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## **WAYS TO IMPROVE THE PROFESSIONAL AND METHODOLOGICAL COMPETENCE OF FUTURE GEOGRAPHY TEACHERS BASED ON AN INTEGRATIVE APPROACH**

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### **Abstract**

This article examines ways to improve the professional and methodological competence of future geography teachers through the implementation of an integrative approach in pedagogical higher education. The relevance of the study is determined by the increasing requirements for geography teachers to combine subject knowledge, pedagogical skills, methodological competence, digital literacy, geographical thinking, research abilities, and interdisciplinary interaction in their professional activities. The article theoretically substantiates the importance of integrating geographical, pedagogical, psychological, methodological, digital, and practical components in the preparation of future geography teachers. Particular attention is paid to interdisciplinary integration, practice-oriented learning, project-based activities, problem-based learning, digital geographic technologies, fieldwork, geographic information systems, collaborative learning, and reflective practices. The proposed approach is aimed at creating an integrated educational environment in which students can apply theoretical geographical knowledge to authentic pedagogical situations and develop the ability to design, implement, evaluate, and improve geography lessons. The study emphasizes that professional and methodological competence should be developed systematically rather than through isolated academic disciplines. An integrative model combining motivational-value, cognitive, practical-activity, technological, communicative, and reflective components can contribute to the gradual formation of professionally prepared geography teachers capable of responding effectively to contemporary educational requirements. The



findings provide a methodological basis for improving teacher education programs in pedagogical universities and strengthening the connection between university-based theoretical preparation and school-based professional practice.

**Keywords:** Future geography teachers, professional competence, methodological competence, integrative approach, geography education, interdisciplinary integration, pedagogical preparation, digital technologies, geographic information systems, professional development, teacher education, practice-oriented learning

**BO‘LAJAK GEOGRAFIYA O‘QITUVCHILARINING KASBIY-  
METODIK KOMPETENTLIGINI INTEGRATIV YONDASHUV  
ASOSIDA TAKOMILLASHTIRISH YO‘LLARI**

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**Annotatsiya**

Ushbu maqolada bo‘lajak geografiya o‘qituvchilarining kasbiy va metodik kompetentligini integrativ yondashuv asosida takomillashtirish yo‘llari tahlil qilinadi. Tadqiqotning dolzarbligi zamonaviy geografiya o‘qituvchisidan nafaqat chuqur geografik bilimlarni, balki pedagogik, metodik, psixologik, raqamli, kommunikativ va tadqiqotchilik kompetensiyalarini o‘zaro uyg‘un holda qo‘llashni talab etishi bilan belgilanadi. Maqolada pedagogik oliy ta‘lim jarayonida geografik, pedagogik, psixologik, metodik, raqamli va amaliy tayyorgarlik komponentlarini integratsiyalashning nazariy va metodik imkoniyatlari yoritilgan. Fanlararo integratsiya, muammoli ta‘lim, loyihaviy faoliyat, amaliy mashg‘ulotlar, dala tadqiqotlari, geografik axborot tizimlari, raqamli geografik texnologiyalar, hamkorlikda o‘qitish va refleksiv faoliyat bo‘lajak o‘qituvchilarning kasbiy-metodik tayyorgarligini rivojlantirishning muhim vositalari sifatida asoslangan. Integrativ yondashuv asosida talabalarning nazariy geografik bilimlarini real pedagogik vaziyatlarda qo‘llash, geografiya darslarini loyihalash, zamonaviy ta‘lim texnologiyalaridan foydalanish,



o'quvchilarning geografik tafakkurini rivojlantirish va o'z pedagogik faoliyatini baholash ko'nikmalarini shakllantirish imkoniyatlari ko'rsatib berilgan. Tadqiqot natijalari bo'lajak geografiya o'qituvchilarining kasbiy va metodik kompetentligini alohida fanlar doirasida emas, balki yagona integratsiyalashgan ta'lim tizimi asosida shakllantirish samaraliroq ekanligini ko'rsatadi.

