NOVATEUR PUBLICATIONS
JournalNX- A Multidisciplinary Peer Reviewed Journal
ISSN No: 2581 - 4230
VOLUME 12, ISSUE 11, November– 2026

PEDAGOGICAL POTENTIAL OF COOPERATIVE LEARNING TECHNOLOGIES IN DEVELOPING THE PRACTICAL COMPETENCE OF FUTURE PHYSICAL EDUCATION AND SPORTS PROFESSIONALS

Rakhmatov Otabek Urinbosarovich
Associate Professor, Department of Sports Activities,
Doctor of Philosophy (PhD) in Pedagogical Sciences
Navoi State University,
Email: rahmatov.otabek@inbox.ru
Phone: +998 97 776-08-82
https://orsid.org/ 0000-0003-1288-3042
Science ID FNV-1126-0008

Abstract
This article provides a scientific and theoretical analysis of the pedagogical potential of using cooperative learning technologies to develop the practical competence of future physical education and sports professionals. Taking into account the specific characteristics of physical education and sports education, it highlights the importance of mutual cooperation, positive interdependence, individual accountability, collaborative activities, peer teaching, and reflective analysis in professional and practical training. Furthermore, the article substantiates the pedagogical mechanisms for integrating cooperative learning technologies into practical classes and examines their potential to develop students' abilities to make independent decisions, analyse motor activities, devise methodological solutions, and perform professional tasks in a team. Based on the research findings, the author proposes an original methodological approach to cooperative learning aimed at developing the practical competence of future professionals.

Keywords: cooperative learning, physical education, sports professional, practical competence, professional training, peer teaching, collaborative activities, pedagogical technology, reflective analysis.

Introduction

In the modern higher education system, the process of preparing future professionals for their careers requires not only the acquisition of theoretical knowledge but also the development of practical competencies that enable them to apply this knowledge independently, effectively, and purposefully in real professional situations. In particular, the professional activities of physical education and sports specialists encompass a range of interrelated tasks, including organising motor activities, teaching the techniques of physical exercises, managing training loads, taking into account the individual abilities of participants, complying with safety requirements, and making prompt decisions in pedagogical situations.

From this perspective, the use of pedagogical technologies based on active cooperation among students, the exchange of experience, and the collaborative performance of professional tasks,

alongside traditional reproductive teaching methods, is becoming increasingly important for developing the practical competence of future physical education and sports professionals.

In essence, cooperative learning is based on students engaging in interdependent activities to achieve a common goal, ensuring the individual accountability of each participant and enabling them to make a personal contribution to the collective outcome. In their research, D. W. Johnson and R. T. Johnson explain the effective implementation of cooperative learning through five essential elements: positive interdependence, individual and group accountability, promotive interaction, social skills, and group processing. [1; 67-73.]

The potential of this approach in physical education is particularly evident during practical classes. This is because, in the process of mastering physical exercises, students are involved not only in performing movements but also in observing their peers' movements, identifying technical errors, providing recommendations for correcting them, explaining the methodology of exercise performance, and engaging in peer assessment.

In a study conducted by Legrain, Escalié, Lafont, and Chaliès, cooperative learning, its form integrated with pedagogical support, and direct instruction approaches were comparatively examined in the preparation of prospective physical education teachers. The study involved 69 future physical education teachers. The findings demonstrated that cooperative learning offers positive opportunities for developing certain pedagogical knowledge and motor skills. The authors substantiated the potential of cooperative learning as a promising approach to the professional preparation of future teachers.[2; 284–295.]

Furthermore, a systematic review devoted to cooperative learning in physical education analysed studies published between 2014 and 2019 and identified the potential of this approach to promote social learning, motivation, a positive group climate, and pedagogical interactions. At the same time, the review emphasised that short-term and fragmented implementations may hinder the full realisation of the effectiveness of cooperative learning. [3; 73-86.]

Therefore, the implementation of cooperative learning in the training of physical education and sports professionals should not be regarded merely as a form of group work; rather, it should be organised as an integrated pedagogical technology aimed at the systematic development of specific components of practical competence.

Research Problem

The research problem lies in establishing a close connection between the existing didactic potential of cooperative learning and the professional and practical tasks of future physical education and sports professionals, as well as identifying mechanisms for integrating collaborative activities with individual practical outcomes.

Accordingly, the main objective of the study is to identify the pedagogical potential of cooperative learning technologies in developing the practical competence of future physical education and sports professionals and to develop methodological foundations for their integration into the educational process.

Methods

The present study is based on scientific approaches aimed at identifying the theoretical and methodological aspects of developing the practical competence of future physical education and sports professionals through cooperative learning technologies.

The research methodology is grounded in competency-based, systemic, activity-oriented, and cooperative approaches.

