

**INTERACTIVE AND PROBLEM-BASED APPROACHES TO THE DEVELOPMENT
OF GENERAL PROFESSIONAL COMPETENCIES OF FUTURE TEACHERS IN THE
PROCESS OF COLLABORATIVE LEARNING**

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Research Location: Kokand State University (Uzbekistan),

in collaboration with Yanka Kupala State University of Grodno (Belarus).

Abstract: The article examines the effectiveness of interactive and problem-based approaches in developing general professional competencies in future teachers within a collaborative learning framework between two universities. Based on empirical data, it is shown that these methods contribute to a significant increase in communication, critical thinking, and collaboration skills. The results underscore the importance of intercultural exchange for modernizing pedagogical education.

Keywords: interactive approaches, problem-based methods, general professional competencies, collaborative learning, pedagogical education.

INTRODUCTION

In the era of globalization and the digitalization of education, the training of future teachers requires not only the transfer of theoretical knowledge but also the formation of practical skills adapted to real-world challenges. General professional competencies, such as the ability to work in a team, solve complex problems, and use interactive technologies, are becoming fundamental for a successful career in the field of education. According to a UNESCO report (2020), modern teachers must possess skills that allow them to integrate cultural differences and innovative methods into their daily practice. Collaborative learning between universities from different countries, such as the cooperation program between Kokand State University (KSU) and Yanka Kupala State University of Grodno (YKSG), provides a unique platform for developing these competencies. This approach allows students to exchange experiences,

overcome language barriers, and adapt to diverse pedagogical traditions. Interactive methods, including group discussions, role-playing games, and simulations, stimulate active participation, while problem-based approaches, such as case analysis and project-based tasks, develop critical thinking. A literature review shows that interactive methods, based on the constructivist theories of Piaget and Vygotsky, contribute to a deep understanding of the material (Vygotsky, 1978). Problem-based approaches, according to Johnson and Johnson (1994), enhance cooperative learning. However, there is little research in the context of collaborative learning between Uzbekistan and Belarus, which makes this work relevant. The goal of the study is to analyze the impact of interactive and problem-based approaches on the development of general professional competencies in pedagogical students during collaborative learning.

Objectives: 1) to assess the initial level of competencies; 2) to implement and test the methods; 3) to compare the results. Hypothesis: The use of these approaches will lead to a 20-30% increase in competencies compared to traditional lecture and seminar methods. The significance of the study lies in the development of recommendations for integrating these approaches into international educational programs, which can improve the quality of teacher training in the post-Soviet space.

METHODS

The study was conducted from September 2024 to May 2025 at KSU and YKSG. Participants: 120 3rd and 4th-year students from pedagogical faculties (60 from KSU, specializing in philology and mathematics; 60 from YKSG, focusing on history and natural sciences). The sample was random, considering gender balance (55% female, 45% male) and age (average 21 years). Study Design: quasi-experimental, with pre- and post-testing.

The experimental group (80 students) participated in joint sessions with interactive and problem-based approaches; the control group (40 students) participated in traditional classes.

Collaborative learning was organized through Zoom for online meetings (twice a week for 90 minutes) and Moodle for asynchronous material exchange. In-person seminars were held within the framework of a bilateral exchange program (2 visits of 1 week each).

Instruments:

- * Questionnaire based on the UNESCO competency scale (2017): 20 questions on a 5-point Likert scale to assess communication, critical thinking, and collaboration.
- * Observation: 10 interactive sessions (role-playing games on the topic "Cultural Differences in Education") and 8 problem-based modules (case studies on solving pedagogical conflicts).
- * Student Portfolios: analysis of 120 works (essays, presentations).
- * Interviews: semi-structured with 30 students (15 from each university).

Procedure: 1) Pre-test in September; 2) Implementation of methods from October to March; 3) Post-test in April; 4) Data analysis in May.

Data were processed in SPSS: Student's t-test for group comparison, Pearson's correlation analysis, and factor analysis to identify key factors. The significance level was $p < 0.05$. Ethical considerations: participant consent was obtained, and data anonymity was ensured.

RESULTS

Initial level of competencies in the experimental group: communication 3.2 points (out of 5), critical thinking 3.0, collaboration 3.1. In the control group: similar, with no significant differences ($t=0.45$, $p=0.65$).

After the intervention in the experimental group: communication 4.3 (+34%), critical thinking 4.2 (+40%), collaboration 4.4 (+42%). In the control group: growth of only 8-12% ($t=5.67$, $p^{<0.01}$ for group comparison).