**Kalit so'zlar:** bo'lajak geografiya o'qituvchilari, kasbiy kompetentlik, metodik kompetentlik, integrativ yondashuv, geografiya ta'limi, fanlararo integratsiya, pedagogik tayyorgarlik, raqamli texnologiyalar, geografik axborot tizimlari, kasbiy rivojlanish, pedagogik ta'lim, amaliy ta'lim.

## Introduction

The modernization of contemporary education places increasing demands on the professional preparation of future teachers, particularly those who will teach subjects that require the integration of theoretical knowledge, practical experience, technological competence, and interdisciplinary thinking. Geography is one of the academic disciplines in which such integration is especially important because its content combines elements of natural sciences, social sciences, economics, ecology, cartography, information technologies, and regional studies. Consequently, the preparation of future geography teachers should extend beyond the acquisition of disciplinary knowledge and include the systematic development of professional and methodological competence. A modern geography teacher is expected to understand geographical concepts, interpret spatial processes, organize educational activities, employ appropriate teaching methods, use digital geographic resources, conduct field-based learning, and adapt instruction to the cognitive and educational needs of learners.

The development of professional and methodological competence in pedagogical universities requires a transition from fragmented disciplinary preparation toward an integrative educational model. In traditional teacher preparation, geography, pedagogy, psychology, teaching methodology, information technologies, and practical training may be studied as relatively independent components. Although each discipline has its own educational value, insufficient coordination among them can limit students' ability to transfer theoretical knowledge into practical



teaching situations. An integrative approach creates opportunities for establishing meaningful connections between academic disciplines and professional activities. Through such integration, future teachers can learn not only what geographical knowledge represents, but also how it should be selected, transformed, explained, visualized, assessed, and applied in classroom and extracurricular contexts.

The relevance of this approach is particularly significant in the context of educational transformation in Uzbekistan, where pedagogical higher education increasingly emphasizes competency-based learning, digitalization, practical preparation, independent learning, and the development of professionally oriented skills. Future geography teachers need to be prepared to work with interactive maps, geographic information systems, digital atlases, satellite imagery, virtual fieldwork environments, statistical databases, and other educational technologies. However, technological competence alone does not guarantee effective teaching. Digital tools must be integrated with pedagogical objectives, geographical content, methodological principles, and assessment strategies. Therefore, professional and methodological competence should be considered as an integrated system of interconnected knowledge, skills, values, attitudes, and reflective abilities.

An important characteristic of geography education is its strong connection with real-world phenomena. Climate change, population dynamics, urbanization, migration, environmental degradation, natural hazards, regional development, and spatial inequalities require learners to analyze information from different perspectives. Future teachers should consequently be able to design learning activities that connect geographical theory with authentic problems. Problem-based tasks, interdisciplinary projects, field observations, case studies, cartographic analysis, research assignments, and collaborative activities can contribute to the development of such abilities.

The integrative approach also strengthens the relationship between university preparation and school practice. Teaching practice should not be viewed merely as a final stage of professional education but as an integral component of competence development. When students connect methodological theory with classroom observation, lesson planning, microteaching, assessment, reflection, and practical experimentation, they acquire a more comprehensive understanding



of the teaching profession. Such preparation enables them to evaluate the effectiveness of instructional decisions and modify their approaches according to learners' needs.

Therefore, improving the professional and methodological competence of future geography teachers requires a comprehensive system in which disciplinary knowledge, pedagogical theory, methodological preparation, digital technologies, practical experience, communication, research activity, and reflection are interconnected. The purpose of this study is to identify and substantiate effective ways of improving the professional and methodological competence of future geography teachers through an integrative approach and to determine the pedagogical conditions that can support its implementation in pedagogical university education.

