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THE THEORETICAL FOUNDATIONS OF PREPARING FUTURE TEACHERS FOR COLLABORATIVE PROFESSIONAL ACTIVITY

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A B S T R A C T

This scientific article provides a comprehensive theoretical and methodological analysis of the preparation of future teachers for collaborative professional activity within the framework of educational technologies and innovative pedagogy. Special attention is given to global transformations in education, digitalization processes, models of collaborative learning, mechanisms for developing collaborative competencies in higher education, and the role of interaction and communication culture in teacher preparation. The study elaborates on constructivist, cooperative, collaborative, communicative, and sociocultural paradigms of collaborative learning, as well as the principles of integrating modern pedagogical technologies (blended learning, project-based learning, team-based learning, digital collaboration tools) into the professional training of future teachers. The structural composition of collaborative competence, its theoretical interpretations, innovative mechanisms for its development during practicum, and its interrelation with the professional maturity of the teacher are systematically explored. The research findings form a scientific and practical basis for modernizing teacher education, improving methodological systems aimed at collaboration, and enhancing the professional competitiveness of future teachers.

K E Y W O R D S

Collaborative learning, collaborative competence, innovative pedagogy, educational technologies, future teachers, cooperative learning, digital collaboration, professional training.

INTRODUCTION

Modern education system operates in a complex socio-pedagogical space at the intersection of rapidly changing globalization, digitalization, the development of information and communication technologies and the socio-professional needs of students; This makes it an urgent pedagogical task to train future teachers not only as highly qualified specialists who have thoroughly mastered the basics of science, but also have a culture of collaborative work, collective decision-making, interaction and mutual assistance, able to effectively apply a collaborative approach at all stages of the educational process. Currently, innovative processes in the field of educational technologies, including the priority of a constructive approach, cooperative and collaborative learning models, project-based learning,

team-based learning, digital collaboration tools (online platforms, virtual collaboration environments, real-time collaboration applications), as well as the active implementation of a competitive approach to the educational process of higher education institutions will allow future teachers to develop their skills The preparatory content is radically renewed. Scientific research on the theoretical foundations of training for cooperative activities shows that cooperation in the educational process is manifested as a strategic factor not only in the joint implementation of educational tasks, but also in the formation of individual social competencies, communication culture, professional responsibility, ability to create unified knowledge, reflexive thinking and collective leadership qualities. Especially from the point of view of innovative pedagogy, the phenomenon of cooperation is further enriched by the integration of educational forms and technologies: the introduction of interactive teaching technologies, distance and online learning platforms, multimodal learning environments, gamification elements, digital communication tools into the pedagogical process complement cooperation with new methodological directions. In these conditions, the theoretical substantiation of the content, principles, mechanisms and results of the process of preparing future teachers for collaborative work is becoming one of the priority scientific directions of modern pedagogy; In particular, one of the urgent tasks of today's scientific research is the creation of structural models of cooperation competency, identification of innovative technologies for its formation in the educational process, the effective organization of collaborative activities integrated with pedagogical practice, the development of conceptual criteria that determine the professional maturity of teachers in the system of higher education. In this article, the theoretical and methodological foundations of the process of preparing future teachers for collaborative work in harmony with innovative pedagogical concepts are revealed, existing scientific approaches are analyzed in depth, theoretical arguments seeking to develop a scientifically based model of the formation of collective competence on the basis of the integrative capabilities of educational technologies are presented.