The competency-based approach focuses on developing future professionals' abilities to apply theoretical knowledge when performing professional and practical tasks, analyse pedagogical situations, and make independent decisions.

The systemic approach makes it possible to consider the objectives, content, organisational forms, methods, and assessment mechanisms of cooperative learning as an interconnected pedagogical system.

The activity-oriented approach involves acquiring professional experience through performing motor activities, analysing exercise techniques, developing teaching methodologies, and solving pedagogical tasks during practical classes.

The cooperative approach ensures that students collaborate towards a common goal, engage in peer teaching, demonstrate individual accountability, and contribute to achieving collective outcomes.

At the theoretical stage of the study, the following research methods are employed: analysis of scientific and pedagogical literature, comparative analysis, generalisation, systematisation, and pedagogical modelling.

At the practical and methodological stage, the following cooperative learning strategies are proposed for adaptation to physical education and sports classes:

1. Jigsaw – assigning individual group members specific components of professional tasks to study and subsequently explain to one another.
2. Peer Teaching – enabling students to explain and teach physical exercise techniques to their peers.
3. Peer Assessment – assessing peers' movement techniques and methodological performance according to established criteria.
4. Collaborative Problem Solving – jointly developing solutions to pedagogical and methodological problems arising during practical classes.
5.Group Reflection – discussing the outcomes of completed activities, identifying errors, and improving subsequent performance.

The selection of these strategies takes into account the theoretical principles of cooperative learning and empirical studies on the preparation of prospective physical education teachers.[4; 146-155.]

The structural components of practical competence are presented in the following table.

Within the framework of this study, we consider it appropriate to develop practical competence based on the following four interrelated components.

Table 1 Structural Components of Practical Competence

Component	Content	Manifestation in Cooperative Activities
Cognitive	Professional knowledge and methodological concepts	Explaining exercise techniques and teaching methods to one another.
Operational-Activity-Based	Motor and Practical Activity Skills	Performing, demonstrating, and teaching exercises.
Communicative and Collaborative	Communication, teamwork, and responsibility.	Mutual assistance, exchange of ideas, and task distribution.
Reflective-Evaluative	Analysis and evaluation of one's own activities.	Identifying errors, providing feedback, and analysing results.

These components constitute the main elements of the author-developed methodological approach proposed within the framework of this article.

Results

Based on the theoretical analysis of the study, it is possible to identify interrelated pedagogical mechanisms that contribute to the development of practical competence through the integration of cooperative learning technologies into the physical education and sports education process.

In our opinion, the effectiveness of cooperative learning is not determined solely by the organization of group activities. Its essential aspect lies in each learner's ability to perform individual professional and practical tasks, assume responsibility for the outcomes of their activities, and contribute to the development of other participants.

On this basis, we propose the following author-developed methodological sequence:

Table 2 Stages of Developing Practical Competence through Cooperative Learning

Stage Number and Title		Main Tasks and Content	Expected Outcome / Form of Activity
1.	**Goal-Setting and Motivational Stage**	Understanding the professional task, setting a common goal, and fostering motivation for collaboration.	Fostering a positive attitude and an intrinsic need for collaborative work among students and pupils.
2.	**Content-Based Cognitive Stage**	Acquiring professional knowledge and studying exercise techniques and teaching methodologies.	Developing a thorough understanding of essential theoretical knowledge and methodological approaches.
3.	**Cooperative-Practical Stage**	Performing exercises in small groups, engaging in peer teaching, and collaboratively solving professional tasks.	Collaborative activities, mutual assistance, and the joint development of practical skills.
4.	**Reflective-Evaluative Stage**	Analysing activity outcomes, conducting peer assessment, and correcting methodological errors.	Critical thinking and the timely identification and elimination of shortcomings.
5.	**Professional-Practical Outcome**	Making independent professional decisions, organizing training sessions, and demonstrating practical competence.	A high level of professional preparedness and the full demonstration of practical competence.

In the proposed sequence, each stage establishes the necessary pedagogical conditions for the subsequent stage. Specifically, at the initial stage, learners develop a shared professional goal and motivation for collaboration. At the next stage, they acquire the necessary theoretical and methodological knowledge. During cooperative-practical activities, the acquired knowledge is reinforced through the performance of actual movements and pedagogical tasks.

An important feature of this methodological approach is that each learner simultaneously assumes three professional roles:

- Performer – directly performs a physical exercise or practical task.
- Instructor – explains exercise techniques and performance methodologies to a peer.
- Analyst – observes a peer's performance, identifies errors, and provides recommendations for improvement.

The rotation of these roles enables learners not only to perform movements but also to develop experience in understanding them methodologically, teaching them, and evaluating performance.