## **Methods**

The study employed a combination of theoretical, empirical, and pedagogical methods to examine effective ways of improving the professional and methodological competence of future geography teachers through an integrative approach. The methodological framework was based on the principles of competency-based, integrative, activity-oriented, practice-oriented, learner-centered, and interdisciplinary approaches. These approaches were selected because professional competence cannot be formed effectively through the isolated acquisition of theoretical knowledge. It requires the coordinated development of knowledge, practical skills, professional attitudes, communication abilities, technological literacy, and reflective capacities. The research was conceptually oriented toward the conditions of pedagogical universities and specifically considered the requirements associated with preparing future geography teachers for professional activity in secondary schools.

The theoretical stage of the study involved analysis, comparison, systematization, generalization, and interpretation of scientific and pedagogical literature related to teacher professional competence, methodological competence, geography education, interdisciplinary integration, competency-based education, digital learning, and pedagogical practice. Particular attention was given to approaches



that explain the relationship between subject-specific knowledge and pedagogical knowledge. The analysis made it possible to identify the principal components that should be integrated within the professional preparation of future geography teachers. These components included geographical knowledge, pedagogical knowledge, methodological knowledge, psychological understanding of learners, digital competence, communication skills, research competence, practical teaching skills, and professional reflection.

A structural-functional approach was used to determine the internal organization of professional and methodological competence. The competence was considered through several interconnected dimensions: motivational-value, cognitive, practical-activity, technological, communicative, and reflective. The motivational-value dimension reflected students' professional orientation, interest in geography teaching, responsibility, and understanding of the social significance of education. The cognitive dimension included geographical, pedagogical, psychological, and methodological knowledge. The practical-activity dimension focused on lesson planning, selection of teaching methods, organization of learning activities, assessment, classroom management, and application of geographical knowledge. The technological dimension concerned the effective use of digital maps, geographic information systems, multimedia resources, online platforms, and other educational technologies. The communicative dimension included interaction with pupils, colleagues, and other educational stakeholders. The reflective dimension involved self-assessment, analysis of teaching outcomes, identification of difficulties, and planning of professional improvement.

Empirical methods were used to identify the existing conditions and difficulties associated with the professional and methodological preparation of future geography teachers. Observation of educational activities was used to examine students' participation in lectures, seminars, practical classes, microteaching sessions, and pedagogical practice. Questionnaires and structured interviews were used to identify students' perceptions of their professional preparation, their confidence in selecting teaching methods, their ability to use digital geographic resources, and their readiness to organize learner-centered activities. Analysis of students' lesson plans, methodological assignments, project work, practical tasks,



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and reflective reports provided additional information about the development of professional skills.

The study also employed pedagogical modeling to construct an integrative framework for competence development. Within this framework, individual academic disciplines were connected through common professional tasks. For example, geographical content was integrated with teaching methodology through lesson-design activities; cartography and geographic information systems were connected with digital pedagogy; physical and human geography were linked with interdisciplinary project work; psychology was integrated into classroom management and differentiated instruction; and pedagogical practice was connected with reflection and assessment. This organization allowed students to apply knowledge acquired in different courses to common professional situations.

Practice-oriented tasks were used as an important methodological instrument. Future geography teachers were involved in designing problem-based lessons, developing interdisciplinary projects, preparing digital maps and presentations, analyzing geographical datasets, constructing assessment tasks, conducting micro-lessons, and evaluating peer teaching. Field-oriented assignments were also considered because direct observation of geographical phenomena provides opportunities to connect theoretical concepts with empirical evidence and subsequently transform field observations into educational materials.

The effectiveness of the proposed integrative approach was assessed through qualitative analysis of students' educational products and changes in their professional behavior. Attention was paid to the degree to which students could independently select appropriate methods, connect geographical content with pedagogical objectives, use digital resources purposefully, organize active learning, assess pupils' achievements, and critically reflect on their own teaching decisions. Comparative analysis of initial and subsequent performance indicators was used to identify developmental tendencies.

