



Project Activities in Education and Physical Culture: Risk Management

Ivanii Ihor¹, Ivanii Stanislav²

¹ Associate Professor of Department of theory and methods of physical culture, Sumy State pedagogical university named after A.S. Makarenko, Sumy, Ukraine

² Student of Department of theory and methods of physical culture, Sumy State pedagogical university named after A.S. Makarenko, Sumy, Ukraine.

Article Info

Article History:

Published: 30 June 2026

Publication Issue:

*Volume 3, Issue 6
June-2026*

Page Number:

466-470

Corresponding Author:

Ivanii Ihor

Abstract:

The article explores the theoretical and methodological principles of risk management within project activities of educational and physical culture and health-improving orientation. The relevance of the research topic is determined by the active implementation of the project approach in the educational sphere, the development of competency-based learning models, and the growing demands regarding the safety, quality, and effectiveness of the educational environment. The study identifies and analyzes the main categories of risks inherent in educational, sports, and health-improving projects, including pedagogical, medical and physiological, organizational and managerial, financial, and reputational risks. Contemporary approaches to risk assessment and risk reduction are examined, covering qualitative, quantitative, and integrated methods. Special emphasis is placed on the importance of incorporating risk management principles into all phases of the project life cycle, beginning with planning and continuing through implementation and completion. The necessity of moving from a reactive approach focused on addressing the consequences of risks toward a proactive management model based on continuous monitoring, digital solutions, and preventive control mechanisms is substantiated. Recommendations are developed of adapting modern risk management practices to the specific conditions of Ukrainian educational institutions and physical culture and sports organizations.

Keywords: educational projects, education, physical culture, project activities, risk management, risk monitoring

1. Introduction

Under the current conditions of education reform, project activities are considered one of the most effective tools for developing key competencies, fostering creative thinking and providing practical training for education seekers. They acquire particular significance in the field of physical culture, where educational, developmental and health-improving objectives are combined. Along with its advantages, the project approach is accompanied by a significant number of risks related to participants safety, resource provision, process organization and compliance with regulatory requirements.

Efficient risk management is an essential prerequisite for the successful realization of educational and physical culture and health-improving projects. The lack of a structured system for identifying and evaluating risks can result in reduced quality of project outcomes, inefficient use of resources and adverse effects on the health, engagement and motivation of participants. Consequently, the investigation of risk management mechanisms within this area remains an important scientific and practical issue.

The aim of this article is to summarize contemporary approaches to risk management in educational and physical culture and health-improving projects, define the main categories of risks and justify methods for incorporating risk management principles into the life cycle of project activities.

2. Literature Review

An analysis of recent research and academic publications reveals considerable interest among scholars in the study of project-based activities in the fields of education and physical education. The theoretical and practical foundations for addressing this issue are presented in the works of Ukrainian and international researchers, who focus on the methodological foundations of project-based learning, the specifics of organising educational projects ([1], [2] [3], [4]), issues of safety in the conduct of physical education and sports events ([5], [6], [7]), as well as the use of modern management approaches to risks in educational institutions ([8], [9]).

The issue of risk management is actively researched in the context of international project management standards, in particular ISO 31000 and PMBOK ([8], [9]). In accordance with these concepts, risk management involves the systematic implementation of processes for identifying, analysing, assessing and continuously monitoring risks, with the aim of ensuring the effective implementation of projects. At the same time, the specifics of implementing risk management in educational and physical education and health activities remain insufficiently covered in contemporary scientific research.

Current scientific studies emphasise the importance of comprehensively taking into account the psychophysiological characteristics of participants, safety requirements, resource constraints and the specific features of the educational environment when conducting risk assessments ([5], [10], [11]). Particular attention is paid to research aimed at ensuring the safety of physical education and sports events, preventing injuries and fostering a health-preserving approach in the educational process ([6], [7]).

A separate area of contemporary research is the digital transformation of project management processes ([3], [12], [13]). The use of digital platforms for monitoring, data analysis systems and electronic feedback tools helps to speed up management decision-making and ensures more effective tracking of project implementation. The use of such technologies is particularly important in physical education and health projects, as these require regular monitoring of participants' physical condition, exercise intensity and safety.

Despite the existence of a significant body of scientific research, questions remain regarding the integration of risk management systems into the lifecycle of educational and sports projects, as well as the adaptation of international risk management experience to the specific functioning of the Ukrainian education system.