LITERATURE REVIEW

Since the second half of the last century, scientific research on the theoretical foundations of preparing future teachers for collaborative work has been intensively developed, and the scientific approaches formed at the intersection of pedagogy, psychology, social pedagogy, cognitive sciences and educational technologies today determine the specific scientific and theoretical space of this issue; first of all, the theory of constructivism (J. Piaget, L. Vygotsky, J. Bruner) is the methodological foundation of collaborative education, since this approach emphasizes that the learner does not accept knowledge in a ready-made form, but, on the contrary, "builds" it in the process of active communication, joint research and social interaction, while Vygotsky's principle of the "zone of close development" is interpreted as a social mechanism that contributes to the development of a strong student and a weak student in the process of cooperation; as well as cooperative learning theories (R. Slavin, D. Johnson, R. Johnson) have provided a high level of scientific evidence of the effectiveness of "team learning" by highlighting the scientific underpinnings of the principles of collaborative groups, non-competitive learning environments, and positive interdependence. The "Student Teams Achievement Divisions (STAD)" model developed by Slavin, the "Jigsaw" technique, and the "Learning Together" concept proposed by the Johnsons were later widely adopted in global education and played an important role in the training of future teachers. When these classical models of cooperative education are enriched with modern educational technologies, the paradigm of

collaborative training has been formed, in which not only the mastering of the teaching material, but also the joint creation of knowledge, collaborative problem solving, collective creative thinking, the scientific substantiation of mechanisms for the formation of a common goal and its achievement have been formed. In connection with the development of educational technologies, innovative approaches such as "collaborative learning", "team-based learning", "problem-based learning", "project-based learning", "digital collaborative tools" have emerged in the academic environment, which provided new scientific opportunities for the formation of cooperation competence not only in terms of content and form, but also in terms of communication, division of roles, intellectual cooperation and reflexive activities.

Especially since the beginning of the 21st century, the widespread popularization of digital technologies has given qualitatively new content to collaborative education: technologies such as online collaboration platforms (Google Workspace, Microsoft Teams, Zoom, Moodle, Edmodo), virtual group work, real-time collaboration environments, integration of social networks in education (learning social networks) have played a role in the pedagogical role of the teacher, the student's learning activities and the communicative role of cooperation in the learning process radically changed the mechanisms of the For example, researchers such as C. Dede, H. Rheingold, T. Anderson have scientifically substantiated the relationship of virtual communication with cognitive and social factors by conducting an in-depth analysis of the possibilities of digital collaboration tools in education. In the process of digital collaboration, students not only think together — but create, edit, and design together; This will enrich future teachers not only with theoretical knowledge, but also with practical pedagogical skills. On the other hand, the theory of connectivism, formed on the basis of innovative pedagogical research (G. Siemens, S. Downes), describes a more complex, digital-network-based model of collaboration; In it, the sources of knowledge are a multicenter, interconnected and constantly updated system, and the learner is interpreted as an entity acting in cooperation with network elements.

In the scientific literature on pedagogical competencies, the competence of cooperation is recognized as the main part of the competencies of the 21st century; In competency models developed by international organizations such as OECD, UNESCO, World Economic Forum, cooperation, dialogue, collective decision-making, social responsibility and leadership competencies are defined as qualitative criteria for the professional training of a teacher. Also, scientific research on the structural structure of collective competence in the system of pedagogical higher education (E. Barkley, K. Cross, C. Major) and the theory of social learning (A. Bandura) have revealed in depth the psychological and social mechanisms of cooperation: motivation, mutual motivation, observational learning, development on the basis of a role model, self-assessment and group identification reveal the complex psychological nature of cooperation forms. In the process of training future teachers, these psychological mechanisms are reflected in such processes as practical training, seminars, project activities, team research, pedagogical practice.

In the context of the Republic of Uzbekistan, the scientific literature on this issue was significantly enriched in subsequent years. In particular, the modernization of the education process, the introduction of innovative approaches, the research of local scientists on the application of pedagogical technologies (N. Sayidakhmedov, B. Ziyomuhammadov, M. Ochilov, U. Nishonov, R. Ganieva and others) highlight the integration of collaborative training into the national education system. In addition, in regulatory documents such as the Law "On Education", "The Concept of

Development of Higher Education", "State Standards for the Training of Pedagogical Personnel", the competence for collaborative work is defined as one of the main professional competencies of the teacher. The local pedagogical literature presents the psychological and pedagogical foundations of innovative pedagogy, interactive technologies, models of cooperative teaching adapted to the national educational process, including such methods as "Mental Attack", "Cluster", "Sinkwein", "Debate", "Working in Small Groups", "Insert", "Accelerated Learning", which serve the development of cooperative competence.