The methodological process therefore combined theoretical analysis, empirical investigation, pedagogical modeling, practice-oriented training, observation, diagnostic procedures, and reflective assessment. Such methodological integration corresponded to the central principle of the research: the professional



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and methodological competence of future geography teachers develops most effectively when different forms of knowledge and activity are deliberately connected within a coherent educational process.

## **Results**

The analysis demonstrated that an integrative approach creates favorable conditions for improving the professional and methodological competence of future geography teachers. The most significant result was the identification of a strong relationship between the quality of students' disciplinary knowledge and their ability to transform this knowledge into effective educational activities. Students who were systematically engaged in interdisciplinary and practice-oriented tasks demonstrated greater readiness to design geography lessons, select appropriate teaching methods, explain complex geographical concepts, and connect theoretical material with real-world situations. This indicates that professional preparation becomes more effective when geographical knowledge is consistently combined with pedagogical and methodological knowledge.

The results also showed that the development of competence should be organized as a continuous process rather than as a collection of separate academic activities. When students studied geography, pedagogy, psychology, teaching methodology, information technologies, and pedagogical practice without explicit connections between these areas, they experienced difficulties in applying theoretical knowledge to professional situations. In contrast, integrated assignments encouraged students to identify relationships among different areas of knowledge. For example, the study of climate and environmental processes could be combined with ecological education, digital cartographic visualization, statistical analysis, and the development of problem-based classroom activities. Such tasks enabled students to understand that professional geography teaching requires simultaneous consideration of content, pedagogy, methodology, technology, and learners' characteristics.

A particularly important result concerned the development of lesson-design competence. Before systematic integrative activities were introduced, students tended to focus primarily on the informational content of a lesson. Their lesson plans often emphasized what geographical material should be presented rather



than how learners should investigate, interpret, discuss, and apply that material. Integrative preparation gradually shifted this orientation toward learning outcomes and learner activity. Students increasingly formulated clear instructional objectives, selected teaching strategies according to those objectives, prepared differentiated tasks, incorporated visual and digital resources, and developed assessment criteria. This change indicates an improvement in the methodological dimension of professional competence.

The integration of digital technologies produced another important positive tendency. Future teachers became more capable of using digital geographic resources not simply as presentation tools but as instruments for learning and analysis. Interactive maps, geographic information systems, satellite images, digital atlases, online geographic databases, and multimedia materials were incorporated into educational tasks. Students learned to use these resources for spatial analysis, comparison, visualization, interpretation, and problem solving. The results suggest that digital competence becomes pedagogically meaningful when it is connected with geographical content and methodological objectives. Consequently, technological preparation should be embedded within professional methodology rather than taught exclusively as an independent technical component.

Project-based and problem-based activities also contributed to the development of professional competence. Students involved in interdisciplinary projects demonstrated greater independence in searching for information, evaluating sources, organizing geographical data, presenting findings, and collaborating with peers. Projects addressing environmental problems, urban development, population distribution, natural hazards, sustainable resource use, and regional differences provided opportunities to integrate physical geography, human geography, economics, ecology, statistics, and information technologies. At the same time, students had to consider how similar activities could be adapted for school learners. This strengthened their ability to transform academic geographical knowledge into age-appropriate educational content.

The results further indicated an improvement in communication and classroom-management skills. Microteaching and collaborative lesson analysis created situations in which future teachers had to explain geographical concepts clearly,



formulate questions, facilitate discussion, provide feedback, and respond to unexpected learning difficulties. Peer observation allowed students to compare different teaching strategies and identify strengths and weaknesses in their own performance. The use of reflective diaries and self-evaluation activities encouraged students to analyze their pedagogical decisions rather than simply reproduce prescribed teaching procedures.

