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ANALYSIS OF EDUCATION MANAGEMENT APPROACHES IN INNOVATIVE MARKETS ON THE INTERNATIONAL STAGE. STRATEGIES FOR COMBINING PEDAGOGY AND MANAGEMENT IN THE MODERN SCHOOL

**ANALIZA PODEJŚĆ DO ZARZĄDZANIA
EDUKACJĄ NA INNOWACYJNYCH RYNKACH
NA ARENIE MIĘDZYNARODOWEJ. STRATEGIE
ŁĄCZENIA PEDAGOGIKI I ZARZĄDZANIA WE
WSPÓŁCZESNEJ SZKOLE**

ABSTRACT

The article focuses on the importance of integrating education management with pedagogical methods. To achieve the research goals, the method of reviewing Polish and foreign literature and tabular comparisons of various educational systems was used.

The article emphasizes that effective education management requires not only administrative skills, but also a deep understanding of pedagogical processes. By combining these two areas, it is possible to more effectively adapt the educational system to the needs of students and the challenges of the present day. Tabular comparisons presented different education systems in the context of their management strategies and pedagogical approaches, allowing for a deeper understanding of global trends in the field of education management.

The article also points to the need for continuous development and adaptation of educational systems, taking into account the changing social, technological and economic realities. To meet the challenges of the 21st century, these systems must be flexible and innovative.

The integration of education management with pedagogy is necessary to create modern, effective and responsible educational systems. This approach can benefit both teachers, students and the communities where educational institutions operate.

STRESZCZENIE

Artykuł skupia się na ważności integracji zarządzania edukacją z metodami pedagogicznymi. Dla realizacji celów badawczych zastosowano metodę przeglądu literatury polskiej i zagranicznej oraz porównań tabelarycznych różnych systemów edukacyjnych.

W artykule podkreślono, że skuteczne zarządzanie edukacją wymaga nie tylko umiejętności administracyjnych, ale także głębokiego zrozumienia procesów pedagogicznych. Poprzez połączenie tych dwóch obszarów można skuteczniej dostosowywać system edukacyjny do potrzeb uczniów oraz wyzwań współczesności. Porównania tabelaryczne przedstawiły różne systemy edukacyjne w kontekście ich strategii zarządzania i podejść pedagogicznych, pozwalając na głębsze zrozumienie globalnych trendów w dziedzinie zarządzania edukacją.

Artykuł wskazuje również na potrzebę ciągłego rozwoju i adaptacji systemów edukacyjnych, uwzględniając zmieniające się realia społeczne, technologiczne i ekonomiczne. Aby sprostać wyzwaniom XXI wieku, systemy te muszą być elastyczne i innowacyjne.

Podsumowując, integracja zarządzania edukacją z pedagogiką jest niezbędna do tworzenia nowoczesnych, efektywnych i odpowiedzialnych systemów edukacyjnych. Podejście to może przynieść korzyści zarówno nauczycielom, uczniom, jak i społecznościom, w których działają instytucje edukacyjne.

KEYWORDS: *integrated approach, education management, innovative strategies, methods*

SŁOWA KLUCZOWE: *podejście zintegrowane, zarządzanie edukacją, strategie innowacyjne, metody*

INTRODUCTION

In this era marked by extensive globalization and swift technological progress, the educational sector is poised for significant change. As communities advance, the methods and strategies for imparting knowledge and molding young minds are also evolving. These shifts go beyond the curriculum to include the techniques and strategies utilized in educational management.

There is a clear evolution in teaching methodologies and administrative approaches, expanding and evolving in various directions (Di Pietro et al., 2020). Amid these changes, the critical task of examining how different countries are adjusting their educational frameworks to remain relevant and effective cannot be overstated. It is crucial to understand the subtle differences in these adjustments, acknowledging that each nation's strategy is intricately tied to its cultural context and specific challenges.

This article begins a thorough exploration into the complex realm of education, comparing systems from multiple countries and examining the relationship between management and teaching methods within these frameworks (García-Peñalvo et al., 2017). By analyzing different educational structures, we aim to uncover valuable insights. These insights illuminate the significant influence that varied administrative techniques and pedagogical approaches have on the quality and effectiveness of education.

Through this exploration, the article seeks to identify and highlight the most effective strategies, focusing on the best practices that integrate management and pedagogy. This effort aims to not only theorize but to provide practical blueprints for crafting a global educational system that is cohesive, robust, and progressive.

