisible source that can inspire true cognition and creativity (Hai-Nyzhnyk & Chupriy, 2022).

At the same time, the founder of the “philosophy of the heart” is considered to be the nineteenth-century Ukrainian philosopher and educator Pamfil Yurkevych, who defined the heart as “the focus of a person’s moral life, the starting point of all that is good and evil in a person’s thoughts, words, and actions”, the centre of a person’s uniqueness, the foundation of spiritual life, which serves as the basis of a person’s conscience, the centre of moral life, in which love for God and people is rooted (Konovalchuk, 2017). Therefore, the heart is a kind of “barometer” of human spirituality. Thus, the theory of the “philosophy of the heart” forms a certain positive spiritual core that is necessary in any field of human activity. Especially when it comes to the education, upbringing, and development of the younger generation. In fact, “cordos-mediation” can be called the implementation of the “philosophy of the heart” in the Ukrainian

education system. President of the National Academy of Pedagogical Sciences of Ukraine V. Kremen (2008a) defines cordocentrism as the spiritual dominant of Ukrainian culture, emphasising that the philosophy of cordocentrism, which is focused on identifying the inner, deep foundations of human existence, constitutes the essential basis of national consciousness, based on which the national idea is formed. The cordos-mediation principle is of particular importance in educational interaction, as it helps regulate the relationship between all participants in the educational process, which is built based on humanism, compassion, empathy, mutual respect, love, and cordiality.

Among the effective methods that enable the development of cordos-mediation is Storytelling, since a timely and appropriate story not only inspires and motivates but also builds moral and spiritual life guidelines for the individual. Another example is the reflective SWOT analysis, one of the most common analytical methods that involves a comprehensive assessment of the S – Strengths and W – Weaknesses of the parties, as well as O – Opportunities and T – Threats. The “inventory” of thoughts (self-reflection) is a key tool for self-improvement, self-development and self-knowledge, a method that, with appropriately formulated questions, has a direct positive impact on the individual and an indirect one on the team. The method teaches modelling and evaluating one’s behaviour, the ability to identify one’s mistakes, and correct shortcomings, which helps form a system of moral and spiritual values. Therefore, by normalising the microclimate in the team and creating an appropriate atmosphere, cordos-mediation acts as bullying prevention in the educational environment. Cordos-mediation becomes important in cognitive activity, as only information that does not leave a person indifferent, i.e. passes through their heart, involving emotions and feelings, is absorbed qualitatively. Lastly, cordos-mediation, which leads to the search for universal and divine values, contributes to the formation of a person’s spirituality. Thus, cordos-mediation is a value-based spiritual and moral principle of regulating human relationships, which involves the spiritual and creative development of the individual and self-improvement and self-realisation throughout life.

## CONCLUSIONS

The study and definition of the essence of the Ukrainian graduate development model, consisting of the 4C concept and the national cordos-mediation phenomenon was used to draw the following conclusions: all five elements of the model are interconnected, relevant to modern challenges and lead to a high level of productivity, provided that they are integrated and complementary based on an integrated approach. Furthermore, their development prevents aberrant thinking with the corresponding negative consequences and trains future professionals for globalisation, digitalisation, and possible future changes. The successful development of the model’s components is ensured by both innovative technologies, methods, and techniques, as well as modernised and adapted classical methods, in

particular, the proposed methods have an integrated effect, which makes it possible to simultaneously develop all components of the studied model, each of which is a complex concept. The cordos-mediation phenomenon remains the least studied in the educational sphere, therefore, it is promising to find ways to identify, measure and evaluate it. To implement the 4C and cordos-mediation, it is recommended to integrate this model into the content of education at all levels, in particular, to specify in educational regulations the requirements for the formation of 4C and cordos-mediation competencies; to transform a class in any discipline into an environment in which all subjects of the educational process change their roles: the teacher acts as a facilitator, tutor, inspirer, change agent, and the student is a seeker, critical thinker, creator, partner, etc. Lastly, the ideal model for the development of a modern graduate of a national higher education institution is the holistic and continuous development of integrated 4C and cordos-mediation skills, where the latter is the obligatory linking element, without which it is impossible to form an Innovator, Patriot, Personality capable of preserving and restoring key universal principles, spiritual values, and high moral convictions.

