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The Role of Educational Technology and Learning Innovation in Improving the Quality of Education

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Abstract: Literature Review of the role of educational technology and learning innovation in improving the quality of education is a scientific article with the aim of analyzing whether the quality of education plays a role in educational technology and learning innovation. The qualitative approach method with a literature review method to explore and analyze the relationship between educational technology, learning innovation and the quality of education. The results of this article are: 1) Educational Technology plays a role in the Quality of Education; 2) Learning Innovation plays a role in the Quality of Education. In addition to these two exogenous variables that influence the endogenous variable of the Quality of Education, there are still many other factors including curriculum, facilities and infrastructure, teacher quality.

Keywords: Educational Technology, Learning Innovation, Education Quality.

INTRODUCTION

The development of digital technology has brought significant changes to the world of education. The use of educational technology no longer serves merely as a medium for delivering material but has become a crucial part of creating a more effective, interactive, and student-centered learning process. Various digital learning platforms, educational applications, and the use of artificial intelligence (AI) provide teachers with the opportunity to develop more innovative learning strategies tailored to student needs. According to (Natalia., Muhtarom., 2024) educational technology plays a crucial role in improving the quality of education by expanding access to learning, increasing learning effectiveness, and strengthening student competencies in the digital era.

In addition to the use of technology, learning innovation is an equally important factor in improving the quality of education. Learning innovation is an effort to update methods, media models, and learning approaches to make the learning process more engaging, active, collaborative, and meaningful. Teachers are required to be able to integrate technology with innovative learning models so that students not only gain knowledge but also develop the critical thinking, creativity, communication, and collaboration skills needed in the 21st century. According to (Sari & Munir., 2024) the use of digital technology combined with learning innovation can increase student engagement, learning motivation, and the effectiveness of classroom learning activities.

The application of educational technology and learning innovation also has a positive impact on improving the overall quality of education. Technology integration enables the learning process to be more flexible, adaptive, and able to reach students with diverse characteristics. Furthermore, learning innovation encourages teachers to continuously improve their professional competencies, thus improving the quality of learning and adapting to current developments. According to (Sanihah, 2024) the success of improving the quality of education is greatly influenced by the ability of educational institutions to optimize the use of technology as a means of effective and sustainable learning transformation.

This study aims to determine whether educational technology and learning innovation contribute to the quality of education. Based on the previously described research questions, the research questions in the Literature Review are as follows:

1. Does Educational Technology contribute to the Quality of Education?
2. Does Learning Innovation contribute to the Quality of Education?

METHODS

This study uses a qualitative approach with a literature review method to explore and analyze in depth the role of educational technology and learning innovation in education quality. The literature review was conducted by examining various reliable scientific sources, including journals, books, articles, and research reports relevant to the topic.

RESULTS AND DISCUSSION

Quality of Education

Educational quality is the degree to which educational institutions succeed in producing students with the knowledge, skills, character, and adaptability required to meet educational objectives. Educational quality is not only measured by student learning outcomes but is also influenced by the quality of teachers, the learning process, the curriculum, infrastructure, and the educational management system. Educational quality is the ability of educational institutions to produce superior graduates through effective learning, sound management, and continuous quality improvement (Syukri, Farhaini, 2024).

The quality of education indicates the level of success of the education system in developing competent, character-based human resources capable of facing the challenges of modern development (Yusuf et al., 2024). According to (Sudrajat., 2024) the quality of education reflects the effectiveness of all educational components in producing graduates with academic abilities, skills, and character that meet the needs of society and the workplace.

The indicators contained in the quality of education according to Heneveld in (Widiyarti and Suranto., 2019) are: 1) Supporting Inputs; 2) Enabling Condition; 3) School Climate; 4) Teaching Learning Procces; 5) Student out Comes.

The quality of education has been widely studied by previous researchers, including: (Yusuf, A., Abidin, A. Z., Anwar, S., & Romlah, R., 2024), (Sudrajat, A., Juansyah, E. Z., Wardah, F., & Andayani, R., 2024), (Suncaka, E., 2023), (Azri, A., & Raniyah, Q., 2024).

Educational Technology

Educational technology is a field that utilizes various technologies, methods, and learning resources to support a more effective and efficient learning process. The use of educational technology not only focuses on the use of digital devices but also encompasses the design, management, implementation, and evaluation of learning to optimally achieve educational goals. According to (Azis et al., 2024) educational technology is the application of information and communication technology in the learning process to improve learning quality, expand access to learning, and support the achievement of better learning outcomes.

Educational technology plays a role in supporting the transformation of learning through the use of digital technology that can increase the effectiveness of the teaching and learning

process and adapt education to the needs of the digital era (Sinaga & Firmansyah., 2024). According to (Januszewski & Molenda., 2023) educational technology is the study and ethical practice of facilitating learning and improving performance through the creation, use, and management of technological processes and resources that are appropriate to the needs of students.

According to (Bond et al., 2024) the implementation of educational technology can be measured through the following indicators: 1) Availability of digital technology; 2) Integration of technology in learning activities; 3) Digital competence of educators; 4) Student involvement through technology; 5) Effectiveness of technology use on learning outcomes.