In the literature on the development of cooperative competence of future teachers in the conditions of rapid development of educational technologies, such topics as microeducation, multimodal learning, AR / VR technologies, gamification, psychology of distance education, virtual team experience have been formed as a separate scientific direction. Studies show that digital learning tools provide more opportunities than traditional forms of cooperation: independence from time and space, real-time collaboration, multimodal communication, quick access to vast amounts of knowledge resources, differential approach, collaboration monitoring tools, to name a few. At the same time, some researchers (N. Selwyn, L. Cuban) point out the limitations of digital cooperation — lack of technical training, the digital divide, information surplus, psychological distance in virtual communication, etc.

A comprehensive analysis of scientific sources shows that the system of training future teachers for cooperation is not only a set of methods; it constitutes a scientific and pedagogical model, which consists of a logical structure of the pedagogical process, a system of goals, principles of activity, pedagogical environment, psychological mechanisms, educational technologies and professional competencies. In particular, in the modern literature, collective competence is considered to consist of three main components: (1) **the cognitive component** — problem analysis, evaluation of evidence, integration of knowledge, understanding of the logic of communication; (2) **affective-communicative component** — empathy, positive communication, culture of behavior in the team, constructive feedback, acceptance of diversity of opinions; (3) **The activity-practical component** is team task planning, role allocation, use of collaborative technologies, outcome evaluation, and reflection. These components are directly related to the professional maturity of the future teacher and are among the crucial competencies that determine the content of pedagogical activity in the digital age.

In conclusion, the literature review shows that the issue of preparing future teachers for collaborative work is a scientifically complex, multifaceted, interdisciplinary direction that is developing in close connection with the concepts of constructivism, cooperative and collaborative teaching theories, digital pedagogy, social learning theory, competency approach, innovative educational technologies; these approaches are developing in close connection with the concepts of cooperation of future teachers. defines the theoretical foundations of the process of formation of competence and forms the scientific foundation of methodology, results and discussions, which will be presented in the following sections.

METHODOLOGY

The methodology of this study is aimed at identifying the theoretical foundations of the process of preparing future teachers for collaborative work, developing a pedagogical model and performance indicators, as well as substantiating the scientific and practical foundations of educational technologies and innovative pedagogical approaches, which combines comprehensive, systemic, interdisciplinary and competential approaches is interpreted as a scientific methodology; The conceptual basis of the

research was formed on the basis of constructivist pedagogy (J. Bruner, L. Vygotsky), theories of cooperative and collaborative education (R. Slavin, D. Johnson, R. Johnson), paradigms of innovative educational technologies (G. Siemens, C. Dede, A. Bandura), methodological principles of competency approach implemented in the higher education system of Uzbekistan. In the process of research, scientific and practical activities on the study of the development of cooperation competence of future teachers were carried out at several stages; At the first stage, a system of theoretical foundations was created by analyzing the available scientific resources, international experience, pedagogical models and educational technologies, at the second stage, the practical state of the educational process in higher education institutions was studied, and at the third stage, an experimental pedagogical model aimed at developing cooperation competency was created, its effectiveness was tested. The most important methodological principles of the study are: the **principle of systematism** - the consideration of cognitive, affective-communicative and functional-practical components of cooperation competence as a single structure; **activity-oriented principle** - involvement of future teachers in teamwork in real pedagogical situations; The **principle of innovation** - the integration of modern educational technologies and digital collaboration into the educational process; **the principle of competence** - assessment of emerging knowledge, skills and qualifications as a practical result; **the principle of interactivity** - increasing the didactic value of communication, interaction, exchange of ideas and joint problem solving; The **principle of personality orientation** is to support in every student the need for independent thinking, social activity, initiative and professional growth. Mixed-method was chosen as the research design, which is widely used in modern pedagogical research: this approach combines the quantitative and qualitative analysis tools that allows increasing the scientific reliability and diagnostic accuracy of the results.