3. Case and Methodology

The study was conducted using a range of methods, including the analysis and systematisation of academic sources, an examination of the regulatory framework and international standards in the field of project management, as well as contemporary concepts and practices in risk management. This approach provides a comprehensive understanding of the specific features involved in the development and implementation of a risk management system within the context of project activities.

During the risk assessment process, three key categories of methods were analysed: qualitative, quantitative and combined (hybrid). The group of qualitative methods includes expert assessment, SWOT analysis, PESTLE analysis and the Delphi method, the use of which makes it possible to identify potential risks and threats in a timely manner at the very early stages of project development. The quantitative approach is represented by sensitivity analysis and probabilistic-statistical modelling, which allow the degree of influence of risk factors on the main parameters and outcomes of the project to be determined. Hybrid methods involve the integration of scenario analysis using probability and consequence matrices, which facilitates a comprehensive consideration of the combination of pedagogical, organisational and medical-biological factors.

The methodological approach to risk management involves the implementation of a sequential system comprising four interrelated stages: risk identification, analysis, assessment and subsequent monitoring. The identification process involves determining potential threats and opportunities that may affect the achievement of the project's objectives. The analysis stage aims to establish the root causes of risk situations and determine the likelihood of their occurrence. Risk assessment involves determining their significance, prioritising them, and developing appropriate response measures. Monitoring ensures systematic observation of risk dynamics throughout the project lifecycle, as well as creating conditions for timely adjustment of management decisions.

Risk management is understood as a continuous and dynamic process, integrated into the overall quality assurance system of the educational process. Its implementation is aimed at optimising management procedures, minimising the negative impact of uncertainty, and enhancing the effectiveness of educational and physical education and health projects.

4. Results & Analysis

The conducted analysis revealed that risks within educational and physical culture and health-improving projects have a multidimensional character and include several interconnected categories.

Pedagogical risks involve inconsistencies between project content and participants' age-related characteristics, insufficient methodological preparedness of project organizers and reduced motivation among education seekers. These factors may negatively influence learning effectiveness and hinder the achievement of expected project results.

Medical and physiological risks are associated with possible injuries, excessive physical exertion, deterioration of chronic health conditions and violations of safety standards during physical culture and health-improving activities. This category represents the most significant group of risks because it directly influences participants' health and requires continuous supervision by teachers, trainers and healthcare specialists.

Organizational and managerial risks emerge as a result of limited resources, ineffective planning, insufficient coordination among project participants and inadequate professional qualifications of personnel. Additional categories include financial and reputational risks, which may influence project sustainability and reduce confidence among participants and stakeholders.

The comparative evaluation of risk assessment methods demonstrated that integrated approaches, which combine expert analysis with quantitative evaluation tools, provide the greatest effectiveness. Such methods ensure more accurate forecasting and allow consideration of the specific characteristics of the educational environment, where project outcomes often involve qualitative changes and long-term effects.

The study confirmed that incorporating risk management principles into every stage of the project life cycle contributes to improving participant safety, optimizing resource utilization, and enhancing the overall quality of project outcomes. Practical implementation of this approach requires the development of the risk registers, preparation of emergency response procedures, regular medical assessments, and the application of digital monitoring system for tracking project performance indicators.

A significant conclusion of the research is the necessity of shifting from a reactive approach, focused on responding to already occurring risks, toward a preventive management model. Such an approach allows potentials threats to be identified in advance, reduce their possible negative consequences, and supports the sustainability of educational and physical culture and health-improving programs.

5. Conclusion

Project activities within the fields of education and physical culture require the consistent integration of risk management mechanisms that consider pedagogical, organizational, medical-biological, and social factors influencing project implementation. The application of contemporary risk management approaches enables the creation of safe conditions for participants, improves the effectiveness of project activities, and supports the sustainable development of educational, sports, and health-improving initiatives.

The findings of the study confirm the necessity and effectiveness of shifting from a reactive model of risk response toward a proactive management approach based on continuous monitoring, risk prevention, and timely implementation of corrective measures. This approach contributes not only to reducing potential negative, the development of project management culture, and the formation of a responsible attitude toward safety among all participants involved in project activities.

The practical value of the obtained results is determined by the possibility of their implementation in the design of educational programs, the organization of physical culture and health-improving activities, and the enhancement of internal management system within educational institutions. The suggested approaches can be adapted to different

types of educational organizations and contribute to improving the efficiency of project implementation in response to the challenges of the modern educational environment.