Thus, each of the components of the model is a complex concept, but unlike creativity, critical thinking, cooperation, and communication, which are the subject of many modern studies, the cordos-mediation phenomenon is still insufficiently studied in the educational space, so this issue seems to be the most promising for further research. Further research should address the practicality and effectiveness of the 4C and cordos-mediation models. The scientific novelty, theoretical and practical value are determined by the identification of new approaches to the development of a modern graduate of Ukrainian higher education institutions, the substantiation of an integrated model that provides for the simultaneous development of demanded socio-psychological skills as European valuable properties and border-centricity as a national spiritual feature of the Ukrainian nation.

None.

None.

## ACKNOWLEDGEMENTS

## CONFLICT OF INTEREST

## REFERENCES

- [1] Andriychuk, I. (2022). [Communicative competence as an adaptive resource of a teenager's personality](#). In *Value orientations in the modern world: Theoretical analysis and practical experience: Collection of theses of the 4<sup>th</sup> International scientific and practical conference* (pp. 268-271). Ternopil: Ternopil Volodymyr Hnatiuk National Pedagogical University.
- [2] Bar-On, R. (2010). Emotional intelligence: An integral part of positive psychology. *South African Journal of Psychology*, 40(1), 54-62. [doi: 10.1177/008124631004000106](#).
- [3] Bektishi, E. (2017). The "Fours Cs" - collaboration, communication, critical thinking and creative thinking at the faculty of arts (FLUP), University of Porto, Porto, Portugal. *Journal of International Social Research*, 10(50), 56-62. [doi: 10.17719/jisr.2017.1638](#).
- [4] Chuba, O. (2013). [Forming of critical thinking as psychological and pedagogical problem of contemporaneity](#). *Pedagogy and Psychology of Professional Education*, 3, 202-208.
- [5] Chyzhevsky, D. (2004). *Philosophy of Grigory Skovoroda*. Kharkiv: Prapor.
- [6] Daniel, C., Pasuluri, B.S., Vijayan, D.S., Sonti, V.K., & Prasanna, V.L. (Eds.). (2020). *Innovative teaching and learning process during COVID 19*. Naickenpalayam: IOR International Press. [doi: 10.34256/iorip202](#).
- [7] Datsenko, M. (2020). Creative potential of a future music teacher: Essence and content of phenomenon. *Musical Art in the Educological Discourse*, 5, 54-59. [doi: 10.28925/2518-766X.2020.5.10](#).
- [8] Détienne, F., Baker, M., & Burkhardt, J.-M. (2012). Perspectives on quality of collaboration in design. *CoDesign*, 8, 197-199. [doi: 10.1080/15710882.2012.742350](#).
- [9] Dixon, S. (2016). *100 TESOL activities for teachers: Practical ESL/EFL activities for the communicative classroom*. Eugene: Wayzgoose Press.
- [10] Edward de Bono's Six Value Medals. (n.d.). Retrieved from <https://www.debonogroup.com/services/core-programs/six-value-medals>.
- [11] Erdoğan, V. (2019). [Integrating 4C skills of 21st century into 4 language skills in EFL classes](#). *International Journal of Education and Research*, 7(11), 113-124.
- [12] Facione, P.A. (1990). [Critical thinking: A statement of expert consensus for purposes of educational assessment and instruction. Research findings and recommendations](#). Newark: American Philosophical Association.
- [13] Goleman, D. (1995). [Emotional intelligence: Why it can matter more than IQ](#). New York: Bantam Books.
- [14] Hai-Nyzhnyk, P., & Chupriy, L. (2022). Hryhoriy Skovoroda and his influence on the formation of the ideas of the Ukrainian "philosophy of the heart", cordocentrism and humanism. In O. Donii (Ed.), *Skovoroda and we* (pp. 12-21). Kyiv: Summit Book.
- [15] Kivunja, C. (2015). Exploring the pedagogical meaning and implications of the 4Cs "super skills" for the 21<sup>st</sup> century through Bruner's 5E lenses of knowledge construction to improve pedagogies of the new learning paradigm. *Creative Education*, 6(2), 224-239. [doi: 10.4236/ce.2015.62021](#).