Educational Technology has been widely studied by previous researchers, including: (Azis, A., & Kusnafizal, T., 2024), (Sinaga, W. M. B. B., & Firmansyah, A., 2024), (Purba, R. A., Tamrin, A. F., Bachtiar, E., Makbul, R., Rofiki, I., Metanfanuan, T., ... & Ardiana, D. P. Y., 2020), (Permana, B. S., Hazizah, L. A., & Herlambang, Y. T., 2024).

Learning Innovation

Learning innovation is a process of renewal in teaching and learning activities carried out to improve the effectiveness, efficiency, and quality of learning. Learning innovation is also a crucial factor in improving the quality of education in the digital age. According to (Handayani., 2024) learning innovation is the application of technology-based approaches and media that can increase learning motivation, student engagement, and the effectiveness of the learning process.

According to (Lestari et al., 2024) learning innovation is the application of student-oriented learning models to optimally improve thinking skills, skills, and learning outcomes. Learning innovation is a systematic effort to update the learning process through the application of relevant methods and media to continuously improve the quality of learning and student competency (Sutrisno & Wulandari., 2024).

According to (Ibrahim., 2023) there are indicators of learning innovation including: 1) Use of varied learning methods; 2) Development of innovative learning media; 3) Implementation of student-centered learning strategies; 4) Increasing creativity in the learning process; 5) Evaluation of learning that is oriented towards improvement.

Learning Innovation has been widely studied by previous researchers, including: (Handayani, E., 2024), (Lestari, I. T., Ambarwati, U., & Asih, T., 2024), (Firmadani, F., 2020), (Rahayu, R., Iskandar, S., & Abidin, Y., 2022).

Discussion

1. Educational Technology in Educational Quality

The role of educational technology in improving the quality of education is increasingly important with the advancement of the digital era. The use of technology enables the learning process to be more effective, efficient, and flexible, thus enabling students to gain a more meaningful learning experience. Various digital learning media, e-learning platforms, and educational applications help teachers deliver material in a more engaging manner and facilitate students' access to learning resources anytime and anywhere. According to (Natalia., Muhtarom., 2024) educational technology contributes to improving the quality of education by optimizing the learning process, expanding access to learning, and enhancing student competencies in line with 21st-century needs.

Educational technology also supports improving educator competency in designing more innovative and student-centered learning. Teachers can utilize various digital tools to develop materials, conduct learning evaluations, and provide feedback quickly and accurately. This encourages a more interactive learning process, thereby improving student motivation and learning outcomes. According to (Sanihah, 2024) the application of educational technology

integrated with the learning process can increase learning effectiveness, strengthen teacher competency, and encourage continuous improvement in the quality of education.

In addition to improving the quality of the learning process, educational technology plays a role in creating an education system that is more adaptive to developments in science and technology. The use of technology not only facilitates communication between teachers and students but also supports collaboration, creativity, and the development of critical thinking skills. Therefore, the application of educational technology is a crucial strategy for achieving quality education and producing graduates who are ready to face future challenges. According to (Vitaloka, 2024) the development and utilization of educational technology have a positive impact on improving the quality of learning through more innovative, collaborative learning that is tailored to the needs of students in the digital era.

This research aligns with research conducted by: (Jannah, M., 2024), (Azri, A., & Raniyah, Q., 2024), (Salsabila, U. H. Et al., 2021), (Sanihah, M., 2024).

2. Learning Innovation in Education Quality

Learning innovation plays a crucial role in improving the quality of education because it creates a more effective, creative, and student-centered learning process. The application of various innovative learning models, methods, and media provides opportunities for students to actively engage in the learning process, thereby enhancing their understanding of concepts and skills. Thus, learning innovation not only improves learning outcomes but also supports the creation of a more conducive and enjoyable learning environment. This research aligns with (Kinesti et al., 2024) that innovation in learning activities significantly contributes to improving the quality of education through more active, adaptive, and student-centered learning.

The implementation of learning innovations also encourages teachers to continuously develop professional competencies in designing learning that aligns with developments in science and technology. Teachers no longer merely serve as transmitters of material but also as facilitators capable of creating meaningful learning experiences through the use of diverse learning strategies. This situation has an impact on increasing student motivation to learn, critical thinking skills, creativity, and collaboration, which are important indicators of educational quality. According to (Oktaviani., 2024) innovative learning strategies can increase learning effectiveness, strengthen student competencies, and support improvements in the quality of education in the digital era.

In addition to improving the quality of the learning process, learning innovation plays a role in producing graduates who are better prepared to face the challenges of the 21st century. Innovative learning provides space for students to develop their problem-solving skills, communicate, collaborate, and utilize technology wisely. Therefore, the continuous implementation of learning innovation is a crucial factor in achieving quality education. According to (Dalilah., 2024) the use of innovative learning methods can increase student participation, develop critical thinking skills, and have a positive impact on improving the overall quality of education.

This research aligns with research conducted by: (Dalilah, W. K., 2024), (Ali, M., Salzabila, P., Bahari, N., Zuhair, A. F., & Danil, M., 2026), (Chastanti, I., et al., 2024), (Solichin, A., et al., 2023).

CONCLUSION

This study aims to determine whether educational technology and learning innovation play a role in the quality of education. Based on the article's questions, the following conclusions can be drawn from this study: 1) Educational technology plays a role in the quality of education; 2) Learning innovation plays a role in the quality of education.

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