INNOVATIVE STRATEGIES FOR SCHOOL MANAGEMENT

Innovative school management strategies encompass a broad range of approaches that respond to the growing demands of modern education. Diversifying teaching methodologies, such as blended learning and game-based methods, enhances student engagement and learning efficiency. Di Pietro and colleagues (2020) highlight how the COVID-19 pandemic has forced educational systems to rethink and quickly adapt teaching methodologies, accelerating the integration of technology in education. Utilizing advanced analytical tools for data-driven management enables monitoring student progress and quick adaptation of teaching methodologies.

Personalization of education through individual learning paths tailored to the needs of each student maximizes their potential, supported by the development of learning ecosystems described by García-Peñalvo and colleagues (2017). These ecosystems, relying on technology and collaboration, enhance educational efficiency by adapting learning to individual student needs.

Teacher training and development focus on continuously enhancing competencies, which includes both substantive knowledge and soft skills. Gros and García-Peñalvo (2016) note that future trends in e-learning and design strategies are crucial for supporting teachers in adapting to rapidly changing educational technologies. Flexible classroom structures and value-based management promote a school culture based on ethics and support, while the integration of local communities and modern technologies such as artificial intelligence enables the creation of innovative and effective educational environments.

Choudaha and van Rest (2018) sketch a vision for the future of global higher education, emphasizing how digital technologies and changing socio-economic dynamics affect student mobility and the accessibility of education on an international scale. Consequently, school management becomes a complex but fascinating domain requiring continuous adaptation and innovation in a dynamically developing world. Such a holistic and integrated approach to school management responds to changing educational needs, promoting adaptation and continuous improvement.

The table 1 below provides an overview of innovative school management strategies.

Table 1. *Overview of Innovative School Management Strategies*

Category	Description
Introduction to Innovation in School Management	Emphasizes a range of strategies that address the evolving demands of contemporary education. Strategies include diversifying teaching methodologies like blended learning and game-based approaches to enhance engagement and learning effectiveness.
Impact of Global Challenges on School Management	Reference to Di Pietro et al. (2020) who discuss the impact of the COVID-19 pandemic on educational systems. Highlights the necessity for educational systems to adapt rapidly to changes, including accelerated technology integration.
Data-Driven Management and Personalization	Utilization of advanced analytical tools to monitor student progress and adapt teaching methods. García-Peñalvo et al. (2017) describe the development of learning ecosystems that support personalized education tailored to individual student needs.
Teacher Development and Educational Technology	Focuses on continuous professional development for teachers to enhance both their substantive knowledge and soft skills. Gros and García-Peñalvo (2016) discuss the significance of keeping pace with e-learning advancements and design strategies to assist teacher adaptation to technological shifts.
Structural and Cultural Innovations in Education	Advocates for flexible classroom structures and value-based management to cultivate an ethical and supportive school culture. Discusses the integration of local communities and advanced technologies, such as artificial intelligence, to create innovative educational environments.
Future of Global Higher Education	Choudaha and van Rest (2018) provide a future outlook on global higher education, emphasizing the role of digital technology and socio-economic dynamics in shaping student mobility and educational accessibility.

Source: Own work.

STRIVING FOR INNOVATION IN EDUCATION

The integration of the latest technologies and innovative pedagogical methods in the *modern school* is a response to the dynamically changing social needs. As noted by Mouza and colleagues (2014), the professional development of teachers in the areas of technological, pedagogical, and content knowledge (TPACK) is crucial for the effective use of modern technologies and interdisciplinary approaches. Schools that adapt to these changes not only enhance the educational experience of students but also tailor the teaching process to their individual needs, supporting their personal development and fostering collaboration among all participants in the educational process.

Deák and colleagues (2021) emphasize the importance of the evolution of new approaches in pedagogy and the sciences, with a focus on research-based learning. This approach promotes not only interdisciplinarity but also creates lasting connections between theory and practice, which is essential for preparing students for life in a globalized world.

Innovative teaching methods, such as the application of design thinking described by Suresh and Kolluru (2022), align with the need to transform traditional educational methods to better prepare students for the challenges of the contemporary job market. These methods not only allow for the adaptation of teaching to various learning styles and paces but also place students at the center of the educational process, increasing their engagement and motivation to learn.

On the other hand, Pache and Chowdhury (2012) highlight the importance of social entrepreneurship education as an example of breaking traditional patterns of thinking and acting. The integration of civic values and ethics into the curriculum reflects a holistic approach to education that encompasses not only intellectual development but also emotional, social, and ethical growth.