To assess the level of cooperation competence of future teachers within the quantitative component, special diagnostic tests, psychometric measures, questionnaires based on the Likert scale, rating systems that determine the level of participation in team activities were used; The test tasks involved complex situational questions regarding cognitive, communicative, and practical activities. The qualitative analysis component included such methods as pedagogical observation, semi-structured interviews, reflexive essay analysis of students, pedagogical monitoring of the team training process; With the help of these methods, not only the students' experience of individual cooperation, but also group dynamics, communication culture, role distribution, leadership formation, collective decision-making processes, psychological features of virtual cooperation were identified. 312 students studying in the field of pedagogy in different regions of Uzbekistan, 27 experienced pedagogical practitioners and 18 professors and teachers who use interactive methods in the learning process were involved as participants of the study; The experimental process was carried out for two semesters, and at each stage data collection, analysis and mid-diagnosis were performed. In the center of the experimental pedagogical model is the principle "collaborative competency - an integrative result of pedagogical education", which uses collective educational technologies as the main form of educational activity; In particular, small group design, Team-Based Learning, Project-Based Learning, Problem-Based Learning, team research, the use of online collaboration platforms (Google Docs, Padlet, Miro, Teams), virtual labs, role-playing games, pedagogical simulations, and digital collaboration tools were integrated as the main methods.

As an evaluation mechanism of the study, an integrated diagnostic system has been developed, which includes the following measurement indicators: **(1) Cognitive indicators** - the theoretical foundations

of cooperation, communicative strategies, organizational mechanisms of collective activity, the level of knowledge on the use of digital cooperation technologies; **(2) Communicative indicators** — clear expression of thought, listening culture, constructive discussion, culture of group behavior, empathy, and social sensitivity; **(3) Practical performance indicators**—role allocation, team planning, outcome-oriented collaboration, collective problem-solving, reflection, and self-assessment. During the diagnosis, a rating scale from 0 to 5 was introduced for each indicator, and the total competency index was calculated as the average coefficient of all indicators. Also, Student t-tests, dispersion analysis (ANOVA), and correlational analysis were used to detect statistical differences between experimental group and control group. In order to ensure the reliability of the research results, the data were collected from different sources (students, teachers, observers), different methods (questionnaire, interview, follow-up) and in different settings (traditional, online, blended education). In the practical part of the methodology, a special "Collaborative Learning Module" was developed for future teachers; The module included a theoretical block (theories of cooperation, communication strategies, fundamentals of educational technologies), a practical block (team projects, simulation classes, virtual interaction exercises) and a reflective block (self-assessment diary, analytical essay on team activities). At the end of each session, reflexive reports were written by the students, and their content was subjected to qualitative analysis with the help of the NVivo program. the methods of ethnographic observation were used to study the complex dynamics of collective activity in the educational process; In this, processes such as informal communication within the group, motivation, leadership development, conflict management, and self-motivation were also analyzed. In order to assess the technological component of the study, the frequency of digital collaboration tools, active participation in interactive platforms, the process of creating team online documents and quality indicators of virtual communication were studied. When these methods are applied together, all layers of the pedagogical process — theoretical, practical, technological, communicative, psychological and reflexive components — are fully covered.

A comprehensive analysis of the data collected as a result of this methodological approach allowed to scientifically substantiate the effectiveness of the process of forming the cooperative competency of future teachers, identify the strengths and weaknesses of the pedagogical model, assess the degree of integration of educational technologies, determine the interdependence of competency components and develop the final conceptual conclusions; which laid a solid scientific foundation for the next chapter of the study, Results.

RESULTS

The pedagogical model, modern educational technologies and innovative collaborative methods used in the experimental phase of the study on the formation of cooperative competence of future teachers studying in higher education were evaluated by a comprehensive diagnostic, qualitative and quantitative analysis, and the results obtained allowed to scientifically substantiate the effectiveness of this process; First of all, the preliminary diagnostic results of the study participants showed that the majority of students (63% in the experimental group, 68% in the control group) had an average level in the cognitive component of cooperative competency, while in the communicative component a low-average level (52% in the experimental group, 54% in the control group) prevailed, which means that despite the fact that the students had theoretical knowledge, there was an insufficient culture of communication in the implementation of team activities, demonstrated insufficient skills in

constructive debate, role allocation, collaboration management; In the hands-on component, skills were even lower, with 47% of students in the experimental group and 45% in the control group having difficulty completing team tasks. It should be noted that at the initial stage no statistically significant difference was found in the indicators of the experimental and control groups ($p>0.05$), which leads to the conclusion that equal conditions were created for the experiment.

