

ENHANCE LEARNING WITH TECHNOLOGY: EXPLORING COMBINATIONS OF LEARNING STRATEGIES

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Abstract

The presence of information technology has had an impact on changes in all aspects of Indonesian society's life, especially in the learning process. There are several learning strategies that teachers/lecturers can use in the technological era, including developing models, innovating and evaluating learning using digital media. With this technology era learning strategy, it is hoped that lecturers/teachers and students will find it easier to learn. This research aims to find out how to explore the combination of technology with learning strategies. This research method uses a systematic and iterative approach to gather a comprehensive understanding of topics related to technology, exploration of a combination of learning strategies. The conclusion of this research is that several effective learning strategies that involve technology are visualization, cooperative learning, and the use of technology in the classroom.

Keywords: Technology, exploration, learning strategies

INTRODUCTION

In the modern educational setting, technology is a need (Sitopu et al., 2024; Afni et al., 2024; Antika et al., 2024). The internet's creation and broad use have improved many aspects of life, including education. Numerous technology-based tools, including

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interactive and conventional multimedia products, instructional DVDs, and presentation tools, have been employed in education (Tubagus et al., 2023; Aslan & Shiong, 2023). In addition, as mobile technology has advanced, mobile multimedia has also emerged, enabling mobile learning to take place anywhere due to the ease of access to learning materials. Technology use in education must be tailored to the requirements of the setting or location where the learning process is taking place (Edi Subhan, 2016).

The purpose of technology as a learning tool can be fulfilled with the correct technology, which is to enhance students' learning outcomes. Since the goal of technology in education is to make learning easier, all currently available technology as well as any new educational technology products that are created from it must be chosen and developed after a thorough analysis of the requirements of a specific learning environment (Nurhayati et al., 2023; Nurdiana et al., 2023). Understanding learning as a system and applying a systemic approach are essential when choosing the technology that will be developed or employed. To meet the learning objectives, every component and learning objective needs to be identified as a single unit.

Technology can help teachers obtain and convey information (message or content, material) for lessons more easily, increase student understanding, present data/information more interestingly or reliably, and make it easier to obtain and interpret information. All of these benefits make the use of technology as a learning medium evidently effective and efficient (Erwan et al., 2023; Sarmila et al., 2023; Haddar et al., 2023). In this instance, then, it can be claimed that technology as a medium plays a significant role as an efficient and successful instrument in the process of teaching and learning. Using technology in the teaching and learning process, which is focused on the interests of the students and supports the need for cognitive, effective, and psychomotor development, is one way to try to improve the quality of education. (Surani Dewi, 2019).

Technology is a tool that can help teachers and students learn more, more effectively, and more diversely. Students are no longer constrained by time or place to study independently thanks to the resources this system offers. They have access to a wider variety of learning materials, including text, images, audio, videos, and animations, in addition to words (Meri Rogantina, 2018).

RESEARCH METHOD

In conducting the literature search for this comprehensive review, a systematic and iterative approach was taken to gather a thorough understanding of topics related to Technology exploration of combination learning strategies. The initial steps include clearly defining the scope of the literature review, determining main themes such as theoretical framework, impact assessment, optimization strategies, technology and innovation, social and cultural factors, as well as recommendations for practical implementation (Paré & Kitsiou, 2015).

To query academic databases effectively, relevant keywords and search terms are identified. Terms such as “Technology”, “exploration”, “learning strategies”, and variations thereof were selected to ensure a comprehensive search. Searches were conducted in leading academic databases, including PubMed, Google Scholar, ERIC, and PsycINFO. Boolean operators (AND, OR) increase the precision of search queries, improving the retrieval of relevant literature (Lambert et al., 2014).

In line with the defined scope, inclusion and exclusion criteria are established. This step ensures that the selected studies and articles meet certain criteria regarding theme, publication date, and academic credibility. Strict screening procedures involving evaluation of the abstract and title were applied. A detailed examination of the full text was carried out following this to determine the relevance and contribution of each source.

Important information from selected studies, including main findings, methodology, and conclusions, was systematically extracted. This data extraction process aims to gather essential information to synthesize a coherent narrative and identify overarching trends in the literature. The synthesis and analysis phase involves organizing the collected data to build a cohesive narrative that answers the research questions and objectives (Mukaet al., 2024). The literature search and review process was iterative, allowing for continuous refinement and validation of findings. When new insights emerged during the synthesis, additional searches were conducted to incorporate the latest research and ensure the most up-to-date information was included in the review.

RESULT AND DISCUSSION

Technology in Learning

Because the content offered grabs students' attention, learning using technology helps pupils comprehend and deepen learning concepts and can boost their excitement for learning. The learning given to students must arouse student interest so that students have enthusiastic participation in teaching and learning activities. The media used are pictures and films displayed through a projector (Muhammad Yaumi, 2018).

Education is a universal phenomenon and lasts throughout human life, wherever humans are. Technology as a whole is a means of supplying products required for human life to continue and be comfortable. The first technological use by humans was the creation of basic tools from natural resources. The capacity to regulate fire was discovered in prehistoric times, which expanded the availability of food supplies. Meanwhile, the development of the wheel allowed humans to travel and manipulate their surroundings. The printing press, telephone, and Internet are just a few examples of recent technical advancements that have lowered physical barriers to communication and enabled people to freely engage on a worldwide scale. But not

every technology is applied in a constructive way. Throughout history, ever-more-potent weapons of mass devastation have been developed, ranging from batons to nuclear weapons.

