



# Enhancing Students' Learning Ability through the Use of Effective Instructional Media in Information and Communication Technology (ICT) Learning

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## A B S T R A C T

In the current digital era, there is an increasing demand for teachers to provide effective instructional media that facilitate students' understanding of the material. The role of the teacher becomes crucial in achieving quality learning outcomes. Therefore, teachers must engage directly with students and their surrounding environment to create meaningful learning experiences. This study aims to examine the utilization of effective instructional media in Information and Communication Technology (ICT)-based learning. The research employed a qualitative approach with a descriptive analysis method. The findings indicate that the use of ICT-based instructional media enhances students' learning interest, improves their learning attitudes, and fosters a more engaging and effective learning environment. Additionally, creative teaching practices by teachers can positively impact the overall quality of student learning.

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## 1. Introduction

Currently, science and technology, particularly in the fields of information and communication technology (ICT), have made remarkable progress and have become the driving forces behind change across various sectors of life. The rapid development of technology has brought both positive and negative impacts. On one hand, the openness and dissemination of information have transcended spatial and temporal boundaries, enabling global access to information. On the other hand, this progress has also caused shifts in values, conventions, laws, and morals that sometimes conflict with existing norms. These impacts affect various aspects of life, including education (Miftah & Nur Rokhman, 2022).

In order for education to produce human resources that are competitive in the face of the advancing era, these shifts need to be anticipated effectively. One of the crucial subjects in this context is Information and Communication Technology (ICT) education. However, many students perceive ICT as a challenging, uninteresting, or even boring subject. One of the contributing factors is the limited use of media and supporting facilities in ICT learning. In schools, many teachers still rely on lecture-based methods, which make the learning process feel monotonous and unattractive. In reality, ICT learning content has the potential to be engaging and exciting. Therefore, a teaching method that solely relies on lectures is not suitable for ICT education, which is broad and complex and requires an innovative and technology-based approach.

As formal educational institutions, schools play a significant role in preparing students to face future challenges, particularly in adapting to technological advancements. One aspect that is heavily influenced by technological progress is the effectiveness of student learning. Teachers, as the key stakeholders in achieving learning objectives, are expected to make optimal use of technology and communication tools in teaching, in line with the National Instruction No. 16 of 2007 regarding Scholastic Ability and Instructor Competencies. This is related to the vitality of an instructor, which includes the ability to inspire students both from within themselves and through external sources.

Effective learning is a transformation of energy within students, characterized by the emergence of positive responses to achieve learning goals. In this context, teachers must be able to create effective instructional media that support students in engaging in meaningful learning activities. Effective learning requires teaching to meet specific criteria, such as creating a comfortable learning environment, summarizing key learning points, and ensuring students understand the material without relying entirely on notes. Therefore, teachers need to master the material to be delivered well so that students can comprehend it effectively (Fitra & Maksum, 2021).

Additionally, teachers are also expected to continually innovate their teaching methods to ensure that learning runs effectively. The achievements of effective learning include creating a comfortable learning environment, the teacher's ability to summarize key learning points, and ensuring that students understand the material thoroughly. Teachers play a crucial role in ICT learning, as they are the primary link that interacts directly with students. Given the growing openness of ICT in society, students now have broader access to information. Therefore, teachers must possess higher competencies to guide students in making optimal use of information technology.

## **2. Research Methods**

This study employs a qualitative approach, which aims to understand and analyze how groups or individuals interact with specific social issues. This approach involves explicit procedures, in-depth conversations, and inductive data analysis aimed at developing ideas from specific observations to broader generalizations. In this context, the researcher developed a framework for interpreting relevant data collected throughout the study.

Data were gathered through in-depth monitoring of students as informants to understand how they consume and interpret the lessons delivered to them. Additional data sources included documentation, which comprised materials and information obtained from informants during the learning process. Furthermore, document analysis was conducted by examining various related documents, such as lesson plans, school literature, and policies regarding the use of ICT in education. To enhance the validity and reliability of the data, triangulation was used to combine information from various sources. This method ensured the quality and trustworthiness of the data obtained (Mohamad Miftah, 2022).