During the experimental period, the activities organized on the basis of the collaborative learning module had a significant impact on the level of students' cooperative competence; after the use of team projects, problem-based learning, team-based learning, virtual collaboration tools and team experience games for two semesters, the overall competency index of the experimental group increased from 2.41 points to 4.18 points (maximum 5 points), i.e. an increase of about 73%, In the control group, the increase was only around 9% (2.39 points to 2.61 points). The changes in the experimental group based on the results of the student t-tests were statistically significant at a high level ($p<0.001$), which confirms the effectiveness of the pedagogical model. Positive dynamics were also clearly observed in the cross-section of the three main components of cooperation competency: **the average score in the experimental group on the cognitive component** increased from 2.88 points to 4.36 points, with students gaining deeper theoretical understanding of collaboration theories, communication strategies, mechanisms of collective activity, and the use of digital collaboration tools; On the **communicative component**, the result was more significant, rising from 2.41 points to 4.14 points, with students showing significant progress in qualities such as clear expression of opinion, listening culture, constructive debate, conflict management, empathy, and a culture of community behavior; **The practical component** showed the strongest changes - from 2.12 points to 4.07 points, which indicates a significant improvement in practical competencies such as planning of team tasks, distribution of roles, team decision-making, evaluation of the results of cooperation, and reflection.

The results of the qualitative analysis also supported quantitative results: interviews and observations showed that students in team activities were distinguished by such behaviors as timidity, avoidance of communication, passivity at the beginning, at the end of the experiment they actively exhibited behaviors such as expressing their opinion freely, listening to the opinions of others, constructive participation in a team, resolving conflicts on a collaborative basis, feeling collective responsibility; In particular, in the process of Team-based learning, students showed high activity in such areas as helping each other, strengthening mutual communication, developing creative ideas, considering different alternatives, solving collaborative problems and applying communicative strategies. The results of using digital collaboration tools were also productive: students in the experimental group showed significantly higher performance in creating a team document on platforms such as Google Docs, Miro, Padlet, Teams, editing in real time, conducting virtual discussions, sharing resources through a collaborative environment; During the monitoring process, the analysis of the digital traces of student activity (log files, frequency of participation, number of revisions) showed that indicators of "social interdependence", which ensured the continuity of team activities in the experimental group, were significantly increased.

Another important result of the study is the high degree of correlation between the components of cooperation competency, and according to the results of correlational analysis, indicators of $r=0.71$ were found between cognitive and communicative components, $r = 0.78$ between communicative and practical components, $r = 0.69$ between cognitive and practical components ($p<0.001$), which is the level of theoretical knowledge, confirms the systematic integration of communication skills and

practical activities. Students' reflexive essay analysis also reinforced this idea: most students cited behaviors such as collective decision-making, active listening, defending their position in the debate process, creating an environment of mutual respect and trust, using digital tools, effectively allocating roles, and feeling responsible for a team outcome as the most important factors in their professional development. In addition, the "collaborative motivation index" increased significantly in the experimental group: at the end of the study, the score increased to 4.29 points, compared to 2.67 points at the beginning of the study; This suggests that the influence of the pedagogical model on motivation is also strong.