- [16] Kolisnyk-Humeniuk, Yu. (2019). Creativeness as a process of creativity, self-expression and self-approval of personality. *Youth & Market*, 7, 120-123. doi: 10.24919/2308-4634.2019.176192.
- [17] Konovalchuk, V.I. (2017). *Development of personal creative potential in the educational space* (PhD thesis, Institute of Higher Education of the National Academy of Sciences of Ukraine, Kyiv, Ukraine).
- [18] Kozak, L.V. (2011). *Principles of innovative professional activity of a teacher of a higher school*. Pedagogical Process: Theory and Practice, 2, 88-97.
- [19] Kremen, V. (2008a). *The philosophy of human-centeredness in educational space strategies*. Kyiv: Pedahohichna Dumka.
- [20] Kremen, V. (Ed.). (2008b). *Encyclopedia of education*. Kyiv: Yurinkom Inter.
- [21] Kurylo, V.S., & Karaman, O.L. (2023). National-patriotic personality education as a means of informational and psychological resistance to Russian aggression in Ukraine. *Herald of the National Academy of Educational Sciences of Ukraine*, 5(1). doi: 10.37472/v.naes.2023.5118.
- [22] Lamri, J., Barabel, M., Meier, O., & Lubart, T. (2022). *The soft skills challenge: How to develop them in the 21st century?* Paris: Dunod.
- [23] Lubart, T., & Thornhill-Miller, B. (2019). Creativity: An overview of the 7C's of creative thought. In R.J. Sternberg, & J. Funke (Eds.), *The psychology of human thought: An introduction* (pp. 277-305). Heidelberg: Heidelberg University Publishing. doi: 10.17885/heiup.470.c6678.
- [24] Mayer, J.D., & Salovey, P. (1997). What is emotional intelligence. In P. Salovey, & D. Sluyter (Eds.), *Emotional development and emotional intelligence: Implications for educators* (pp. 3-31). New York: Basic Books.
- [25] Ministry of Education and Science of Ukraine. (2016). *New Ukrainian school: Conceptual principles of secondary school reform*. Retrieved from <https://mon.gov.ua/storage/app/media/zagalna%20serednya/nova-ukrainska-shkola-compressed.pdf>.
- [26] Mykhailyshyn, G., & Mandro, L. (2021). Personal efficiency skills as a component of professional competence of a social worker. *Adult Education: Theory, Experience, Perspectives*, 1, 92-102. doi: 10.35387/od.1(19).2021.92-102.
- [27] National Education Association. (2015). *Preparing 21st century students for a global society: An educator's guide to the "Four Cs."* Retrieved from <https://dl.icdst.org/pdfs/files3/0d3e72e9b873e0ef2ed780bf53a347b4.pdf>.
- [28] Nunan, D. (Ed.). (1992). *Collaborative language learning and teaching*. Cambridge: Cambridge University Press.
- [29] Ohio Department of Education. (2015). *Partnership for 21st Century Skills – core content integration*. Retrieved from [https://www.marietta.edu/sites/default/files/documents/21st\\_century\\_skills\\_standards\\_book\\_2.pdf](https://www.marietta.edu/sites/default/files/documents/21st_century_skills_standards_book_2.pdf).
- [30] Panitz, T. (1996). *A definition of collaborative vs cooperative learning*. Retrieved from [http://colccti.colfinder.org/sites/default/files/a\\_definition\\_of\\_collaborative\\_vs\\_cooperative\\_learning.pdf](http://colccti.colfinder.org/sites/default/files/a_definition_of_collaborative_vs_cooperative_learning.pdf).
- [31] Pasquinelli, E., Farina, M., Bedel, A., & Casati, R. (2021). Naturalizing critical thinking: Consequences for education blueprint for future research in cognitive science. *Mind, Brain, Education*, 15(2), 168-176. doi: 10.1111/mbe.12286.
- [32] Pavlenko, V.V. (2016). *Creativity: The essence concept*. *Creative Pedagogy*, 11, 120-131.
- [33] Ponomariova, K.I. (2020). *Formation of communicative competence of younger schoolchildren in the process of learning the Ukrainian language*. Kyiv: Konvi Print.
- [34] Saroyan, A. (2022). Fostering creativity and critical thinking in university teaching and learning: Considerations for academics and their professional learning. *OECD Education Working Papers*, 280. doi: 10.1787/09b1cb3b-en.
- [35] Scialabba, G. (1984). "The Browser: Mindplay": Review of Howard Gardner's book "Frames of mind: The theory of multiple intelligences", *Harvard Magazine*, 86(4), 16-19.
- [36] Six Thinking Hats. (n.d.). Retrieved from <https://www.debonogroup.com/services/core-programs/six-thinking-hats>.
- [37] Skovoroda, H.S. (1973). *Complete collection of works in 2 volumes* (Vol. 2). Kyiv: Naukova Dumka.
- [38] Stancato, F.A. (2000). *Tenure, academic freedom and the teaching of critical thinking*. *College Student Journal*, 34(3), 377-382.
- [39] Supena, I., Darmuki, A., & Hariyadi, A. (2021). The influence of 4C (constructive, critical, creativity, collaborative) learning model on students' learning outcomes. *International Journal of Instruction*, 14(3), 873-892. doi: 10.29333/iji.2021.14351a.
- [40] Sydorenko, V. (2014). *The technology of cooperative learning in the process of forming the communicative competence of students of grades 5-7 (didactic toolkit)*. *Ukrainian Language and Literature at School*, 8, 8-15.
- [41] Sysoieva, S.O. (2014). *Creative development of specialists in the conditions of master's studies*. Kyiv: Edelweiss LLC.
- [42] Terno, S.O. (2023). *Critical thinking and innovative strategies in history education*. Zaporizhzhia: Zaporizhzhia National University.
- [43] Thomas, K., & Lok, B. (2015). Teaching critical thinking: An operational framework. In M. Davies, & R. Barnett (Eds.), *The Palgrave handbook of critical thinking in higher education* (pp. 93-105). New York: Palgrave Macmillan. doi: 10.1057/9781137378057\_6.