Field-based activities demonstrated particular value for geography teacher preparation. Direct observation of landscapes, landforms, environmental conditions, settlement patterns, and human activities helped students develop practical geographical thinking. More importantly, field experiences were followed by methodological tasks in which students transformed observations into educational materials, worksheets, maps, research questions, and lesson activities. This connection between field experience and teaching methodology strengthened the practical orientation of professional preparation.

The findings also allowed the main pedagogical conditions supporting successful integration to be identified. These conditions included coordination among academic disciplines, systematic use of interdisciplinary assignments, integration of digital geographic technologies, strengthening of pedagogical practice, development of students' research activity, use of reflective assessment, and continuous cooperation between university teachers and school-based mentors. Another important condition was the creation of an educational environment in which students were encouraged to make independent methodological decisions and justify those decisions.

Overall, the results indicate that professional and methodological competence develops more effectively when future geography teachers repeatedly move between theoretical knowledge, practical application, pedagogical experimentation, technological implementation, and reflection. The integrative approach therefore provides a coherent framework for connecting the academic preparation of students with the real requirements of geography teaching and contributes to the formation of teachers who are more independent, flexible, technologically competent, methodologically prepared, and capable of organizing meaningful geographical learning.



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## **Discussion**

The findings indicate that improving the professional and methodological competence of future geography teachers requires a systematic integration of several dimensions of teacher preparation. The central issue is not simply the amount of geographical information acquired by students, but their capacity to transform this information into meaningful educational experiences. Geography teaching involves the interpretation of spatial relationships, analysis of environmental and socioeconomic processes, visualization of geographical information, organization of inquiry, and development of learners' geographical thinking. Therefore, professional competence emerges through the interaction of subject knowledge, pedagogical knowledge, methodological decision-making, technological skills, communication, and reflection.

The results support the idea that interdisciplinary integration should become a structural principle of geography teacher education. Geography itself is inherently interdisciplinary because it examines interactions between natural systems and human activities. Physical geography is connected with geology, biology, chemistry, ecology, and environmental sciences, while human geography is closely related to economics, sociology, history, demography, political studies, and statistics. When teacher preparation reflects these relationships, future teachers are better positioned to explain geographical phenomena as complex systems rather than isolated facts. This also enables them to develop interdisciplinary learning activities for school students and connect geographical concepts with broader scientific and social contexts.

The integration of pedagogy and geography methodology is equally important. Strong disciplinary knowledge does not automatically result in effective teaching. A future teacher may understand geographical processes accurately but still experience difficulties in explaining them to learners, selecting suitable instructional methods, determining appropriate levels of complexity, or assessing learning outcomes. Integrative preparation addresses this problem by requiring students to transform disciplinary knowledge into pedagogical content. For example, knowledge about atmospheric circulation can be converted into an inquiry-based activity involving maps, diagrams, data interpretation, hypothesis



formation, and discussion. In this process, geographical knowledge and methodological competence develop simultaneously.

The findings concerning digital technologies are particularly relevant to contemporary geography education. Geographic information systems, digital mapping, remote sensing materials, interactive atlases, virtual field trips, and spatial databases can significantly expand the possibilities of geography teaching. However, the educational effectiveness of these technologies depends on pedagogical purpose. If digital resources are used only for displaying information, their contribution to competence development remains limited. Future teachers therefore need to understand the pedagogical functions of digital geographic technologies and select them according to learning objectives. An integrative approach allows technological competence to be developed within actual methodological tasks, making digital literacy an organic part of professional preparation.

Another important issue is the relationship between university-based learning and pedagogical practice. The development of professional competence becomes more meaningful when students have opportunities to test theoretical ideas in realistic teaching situations. Microteaching, classroom observation, lesson planning, teaching practice, peer assessment, and reflective analysis create a continuous cycle of preparation, implementation, feedback, and improvement. This cycle reduces the distance between university coursework and school practice. Future teachers gradually learn that effective instruction requires adaptation to learners, classroom circumstances, available resources, and specific educational objectives.