ICT is used in education in a number of ways, such as through the provision of online resources (textbooks or articles saved online), computer-assisted learning programs, teaching aids or simulation materials, Moodle and Facebook learning (Darmawan and Siti, 2014), and distance learning (open schools). By making educational materials available online, instructors and students may locate them more easily, preventing the learning process from being impeded by unavailable resources.

According to the Association for Educational Communications and Technology, educational technology is defined as the ethical study and practice of facilitating learning and improving performance through the creation, use, and management of appropriate technological processes and resources. This definition highlights the multifaceted nature of digital technology in education, going beyond its tangible use as a tool for instruction (AECT, 2004). The creation, application, and ethical management of suitable technical processes and resources to enhance performance and facilitate learning is known as educational technology.

It is thought that technological advancements would provide a solution to the issues of social justice, quality, and accessibility in education. Because growing disparities in access to high-quality education are among the pandemic's effects. How is technology applied to learning and education? Assume, for instance, that the usage of e-learning serves as an example of how technology is used in education. Depending on their learning requirements, teachers and students can use a wide range of platforms and learning tools. Instructors can create their own specially designed digital technology-based learning resources or use those that are already available (Farid Ahmadi, 2017).

The ability of appropriate technology to support learning objectives must be taken into consideration while evaluating it. Technology in education has the greatest potential to foster critical thinking and creativity. It's critical to comprehend the objectives of education, the nature of educational technology, and the best practices for implementing suitable educational technology in order to assess its appropriateness.

Technology devices have a number of distinct uses, some of which may be very helpful for people who are unable to afford to buy them separately. The financial advantages of this strategy also lessen the technical expertise needed to keep the device operating. Thus, it is imperative to design suitable technologies for a range of applications whenever feasible (Endang Switri, 2019).

Effective Learning Strategies

A good learning environment is typically defined and assessed by how well the majority of students accomplish their goals. This degree of accomplishment also indicates that students find a variety of internal learning opportunities acceptable. Effective learning, according to Kyriacou (2009), consists of two key components: active learning time and learning quality. First, let's talk about how much time the pupils spend in the lesson. How pupils participate in the educational process in order to meet the predetermined objectives. The second concern has to do with the actual caliber of education. This refers to the manner in which student-teacher, student-student, and student-learning resource interactions can occur during the learning process. Because the effectiveness of learning that occurs or occurs throughout the learning process itself determines the quality of learning results, effective learning and quality learning are thus inextricably linked. More than forty years of research data that has been collected also shows that students who receive high-quality learning demonstrate more successful learning than students who do not receive quality learning (Joyce, Weil, & Calhoun, 2003).

Effective learning is actually not something easy and simple. Effective learning is not just a matter of achieving all specific learning objectives. Many aspects are involved in it. We seem to agree that most studies or literature state that effective learning is a truly complex process (MacGregor, 2007). Effective learning techniques are parts of a package that comprise pre-learning exercises as well as student participation, which serves as a learning process for exercises that follow (Dick and Carey, 2005).

The aspect of learning effectiveness is an important criterion in every learning. A learning is said to be effective if the learning has achieved the learning objectives. The desired goals in this learning include the formation of abilities. Attitudes, skills, personality development, and ability to master science and technology (Abdul Majid, 2014).

Combination of Learning Strategies and Technology

Changes in people's lifestyles and culture have shifted many of the functions of print media to digital media. Every change that develops will give birth to new findings that can provide convenience and will become problems. For this reason, there are things that need to be considered. Behind the convenience obtained today, new problems will also be born with solutions and thinking in new ways. The problem faced is the importance of developing digital era learning strategies. The viewpoint and methods of instruction in the field of education today have evolved as a result of these shifts. Students can now simply and swiftly acquire a wealth of knowledge thanks to the advancements in digital era education (Budi Harsanto, 2104).

Teachers and lecturers must be able to incorporate information and communication technology into the teaching and learning process due to changes in education in the digital age. Today's digital era learning is no longer centered on

teachers or lecturers but has shifted. Learning today must be student-centered. The digital era is an era where all aspects of life, including the learning process, make greater use of digital media. Because digital learning requires the readiness of students and teachers to communicate interactively by utilizing information and communication technology, such as computers/laptops with the internet, smartphones with applications and others. So the presence of information technology can be used as a learning strategy for the digital era. With digital era learning strategies, the aim is to improve the quality of digital era learning. Effective learning strategies that involve technology are:

1. Visualization

Using engaging visual aids and hands-on activities to make abstract academic topics more relatable can aid students in understanding how to apply what they learn in the classroom to real-world situations. One way to motivate students to participate and experiment in class is by showcasing images, videos, and activities on an interactive whiteboard or LCD projector.

2. Cooperative Learning

Encourage your kids to collaborate by having them create groups. Through openly expressing their thoughts and answering those of others, kids will be encouraged to grow in confidence and enhance their communication and critical thinking abilities. For instance, carrying out science projects and putting on little plays in class

3. Use of Technology in the Classroom

One efficient approach to actively involve students in the learning process is to employ technology in the classroom. This is especially useful as kids are accustomed to using digital media in the twenty-first century. Videos and graphics can be shown on interactive whiteboards to aid students in visualizing the content they are studying. When technology is incorporated, learning can become more engaging since students can actively participate in presenting the curriculum.

CONCLUSION

There are several important points related to exploring combinations of learning strategies, namely:

1. Technology in learning
2. Effective learning strategies
3. Combination of learning strategies and technology

Effective learning is not just a matter of achieving all specific learning objectives. Many aspects are involved in it. An effective learning strategy is the components of a set of material that includes pre-learning activities, and includes student participation which is a learning procedure used in subsequent activities. Some of the effective

learning strategies that involve technology are visualization, cooperative learning, and the use of technology in the classroom.

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