Table 1: Average competency scores (pre- and post-test)

Competency	Pre-test (Exp.)	Post-test (Exp.)	Pre-test (Cont.)	Post-test (Cont.)
Communication	3.22	4.3	3.1	3.4
Critical Thinking	3.0	4.2	3.0	3.3
Collaboration	3.1	4.4	3.2	3.5

Correlation between session participation frequency and growth: $r=0.75$ ($p < 0.01$). KSU students showed a greater increase in communication (+25% vs. +20% for YKSG), which is related to language barriers. Interviews revealed that 85% of participants noted an increase in motivation.

Graph 1: Dynamics of competency growth (description: linear graph with an upward trend for the experimental group). The overall increase exceeded the hypothesis, reaching 34-42%.

DISCUSSION

The results confirm the effectiveness of interactive and problem-based approaches in collaborative learning, which is consistent with Slavin's (1995) work on cooperative learning. The intercultural aspect enhanced development, helping students adapt to diversity, as noted in Banks's (2006) research on multicultural education. However, limitations include: technical glitches on online platforms (20% of sessions), differences in academic standards (KSU focuses on practice, YKSG on theory), and pandemic restrictions on in-person meetings. These factors could have lowered the results.

Practical recommendations: integrate these approaches into permanent collaboration programs, and develop joint modules with certification. For KSU, strengthen online communication training; for YKSG, add more problem-based tasks. Future research: long-term effect on graduates' careers, comparison with other countries. In conclusion, collaborative learning with interactive methods is a powerful tool for the globalization of pedagogical education.

CONCLUSION

In conclusion, this study confirms that interactive and problem-based approaches are powerful tools for developing the general professional competencies of future teachers in the context of collaborative learning between Kokand State University and Yanka Kupala State University of Grodno.

The results obtained demonstrate not only a statistically significant growth in competencies of 34-42% but also qualitative changes in students' approaches to pedagogical activity, including increased adaptability to intercultural contexts and enhanced motivation for professional growth. In summary, these methods contribute to the formation of a new generation of teachers capable of working in a globalized educational environment, where the key skills are collaboration and creative problem-solving. Summarizing the experience of cooperation between KSU and YKSG, it should be noted that the integration of interactive (role-playing games, discussions) and problem-based (case studies, project-based tasks) approaches not only overcomes the traditional limitations of national educational systems but also creates a synergistic effect, where cultural differences become an advantage. For example, KSU students, focused on practical training, enrich their Belarusian colleagues with innovative methods, while YKSG contributes theoretical depth. This leads to a more balanced development of competencies that aligns with global standards of UNESCO and the Bologna Process. In the long term, such approaches can become the basis for reforming pedagogical education in the post-Soviet space, contributing to the creation of a unified educational ecosystem. However, to fully realize the potential, it is necessary to eliminate the identified limitations, such as technical barriers and differences in academic standards, by creating permanent international exchange centers. Ultimately, the study emphasizes that collaborative learning using these methods not only enhances individual competencies but also contributes to global progress in education, making it more inclusive and adaptive to the challenges of the future.

References:

1. * Vygotsky, L.S. (1978). *Mind in Society*. Harvard University Press.
2. * Johnson, D.W., & Johnson, R.T. (1994). *Learning Together and Alone*. Allyn & Bacon.
3. * UNESCO. (2020). *Education for Sustainable Development Goals*.
4. * Ubaydullayeva Kamolaxon Numanovna Факторы влияющие на развитие стрессоустойчивости у студентов магистратуры. *Journal of international scientific research*. Vol.2 No/ 4(2025) <https://spaceknowladge.com/index.php/JOISR/article/view/1083/>
5. * Ubaydullayeva Kamolaxon Numanovna Психологические особенности жизнестойкости личности в условиях стрессовых ситуаций. *Modern problems in education and their scientific solutions/// Top izlanuvchi 2025 INTERNATIONAL COMPETITION*. <https://sg.docworkspace.com/d/sICnuu7jGAeujwcUG//>
6. * Ubaydullayeva Kamolaxon Numanovna ОТ ВЫЗОВА К РЕСУРСУ: ПСИХОЛОГИЧЕСКАЯ РОЛЬ ЖИЗНЕСТОЙКОСТИ В ТРАНСФОРМАЦИИ



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<https://doi.org/10.5281/zenodo.15509609/>

7. * Ubaydullayeva Kamolaxon Numanovna - Психологические особенности жизнестойкости личности в условиях стрессовых ситуаций.// V Международный журнал научных исследований «Новости образования: исследования в XXI веке.