- [44] Thornhill-Miller, B., Camarda, A., Mercier, M., Burkhardt, J.-M., Morisseau, T., Bourgeois-Bougrine, S., Vinchon, F., El Hayek, S., Augereau-Landais, M., Mourey, F., Feybesse, C., Sundquist, D., & Lubart, T. (2023). Critical thinking, communication, and collaboration: Assessment, certification, and promotion of 21<sup>st</sup> century skills for the future of work and education. *Journal of Intelligence*, 11(3), article number 54. doi: 10.3390/jintelligence11030054.
- [45] Tomlinson, B., & Whittaker, C. (Eds.), (2013). *Blended learning in English language teaching: Course design and implementation*. London: British Council.
- [46] Trusei, L. (2022). Cultural centralism as a manifestation of spirituality in Ukrainian philosophical thought. *Spirituality of the Personality: Methodology, Theory and Practice*, 1, 255-265. doi: 10.33216/2220-6310-2022-103-1-255-265.

### Ірина Василівна Вакулова

Аспірант, старший викладач  
Київський столичний університет імені Бориса Грінченка  
04053, вул. Бульварно-Кудрявська, 18/2, м. Київ, Україна  
Український гуманітарний інститут  
08292, вул. Інститутська, 14, м. Буча, Україна  
<https://orcid.org/0000-0002-7123-5646>

## Інтеграція концепції 4К та кордомедійності як національна модель розвитку сучасного випускника

**Анотація.** Реформа системи освіти в Україні передбачає пошуки нових підходів до формування та розвитку здобувача закладу вищої освіти як компетентного та конкурентоспроможного фахівця європейського рівня. Тому мета дослідження – визначити сутність моделі розвитку сучасного випускника, яка складається з концепції 4К, що містить чотири ключові навички майбутнього (креативність, критичне мислення, кооперацію, комунікацію) та феномену кордомедійності – духовної домінанти української культури. Використано комплекс теоретичних методів, а саме: аналіз, синтез, порівняння та узагальнення – для визначення змісту основних понять; сходження від абстрактного до конкретного – для осмислення поняття кордомедійності; абстрагування та індукція – для вивчення кожного елементу моделі окремо; структурно-логічний – для виявлення взаємозв'язку між складовими моделі; узагальнення власного педагогічного досвіду та досвіду колег – для визначення практичної реалізації моделі. Досліджено та охарактеризовано поняття «креативність», «критичне мислення», «абераційне мислення», «кооперація», «комунікативна навичка», «кордомедійність», «емоційний інтелект». З'ясовано, що всі компоненти моделі взаємопов'язані та відповідають вимогам часу, орієнтовані на майбутнє і сприяють досягненню високого рівня продуктивності. Зазначено, що розвиток цих навичок можливий через впровадження як інноваційних методів, так і оновлених класичних. Акцентовано на властивостях елементів моделі запобігати появі абераційного мислення з його негативними наслідками, а також забезпечувати готовність майбутніх фахівців до роботи в умовах глобалізації, діджиталізації та нових викликів. Для реалізації концепції моделі розвитку сучасного випускника рекомендовано комплексний та безперервний розвиток інтегрованих навичок 4К у поєднанні із кордомедійністю, де остання є ключовим сполучним елементом, без якого неможливо сформувати Інноватора, Патріота, Особистість, здатну зберігати та відновлювати духовні цінності, високоморальні загальнолюдські принципи. Практична цінність полягає в можливості використати результати дослідження в педагогічному процесі, зокрема для побудови індивідуальної траєкторії розвитку здобувачів освіти

**Ключові слова:** креативність; критичне мислення; абераційне мислення; кооперація; комунікативна навичка; кордоцентричність; емоційний інтелект