The development of cooperative competency also had a significant impact on students' professional competencies: the ability to make pedagogical designs, skills to use interactive methods, understanding of socio-psychological mechanisms of communication, and the ability to organize group games and intergroup interaction in the classroom were also significantly improved. During pedagogical observations, it can be found that in the experimental group, students initially worked in training sessions relying more on the guidance of the teacher, by the end of the experiment they were able to control the process on their own initiative, assimilate leadership roles within the group, independently determine the purpose of the lesson and, together with the team, develop a strategy for achieving it. The digital collaboration environment has also significantly developed students' skills in creative thinking, visual communication, and the use of multimodal expression tools, which is especially evident in the results of team design projects implemented on the Miro and Padlet platforms. At the end of the experiment, 87% of students indicated that they were ready to use collaborative methods in their pedagogical activities in the future, 82% considered it necessary to regularly use digital collaboration tools. In the control group, the level of such training was much lower, around 39–43%, which once again shows the practical importance of working with innovative training models. In general, the results of the study have scientifically proven that the formation of the cooperative competency of the future teacher requires integrative mechanisms covering all components of the pedagogical process, the effectiveness of the model created in the combination of constructive, cooperative and innovative pedagogical approaches is high, and digital technologies serve as the main factor strengthening cooperation.

DISCUSSION

The analysis of the results shows that the process of formation of the cooperative competence of future teachers is a multilayer, multifactorial and integrated pedagogical phenomenon in its essence; The effectiveness of the innovative pedagogical model used in this study was formed as a result of a combination of a constructive approach, cooperative education, collective pedagogy and digital cooperation technologies as a whole system, which manifested itself as a scientifically based mechanism that raises the professional training of modern pedagogue to a qualitatively new level. An in-depth analysis of the results shows that the three main components of cooperative competence — cognitive, communicative, and practical — are inextricably linked, with the development of one having a direct impact on the enhancement of the other; For example, as students' cognitive training increased, they began to consciously apply communicative strategies in team activities, and as communication skills were strengthened, there was a significant improvement in elements of practical activities such as team problem solving, role allocation, and team decision-making. This situation is fully compatible with the principle of constructivist theory that "knowledge is formed in the process

of social interaction"; that is, students can not only absorb new information through interaction, but also reconstruct, interpret and apply it to team activities; This is also scientifically consistent with the idea reflected in Vygotsky's concept of the "proximous development zone" — the stronger the participant is the impetus for the development of others.

One of the most important aspects of the study results is the significant development of the communicative component, which indicates that this is the main psychological factor for the success of cooperation; The basic mechanisms for collective learning are such skills as constructive discussion, active listening, politeness, empathy, acceptance of diversity of opinion and creating a positive psychological environment. This is directly related to the learning processes that are shaped by observation, sampling and interaction in the theory of social learning developed by Bandura. Also, the results showed that students mastered various forms of communication in the process of team activity: in addition to traditional verbal communication, multimodal (visual, digital, graphic, interactive) communication skills were also formed; This requires comprehensive communicative literacy, which is essential to a teacher's success in a digital learning environment. The process of communication has become more democratic, free and multi-layered as the virtual collaboration environment for students allows them to communicate in real time, use electronic resources, create and edit documents together, and exchange views visibly on interactive platforms; This is in line with the "digital collaboration" model that is prevalent in the global education system in many ways.

The strong development of the applied component is also one of the significant results of the study; Students gained skills such as team planning, task allocation, time management, sharing responsibility within a team, evaluating team results, and reflecting. This indicates that the principles of "interdependence", "collective responsibility" and "personal responsibility" emphasized in cooperative education theories (Slavin, Johnson) have found their affirmation in practice. In the process of research, students also mastered the complex stages of collective decision-making through interaction and joint activities: joint analysis of the problem, consideration of various solutions, evaluation of alternative options, discussion in small groups, coming to a common decision and strengthening the final solution. Such changes confirm that pedagogical methods produce powerful results when combined with practical exercises.

The effectiveness of digital collaboration technologies was also clearly manifested in the results: the accelerated formation of skills in students such as multimodal thinking, visual design, online collaboration, flexibility, technological literacy served the development of competencies necessary for the global digital learning environment. This process supports the scientific conclusions of the theory of connectivism: that is, the learning process takes place through interconnected networks, knowledge is stored in networks, and the learner becomes its active participant. The students' experience has shown that digital collaboration platforms are not just a technical tool, but a pedagogical environment that creates opportunities for knowledge creation, communication, collective decision-making, resource sharing, and creative activity.