Future research perspectives include the development of digital systems for risk identification and assessment, the application of predictive analytics methods, the integration of artificial intelligence technologies, and the introduction of automated platforms to support managerial decision-making processes in the areas of education and physical culture.

References

- [1] J. S. Vogler, P. Thompson, D. W. Davis, B. E. Mayfield, P. M. Finley, and D. Yasseri, “The hard work of soft skills: augmenting the project-based learning experience with interdisciplinary teamwork,” *Instr. Sci.*, vol. 46, no. 3, pp. 457–488, Jun. 2018, doi: 10.1007/s11251-017-9438-9.
- [2] S. Bell, “Project-Based Learning for the 21st Century: Skills for the Future,” *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, vol. 83, no. 2, pp. 39–43, Jan. 2010, doi: 10.1080/00098650903505415.
- [3] I. B. Vasheniak, *Proiektna diialnist yak mekhanizm innovatsiinoho rozvytku zakladu osvity [Project activity as a mechanism for innovative development of an educational institution]: Zb. nauk. pr. Khmelnytskyi: Vydavnytstvo KhoIPPO im. Anatoliia Nazarenka*, 2024.
- [4] L. O. Savchenko, “Proiektna diialnist v praktytsi vyshchoi pedahohichnoi shkoly [Project activity in the practice of higher pedagogical school],” *Science and Education a New Dimension / Society for Cultural and Scientific Progress in Central and Eastern Europe*, pp. 7–12, 2013.
- [5] O. Likhachov, “Proiektna diialnist na urokakh fizychnoi kultury yak zasib pidvyshchennia zatsikavlenosti uchniv starshykh klasiv u predmeti [Project activity in physical education lessons as a means of increasing the interest of high school students in the subject],” in *Proc. IV All-Ukrainian Sci.-Pract. Conf. Physical Culture and Sport. Challenges of Today*, Kharkiv, 2024, pp. 40–46. doi: 10.5281/zenodo.14025772.
- [6] O. O. Nesen and O. L. Likhachov, “Proiektne navchannia na urokakh fizychnoi kultury [Project-based learning in physical education lessons],” in *Proc. I All-Ukrainian Sci.-Pract. Conf. Physical Education, Life Safety and Modern Production Technologies*, Kharkiv, 2024, pp. 108–112.
- [7] N. V. Moskalenko, O. O. Kosheleva, and T. V. Sydorchuk, *Fizychnye vykhovannia v zakladakh vyshchoi osvity: innovatsiini pidkhody [Physical education in higher education institutions: innovative approaches]*. Dnipro, 2022.
- [8] International Organization for Standardization, “ISO 31000:2018 Risk management — Guidelines,” 2018. [Online]. Available: <https://isu.net.ua>
- [9] Project Management Institute, *A Guide to the Project Management Body of Knowledge (PMBOK Guide)*, Seventh. Newtown Square, Pennsylvania: Project Management Institute, 2021.
- [10] *Aktualni problemy fizychnoi kultury i sportu v suchasnomu suspilstvi [Actual problems of physical culture and sports in modern society]: zb. nauk. pr. VII Vseukr. nauk.-prakt. konf.* Zhytomyr: Vyd-vo ZhDU im. I. Franka, 2025.
- [11] S. S. Izbash, “Proiektna diialnist yak faktor sotsialno-profesiinoi adaptatsii studentiv pedahohichnoho universytetu [Project activity as a factor of social and professional adaptation of pedagogical university students],” Melitopol State Pedagogical University, Melitopol, 2007.
- [12] Z. O. Vozna, *Orhanizatsiia proektnoi diialnosti uchniv: navchalno-metodychnyi posibnyk dlia studentiv osvitnyoho stupenia “mahistr” dennoi ta zaochnoi formy navchannia [Organization of students’ project activity: a textbook for master’s degree students of full-time and part-time education]*. Uman: VPTs Vizavi, 2019.

- [13] O. V Prypoten, “Osoblyvosti upravlinnia proiektnoiu diialnistiu u zakladi zahalnoi serednoi osvity [Features of project activity management in a general secondary education institution],” *Pedahohichni nauky: teoriia ta praktyka*, vol. 2, no. 3, pp. 143–149, 2020, doi: 10.26661/2522-4360-2020-3-2-21.