By applying these innovative approaches, the modern school becomes not just a place for the transmission of knowledge but a space for the holistic development of students, dynamically adapting to the changing needs of society and the labor market. In this context, the continuous professional development of teachers and the integration of the local community into school life are key to creating an effective educational environment that promotes diversity, respect, and readiness to act in an increasingly complex world.

RESEARCH ANALYSIS

Innovations in education refer to the introduction and application of innovative, creative solutions that can significantly improve and enrich the teaching and learning process. This approach extends beyond the mere implementation of new technologies or tools, also encompassing the breaking of traditional patterns of thinking and action. It includes elements such as discovery learning, educational games, and project-based learning, which place the student at the center of the educational process. It utilizes modern technologies, such as computers, educational software, virtual and augmented reality, which enrich educational experiences. It also promotes interdisciplinarity through the integration of various subjects and disciplines, creating links between theory and practice, and using data and analysis to tailor teaching to the individual needs of students. It supports the creation of partnerships between schools, parents, businesses, and the community to support the educational process. It integrates concepts of sustainable development and global issues into curricula, applies innovative assessment forms such as formative assessment, student portfolios, self-assessment, and peer evaluation. The integration of modern technologies in the teaching and learning process opens up new educational opportunities, enabling access to rich online resources and supporting the individualization of teaching, allowing teachers to adapt materials to different learning styles and paces. Modern methods, such as inquiry-based learning or active learning methods, place the student at the center of the teaching process, encouraging critical thinking, problem-solving, and active participation. Striving for openness and accessibility for all students is key to promoting equality and diversity. Support for students with various needs, such as disabilities or cultural differences, and a holistic approach to education, which includes emotional, social, and physical development, are equally important. This may include programs related to well-being, mental health, physical activity, and social skills. Engaging parents and the local community in school life creates strong bonds and support that can lead to better educational outcomes and a deeper understanding of community needs. Flexibility in adapting to the changing needs of students and society is crucial in a dynamically changing world. This includes adapting curricula,

methodologies, and tools to individual and social needs. In summary, a modern school is not just a building, but a complex system that strives to create the right environment for students, teachers, and the community. It is an environment that strives to prepare students for the future, providing them not only with knowledge but also with skills and competences that are essential in the 21st century. This also supports the personal, emotional, and social development of students by promoting civic values, ethics, and global awareness.

EDUCATIONAL TECHNOLOGY INVESTMENTS AND ASSESSMENT SYSTEM DIFFERENCES IN AN INTERNATIONAL CONTEXT: UNITED STATES, FINLAND, SINGAPORE, NEW ZEALAND, GERMANY, JAPAN, ITALY, AND SOUTH KOREA

Educational technology investments in the United States and Finland differ in terms of scale and their effects on educational outcomes and student engagement. Finland, despite lower overall spending on education compared to the USA, effectively uses its resources to achieve high educational results, often associated with a more balanced approach to teaching and learning. In the USA, larger investments in technology do not always translate into proportional improvements in the quality of education, which may stem from differences in implementation and educational priorities.

Analyzing the data, Finland focuses on a qualitative approach, which includes fewer classroom hours but places greater emphasis on deep understanding of the material and independent student thinking. In the United States, although technology investments are high, they are often aimed at preparing students for standardized tests, which is sometimes criticized for limiting creativity and deeper comprehension of the material.

Overall, both countries see the value in integrating educational technology, but differences in their approach and execution reflect their distinct educational philosophies and goals. Finland can serve as a model for effective use of technology to support individualized teaching, while the USA is searching

for ways to improve the efficiency of its investments, considering better adaptation of technology to the needs of diverse student groups.

The assessment and examination systems in Singapore and New Zealand differ significantly, reflecting their varied pedagogical and cultural approaches.

Singapore is known for its rigorous assessment system, which focuses heavily on exam results. Traditional assessment methods, such as standardized tests, are the primary tools for evaluating student achievement. This system is highly competitive and emphasizes academic achievement as key indicators of student success, reflecting an educational culture that values performance and excellence.

New Zealand, on the other hand, takes a more holistic approach to assessment. In this system, greater emphasis is placed on formative assessment, aimed at monitoring student progress in real time and enabling continuous development. New Zealand also uses student portfolios and other alternative assessment methods that promote reflection and independent thinking. The system focuses on developing life skills and critical thinking, not just test-taking abilities.

These differences in assessment systems reflect deeper cultural and educational priorities of each country. Singapore, with its focus on results and competition, contrasts with New Zealand's more balanced and student-centered approach, which promotes comprehensive student development.