Project-based learning also has considerable potential in this context. Geography provides numerous opportunities for projects involving environmental monitoring, demographic analysis, urban studies, regional comparisons, natural-resource management, climate-related investigations, and local geographical research. Such projects require students to combine information from multiple sources, apply analytical procedures, work collaboratively, communicate results, and make evidence-based judgments. For future teachers, project activities have an additional methodological function because they demonstrate how geographical inquiry can be organized among school learners. Thus, the same



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activity simultaneously develops students' professional competence and provides them with a model for future instructional practice.

The discussion also emphasizes the importance of reflective competence. Professional growth cannot depend exclusively on external assessment because teachers must eventually evaluate and regulate their own professional activity. Reflection enables future geography teachers to identify methodological difficulties, recognize ineffective instructional decisions, analyze learner responses, and formulate strategies for improvement. Reflective journals, self-assessment, peer feedback, lesson analysis, and teaching portfolios can support this process. Within an integrative model, reflection connects theoretical knowledge and practical experience by encouraging students to interpret their professional actions and consciously modify them.

The role of fieldwork deserves particular attention. Geography differs from many academic disciplines because its subject matter is strongly associated with spatial reality. Field observations allow students to investigate landscapes, environmental conditions, settlements, land use, and other geographical phenomena directly. Nevertheless, fieldwork becomes more valuable for teacher preparation when students learn how to convert observations into educational tasks. They should be able to formulate questions, organize measurements, construct observation sheets, use maps, collect data, and develop activities suitable for different age groups. Therefore, fieldwork should be connected with methodology, assessment, digital tools, and reflection.

The implementation of an integrative approach also requires changes in the organization of pedagogical university curricula. Integration should not mean simply adding more subjects or increasing students' workload. Instead, existing courses should be coordinated around common professional competencies and educational outcomes. Teachers of geography, pedagogy, psychology, methodology, and information technologies can jointly develop interdisciplinary assignments and assessment criteria. Such coordination can reduce unnecessary duplication of content while increasing opportunities for practical application.

The Uzbek pedagogical context makes this approach especially relevant because future teachers need to operate within an educational environment characterized by increasing digitalization, competency-oriented curricula, active learning, and



growing expectations regarding independent professional decision-making. The preparation of geography teachers should therefore combine national educational priorities with contemporary international approaches to geography education, while preserving attention to local geographical realities and school requirements. The discussion demonstrates that the integrative approach should be understood not as an individual teaching technique but as a comprehensive organizational and methodological principle. Its effectiveness depends on the coordinated integration of content, methods, technologies, practical experience, research activity, collaboration, and reflection. When these elements operate as a coherent system, future geography teachers acquire greater capacity to design educational processes independently, respond flexibly to pedagogical challenges, and establish meaningful connections between geographical knowledge and learners' real-world experiences.

## **Conclusion**

The study demonstrates that the professional and methodological competence of future geography teachers can be substantially strengthened through the systematic implementation of an integrative approach in pedagogical university education. The contemporary geography teacher is required to perform considerably more complex professional functions than the simple transmission of geographical information. Effective professional activity requires the ability to integrate geographical knowledge with pedagogical principles, psychological understanding, methodological strategies, digital technologies, research activities, communication, assessment, and reflective practice. Accordingly, teacher preparation should be organized as an interconnected system in which different components of professional development complement and reinforce one another.

The integrative approach provides an appropriate methodological foundation for achieving this objective because it establishes meaningful connections between academic disciplines and professional tasks. The integration of geography, pedagogy, psychology, teaching methodology, information technologies, ecology, cartography, statistics, and pedagogical practice allows future teachers to understand how knowledge acquired in different courses can be applied to



authentic educational situations. Such integration reduces the fragmentation of professional preparation and encourages students to develop a holistic understanding of the geography teaching profession. The effectiveness of this approach is particularly evident when students are required not merely to reproduce knowledge but to use it for designing lessons, solving educational problems, conducting investigations, developing projects, and assessing learning outcomes.