The results show that collaborative competency is not only a separate set of skills, but also an integrative competency that determines the overall level of professional maturity of the pedagogical individual. This expands the teacher's ability to prepare his students for teamwork, a global collaborative environment, and a responsible citizenship position in the future. In the system of higher education of Uzbekistan, the issue of developing the cooperation competence of future teachers is in harmony with the national education policy; In recent years, the state policy aimed at modernizing the

training process, introducing innovative technologies into the educational process, developing students' communication, criticality, creativity and cooperation make the findings of this research relevant. Moreover, the results show that the integration of cooperation in the educational process serves to develop not only at the level of students, but also the general pedagogical culture of the teaching community, faculty and educational institution.

Another important aspect that emerged during the discussion is that the success of the development of cooperative competence largely depends on the skills, methodological training and openness to innovative approaches of the teacher. Collaboration is most effective when experienced teachers correctly direct students' teamwork, facilitate communication, and create healthy competition between groups. On the contrary, in cases where teachers with little methodological experience had difficulties in managing the process, problems such as passivity in team activities, uncertainty of roles, slowness in time management, and discomfort in communication were observed. This suggests that in the process of training future teacher's special systems of professional development are needed not only for the students themselves, but also for the teaching staff.

The results also showed the limitations of developing collaborative competency: some students experienced personal psychological barriers — shyness, low self-esteem, inability to find their place in a team; Factors such as different levels of digital literacy, inadequate technical equipment, and internet speed also negatively affected collective online activities. At the same time, some students have shown a tendency to diminish their responsibility by relying excessively on active learners in the group; This underscores the importance of controlling personal accountability in the collaborative process. At the same time, it was identified that in order to reduce these restrictions, the need for special facilitation techniques, equitable distribution of roles, the introduction of a team assessment system, and the organization of special workshops on digital skills.

CONCLUSION

With the generalization of the above comprehensive theoretical analysis, experimental research based on mixed methods, testing of the pedagogical model enriched with modern educational technologies and the results obtained, it is clear that in today's globalisation and digital transformation, the preparation of future teachers for collaborative work is one of the priority strategic directions of pedagogical education, this process determines the professional maturity of the teacher, It shows the need to be interpreted as a decisive competency that determines communicative culture, social responsibility, digital literacy and the ability to manage teamwork. The pedagogical model developed and tested during the study served to create effective mechanisms for the formation of cooperative competence in future teachers through a combination of a constructive approach, modern forms of cooperative and collaborative education, digital cooperation tools, interactive methods and a competency approach; The results of the experiment proved that the model is highly effective, especially communication and practical components are dynamically developed, and the integration with digital learning environment strengthens students' skills for visual thinking, multimodal communication, creative problem solving, network-based knowledge. The general scientific conclusion of the study is that cooperative competence is manifested not only as a separate set of skills, but as an integrative, multifunctional, continuously developing professional quality at all stages of pedagogical activity - design of the educational process, work with groups, communication management, effective use of educational technologies, preparation of students for teamwork. The

results provide scientific substantiation of the need to modernize the training process of pedagogical personnel in the higher education system of Uzbekistan, to introduce methodological systems based on the principles of cooperation and innovative pedagogy, to create a module of collaborative education for future teachers and to introduce them into practice. At the same time, the study showed that special pedagogical facilitation, adaptive technologies, and person-centered approach measures need to be improved to address the limitations that may be encountered in the development of collaborative competency — communication barriers, lack of motivation, gaps in digital literacy, inappropriate participation within the group. In general, the main scientific and practical conclusion arising from the study is that the development of the cooperative competency of future teachers will achieve the highest results through the integrated use of modern educational technologies, innovative pedagogical approaches, psychological mechanisms of teamwork and digital cooperation platforms; This model serves as an important scientific basis for modernizing the process of higher pedagogical education, improving the quality of education and professional competitiveness of teachers, as well as preparing the future generation for cooperation, a socially active civic position and a modern competency system.

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