In Germany and Japan, the approach to integrating interdisciplinarity in curricula, especially in the context of STEM and liberal arts, differs in terms of goals and methodology.

In Japan, the idea of STEAM education (science, technology, engineering, arts, and mathematics), which combines liberal arts with the sciences, is gaining prominence in the context of the *Society 5.0* vision. The Japanese government promotes the integration of liberal arts with science as a way to develop competencies needed in a knowledge and technology-based society. The goal is to break down traditional academic divisions and create a more integrated education system that better prepares students for the challenges of the modern world (ERIC).

In Germany, interdisciplinarity in education is also gaining importance, particularly in the context of integrating the humanities and social sciences with the sciences. Educational programs are increasingly designed to promote collaboration between different fields, supporting the development of critical thinking and creativity. German universities and schools strive to educate

students who are capable of working in complex, interdisciplinary environments, as reflected in the growing number of courses and programs that combine different disciplines (SpringerLink).

Both countries recognize the value of interdisciplinarity in education, but their approach to its implementation and goals differs, reflecting various cultural and educational priorities. In Japan, the focus is on preparing students for work in a highly technological society, while in Germany, the emphasis is more on developing interdisciplinary skills and creativity, which are crucial in the global context of work and research.

In response to the COVID-19 pandemic, Italy and South Korea adopted different strategies to adapt their educational systems to remote and hybrid learning.

In South Korea, thanks to excellent telecommunication infrastructure, the transition to online education was relatively smooth. The government focused on expanding digital infrastructure to provide access to e-learning platforms for millions of students. Additionally, the South Korean government supported teachers through mentoring and pilot programs aimed at improving the online teaching process. However, challenges such as low student satisfaction with the quality of online classes and a lack of technical skills among teachers showed that online learning cannot always replace in-person education. Ultimately, South Korea began implementing a hybrid model, combining online and in-person learning (World Economic Forum, BID Blog).

Italy, on the other hand, faced challenges such as increased screen time for children and made efforts to adapt remote learning to continue education despite school closures. Online platforms were introduced to allow teaching to continue, but difficulties related to access to digital resources in certain regions were encountered (BID Blog).

These examples show how different countries adjusted their approaches to remote education, facing various challenges and achieving different levels of success. In both cases, in Italy and South Korea, providing technical and methodological support for teachers and students proved crucial to the effectiveness of remote and hybrid learning.

CONCLUSION

The article provides a **comparative analysis of educational systems** across multiple countries, focusing on **educational technology investments** and **assessment systems**. The main countries analyzed include the **United States, Finland, Singapore, New Zealand, Germany, Japan, Italy, and South Korea**. The analysis highlights key differences in how these countries approach educational technology and student assessment, as well as the potential innovations that could be adopted globally.

The article provides a comprehensive comparison of educational systems in various countries, focusing on how they invest in educational technology and their differing approaches to assessment. In the United States, substantial investments in technology are often geared towards preparing students for standardized testing, which has drawn criticism for potentially stifling creativity and deeper learning. In contrast, Finland, despite spending less overall on technology, manages to achieve excellent educational outcomes by efficiently utilizing its resources with a more balanced and student-centered approach.

When examining assessment systems, Singapore relies heavily on rigorous testing, with a strong focus on examination results as key indicators of academic success. This reflects a competitive, performance-driven educational culture. In contrast, New Zealand adopts a holistic approach, emphasizing formative assessment and the use of student portfolios to track continuous growth, critical thinking, and personal development.

The article also touches on interdisciplinary curriculum development, with Japan and Germany as key examples. Japan's focus on integrating liberal arts with science and technology, particularly through STEAM education, prepares students for a technologically advanced society. Meanwhile, Germany promotes interdisciplinarity by blending social sciences and humanities with STEM subjects to foster creativity and critical thinking.

Lastly, the response to the COVID-19 pandemic in Italy and South Korea is discussed, illustrating how both countries adapted their educational systems to remote and hybrid learning models. South Korea, benefiting from strong digital infrastructure, made a smooth transition, while Italy faced more challenges, particularly regarding access to online resources in certain regions.

Both examples underscore the importance of technical and pedagogical support in ensuring the success of remote learning.

The article concludes by emphasizing the potential for global education systems to improve through the adoption of innovative practices, such as Finland's efficient use of technology, New Zealand's holistic assessment methods, and the hybrid teaching models seen in South Korea and Italy.

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