The research findings indicate that several pedagogical conditions are particularly important for improving professional and methodological competence. These include interdisciplinary coordination of academic disciplines, practice-oriented organization of learning, systematic integration of digital geographic technologies, strengthening of pedagogical practice, development of research competence, implementation of project-based and problem-based learning, collaborative professional activities, and continuous reflective assessment. These conditions should operate together because isolated methodological innovations cannot fully address the complex requirements of professional teacher preparation.

The development of digital competence represents another important direction. Future geography teachers should be able to use geographic information systems, interactive maps, digital atlases, satellite imagery, statistical databases, multimedia resources, and online educational platforms for clearly defined pedagogical purposes. The effective use of technology requires more than technical proficiency. Students must understand how a particular digital resource contributes to geographical thinking, spatial analysis, problem solving, inquiry, visualization, or assessment. Therefore, digital preparation should be integrated into geography methodology and pedagogical practice rather than treated exclusively as an independent technical area.

Practice-oriented education should also occupy a central position in the preparation of future geography teachers. Microteaching, school-based practice, fieldwork, project activities, classroom observation, lesson analysis, and peer assessment provide opportunities to connect theoretical knowledge with professional action. Through repeated cycles of planning, implementation, feedback, and reflection, students gradually develop greater independence in



making methodological decisions. This process helps them understand that effective teaching requires adaptation to learners' characteristics, educational objectives, geographical content, classroom conditions, and available resources. Field-based geographical activities have particular significance because they connect academic knowledge with direct observation of geographical reality. Future teachers should learn not only to conduct field investigations but also to transform field experiences into educational materials and learner-centered tasks. This may include developing observation sheets, geographical problems, mapping exercises, data-analysis activities, environmental investigations, and project assignments. Such integration strengthens both geographical and methodological competence and provides future teachers with practical models for organizing inquiry-based learning.

Reflective competence should likewise be regarded as an essential component of professional development. A competent geography teacher must be capable of evaluating the effectiveness of instructional decisions, identifying weaknesses, responding to learner feedback, and planning further improvement. Reflective journals, professional portfolios, self-assessment, peer review, and post-lesson analysis can contribute to the development of this capacity. Reflection creates a connection between experience and professional growth and helps students gradually develop the ability to regulate their own teaching activity.

For pedagogical universities, the findings suggest the necessity of strengthening cooperation among departments and ensuring greater coordination between theoretical courses and teaching practice. Academic programs should be designed around clearly defined professional competencies and should provide students with repeated opportunities to apply knowledge across disciplinary boundaries. University teachers and school mentors should cooperate in developing authentic professional tasks, evaluating students' teaching performance, and providing constructive feedback. This can improve continuity between university preparation and the actual professional requirements of schools.

The proposed approach is also relevant to the development of geography education within the broader educational context of Uzbekistan. Future teachers need to understand local geographical conditions while simultaneously mastering contemporary educational technologies and pedagogical approaches. Integrating



local geographical materials, regional environmental issues, demographic processes, economic development, cultural landscapes, and spatial transformations into student projects can make teacher preparation more relevant and practice-oriented. Such activities can also help future teachers develop the ability to connect global geographical processes with local realities.

Overall, the integrative approach should be regarded as a comprehensive strategy for improving the professional and methodological preparation of future geography teachers. Its value lies in connecting knowledge, activity, technology, communication, research, practice, and reflection within a unified educational process. The systematic application of this approach can contribute to the formation of teachers who possess strong geographical knowledge, methodological flexibility, digital competence, research skills, communication abilities, and readiness for continuous professional development. Further research may focus on developing diagnostic tools for measuring the individual components of professional and methodological competence, testing integrative models in different pedagogical universities, and establishing evidence-based criteria for evaluating the effectiveness of interdisciplinary teacher preparation.

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