The collected data were analyzed using a thematic approach to identify patterns and trends in the use of ICT. Additionally, this study examines the barriers and supporting factors that influence the implementation of ICT in the learning process. Throughout the research process, ethical standards were upheld by ensuring the confidentiality of the information, obtaining institutional approval, and acquiring consent from participants. Based on the data analysis, conclusions and findings of this study will be developed, providing a comprehensive overview of the integration of ICT in education in schools and its impact on the teaching and learning process.

## **3. Results and Discussion**

In the era of globalization, several governments have increased the use of Information and Communication Technology (ICT) to enhance the teaching and learning process in schools. However, the adoption and integration of ICT in teaching and learning remain limited, despite significant

investments by many countries in professional development and educational tools. Teachers are still encouraged to utilize computer technology in the learning process, yet this requires attention to institutional, human, and technological considerations. Key challenges include the lack of ICT skills among teachers, low self-confidence, inadequate pedagogical training, a lack of appropriate educational software, and limited access to ICT. These factors ultimately affect the effectiveness of ICT use in the classroom (Hafizatul, 2020). Based on the findings of this research, it can be concluded that ICT has significant potential to support teaching, particularly for instructors who continue to rely on traditional teaching methods. The wise and appropriate use of ICT can be a major driving factor for a country's advancement and development. The aim of this study was to examine how instructors perceive the value of integrating ICT into the classroom to enhance teaching. The findings demonstrate the considerable benefits of ICT integration for both instructors and students. One key element of effective teaching and learning is having teachers who are prepared to use ICT tools and resources. Professional development programs focused on ICT are highly beneficial in improving the success of training and the quality of education (Mukaromah, 2020).

Enhancing teaching methods and encouraging creative teaching strategies among teachers can be achieved through the integration of ICT. Using ICT as a teaching tool is an integral part of a teacher's role. The development of ICT in educational services and learning activities should be integrated and tailored to the needs of the users. Considering the numerous aspects of utilizing ICT for education, instructors should be able to use ICT-based learning resources in the classroom. Principles that can be applied in effective teaching include providing content appropriate to students' cognitive levels and aligning the media used with the learning objectives (Lestari et al., 2020). Teachers are expected not only to present the content but also to deliver learning media that meet the needs of the students. Therefore, the use of appropriate tools in ICT-based teaching can create a conducive and sustainable learning environment. Learning resources, which encompass everything available in the school setting, should be utilized to achieve optimal learning outcomes (Rindawati et al., 2021). ICT, when appropriately employed, can serve as an effective learning tool, particularly if it aligns with the characteristics of the learners. The use of ICT is now inseparable from global educational practices. As such, the role of ICT should be well-understood and employed as a tool to facilitate successful learning outcomes. Consequently, it is crucial to enhance students' learning achievements through the use of effective teaching media (Saputra et al., 2021).

This approach makes the teaching and learning process more engaging and easier for students to understand, allowing them to focus and grasp the material more effectively. The use of engaging learning media also increases learning efficiency, as the content aligns with the learning objectives. Relevant media help maintain students' focus, provide valuable learning experiences, and enable them to understand the material more concretely. Furthermore, students must be actively engaged in the learning process, fostering a strong sense of curiosity (Aryanti et al., 2021). To create effective learning, it is essential to design creative and engaging ICT-based teaching methods. The use of multimedia devices that capture students' attention is crucial. Key considerations in developing ICT-based learning media include ensuring that the images or animations used are relevant to the material being taught, so as not to diverge from the learning objectives. Additionally, the presentation of content must be clear and well-structured to ensure that students can easily hear, understand, and absorb the material effectively (Ardiana, 2023).

#### **4. Conclusion**

The conclusion drawn from the findings of this study is that the use of ICT-based learning media in teaching and learning requires considerable effort to ensure its effectiveness. It is essential to optimize the utilization of ICT in education to achieve successful learning outcomes. The integration of ICT in the learning process is particularly suitable for achieving educational objectives aimed at enhancing student learning. This approach fosters greater creativity in student learning, encourages a

positive attitude towards ICT-based learning, and promotes a broader understanding and higher quality of learning. Therefore, it is crucial for educational institutions to provide comprehensive ICT training to educators, enabling them to further develop their skills and competencies in utilizing technology for effective teaching and learning.

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