Discussion

The scientific significance of the proposed methodological approach lies in integrating cooperative learning with the professional and practical content of physical education and sports specialist training.

According to Johnson and Johnson's theory of social interdependence, learners' collaboration towards achieving a common goal establishes an interconnected relationship between their individual activities and group outcomes. This provides a theoretical foundation for collaborative exercise performance, mutual monitoring, and the provision of methodological assistance in physical education sessions. [2; 284-295.]

The studies conducted by Legrain and co-authors highlight the importance of pedagogical support in the implementation of cooperative learning. In particular, prospective teachers need to be guided not only in performing practical tasks but also in understanding how to teach them and how to manage the learning process in their capacity as teachers.[5; 73-86.]

A systematic review by Ruiz-Sánchez and co-authors, published in Frontiers in Education in 2026, analysed 141 studies conducted between 2005 and 2025 on physical education and teacher training. The authors emphasise that experiencing a pedagogical model as a learner and being able to apply it independently as a future teacher do not necessarily lead to the same outcomes. Therefore, the processes of planning, practising, implementing, analysing, and adapting are considered essential components of pedagogical training.[6;]

In our opinion, these scientific findings highlight the need for a more comprehensive methodological justification of cooperative learning technologies in the training of physical education and sports specialists.

The distinctive feature of the proposed approach, compared with previous studies, is that it integrates not only the social and communicative outcomes of cooperative learning but also practical competence indicators, such as performing motor activities, teaching exercise techniques, conducting pedagogical analysis, and making professional decisions, within a unified methodological system.

In this regard, the implementation of cooperative learning technologies in practical classes requires the following pedagogical conditions:

- clearly defining the responsibilities of group members;
- jointly assessing individual and collective outcomes;
- ensuring the direct participation of every learner in practical activities;
- organizing peer teaching and the exchange of methodological feedback;
- conducting reflective analysis at the end of each training session.

Thus, the professional and practical effectiveness of cooperative learning should be determined not only by the overall group outcomes but also by assessing changes in the individual competence of each prospective specialist.

Conclusion

Based on the theoretical and methodological analyses conducted, the following conclusions have been drawn:

1. Cooperative learning technologies offer significant pedagogical potential for developing the practical competence of prospective physical education and sports specialists. They create opportunities for learners to engage in collaborative activities, exchange experiences, and jointly solve professional tasks.
2. The integration of cognitive, operational-activity, communicative-collaborative, and reflective-evaluative components is of considerable methodological importance in developing practical competence.
3. The use of Jigsaw, Peer Teaching, Peer Assessment, Collaborative Problem Solving, and Group Reflection strategies can help connect theoretical knowledge with practical activities, facilitate the teaching of motor skills, and foster professional and methodological experience.
4. The effective organization of cooperative learning depends on the integration of individual accountability, positive interdependence, mutual support, and mechanisms for the reflective evaluation of group activities.
5. The proposed author-developed methodological sequence makes it possible to organize cooperative learning as an integrated pedagogical process aimed at the professional and practical training of prospective physical education and sports specialists. Its effectiveness should be further examined through pedagogical experimental studies.

References

1. Johnson, D. W., & Johnson, R. T. (1999). Making cooperative learning work. Theory Into Practice, 38(2), 67–73. Maqola matni.
2. Johnson, D. W., & Johnson, R. T. (2017). The use of cooperative procedures in teacher education and professional development. Journal of Education for Teaching, 43(3), 284–295. DOI: 10.1080/02607476.2017.1328023.
3. Legrain, P., Escalié, G., Lafont, L., & Chaliès, S. (2019). Cooperative learning: A relevant instructional model for physical education pre-service teacher training? Physical Education and Sport Pedagogy, 24(1), 73–86. DOI: 10.1080/17408989.2018.1561838.
4. Bores-García, D., Hortigüela-Alcalá, D., Fernández-Río, F. J., González-Calvo, G., & Barba-Martín, R. (2021). Research on Cooperative Learning in Physical Education: Systematic Review of the Last Five

Years. Research Quarterly for Exercise and Sport, 92(1), 146–155. DOI: 10.1080/02701367.2020.1719276.

5. Legrain, P. va boshqalar. (2021). Designing and Implementing a Sustainable Cooperative Learning in Physical Education: A Pre-Service Teachers' Socialization Issue. Sustainability, 13(2), 657. DOI: 10.3390/su13020657.

6. Ruiz-Sánchez, L. R., Lara-Sánchez, J., Chacón-Cuberos, R., & Ceciliani, A. (2026). Active pedagogical approaches in physical education across school and higher-education contexts and in physical education teacher education: A systematic review of pedagogical models, outcomes and implementation conditions (2005–2025). Frontiers in Education, 11. DOI: 10.3389/feduc.2026.1959300.