

## THE INTERNET'S ROLE IN DIGITAL LEARNING AT DIFFERENT EDUCATIONAL LEVELS IN INDONESIA

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### ABSTRACT

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Integration of information and communication technology in the education sector demonstrates that, in the era of technological disruption, the optimization of internet usage is readily apparent. The real form of technical advancement is the existence of internet services that can serve as a bridge between the speed at which information may be received by all levels of society. The usage of the Internet as a learning tool is extremely beneficial and can have both positive and bad effects on pupils. Internet use has a significant impact on ensuring that the quality of education meets the requirements of the curriculum, and it also influences the learning patterns of students and teachers throughout Indonesia in order to improve the learning process. The goal of this study is to examine the distinctive educational function of the Internet in each region of Indonesia. The results revealed that 10% of students used the internet to support the learning process, with the majority of internet users for the learning process having a high school education or equivalent, indicating that the role of the internet in relation to digital learning adaptation requires the active participation of parents and teachers. In addition to allowing students to comprehend the positive and negative effects of the internet, the internet facilitates the production of interactive learning media and provides the most recent information to maximize digital learning platforms and develop innovative learning patterns in the digital age.

Keywords: Digital Learning in Indonesia, Internet Role, Technology Adaption at Different Level Educational

### 1. INTRODUCTION

Technical disruption has a significant impact on the field of education, particularly in terms of technological advancement and new changes [1]. In the subject of education, the use of technology as a medium in the classroom is essential for supporting and enhancing students' comprehension of the offered material. One form of technology implementation in education is information and communication technology (ICT), which is backed by the development of the internet to facilitate access to numerous services and information media in every society's everyday life [2]. There is no doubt that Information and Communication Technology can help solve educational problems, particularly by supporting learning activities, but the true form of technological development is the existence of internet facilities that can serve as a bridge between the speed of information that can be accepted by all levels of society[3].

Performance, and the performance of users, can be enhanced through the use of the internet to conduct information searches. Users gain or can reasonably anticipate this benefit due to the internet's usefulness as a resource for locating information in the performance of their duties and work. Users



have a high opinion of the internet because of how simple it is to perform common tasks like searching for information. Because of this, it's much simpler to grasp the results of an online search because of the efficacy of internet services as a tool for information retrieval. Educators and students alike can benefit greatly from using the web as a research and reference tool. Adolescents and college students may benefit from or suffer from their exposure to the internet[4]. Parents and teachers, in an effort to limit students' online activities, would benefit from having more information about the ways in which young people use the internet. Students' interest and motivation to learn can be influenced, and their ability to think outside the box can be expanded, through the use of the internet as a learning medium. Successful completion of the learning process is the ultimate objective. Using the internet as a tool for education has been a game-changer in the fight against the challenges of the modern digital age of education[5].

The change towards digital learning also affects the learning curriculum, namely the 2013 curriculum, so it must be able to adapt ICT-based learning in every topic, and internet media must play a supportive role for instructors and students. Teachers must have proficiency in developing learning, including the selection of technology-aligned learning models and approaches, as well as digital literacy. [6] In addition to innovating, teachers and students at all levels of education in Indonesia must be able to use the internet effectively to enhance the learning process, which can focus on distant learning or online learning [7]. With all the advantages and disadvantages of the influence offered to students who are already proficient in utilizing gadgets or smartphones to access various internet-based services, the role of the internet in learning activities is generally highly beneficial for teachers and students. The purpose of this study is to examine the distinctive function of the internet in each province of Indonesia in terms of rural and urban areas, as well as the segmentation of internet users in relation to facilitating the learning process. By understanding the role of the Internet in digital learning, knowledge can be provided to the entire community regarding the optimal use of the Internet in assisting the learning process at all educational levels.

## **2. METHOD**

### **2.1. Internet Capabilities**

The Internet is a network of computers that are located in different locations around the world. Because every computer network is made up of distinct components that are not shared by other computer networks, we require a protocol that is competent in the area of computer network integration. A protocol for the transmission of data that does not depend on the type of computer being used to exchange data and that is used by all computers[8][9].

### **2.2. Research Method**

This study employs a descriptive methodology coupled with a literature research approach[10]. Literature research is a study conducted by searching for literature studies that are pertinent to the discussed topics in order to solve a problem, which relies primarily on a critical and in-depth examination of pertinent library materials. Library research is also known as library research, which refers to research conducted using literature (library) in the form of books, notes, or reports on the findings of previous researchers. The author also conducts fact-finding with the appropriate interpretation to describe the actual situation and events occurring in order to draw conclusions from the research[11].

## **3. RESULT AND DISCUSSION**

### **3.1. The Relationship of Internet Use in the Learning Process**

According to a survey conducted by the Central Bureau of Statistics on telecommunications in Indonesia, there are a variety of rural and urban Internet usage characteristics in all provinces[12].



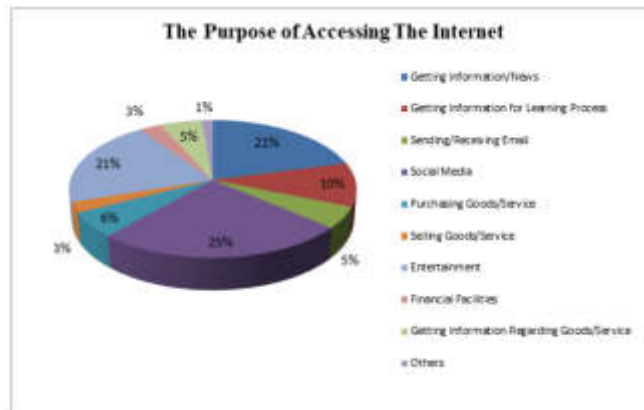


Figure 1. The Purpose of Accessing the Internet[13]

Figure 1 shows [13] the reasons people in rural and urban areas in 34 provinces in Indonesia use the internet: the purpose of Getting information/News is 21%, the purpose of Getting Information for Learning Process is 10%, the purpose of Sending/Receiving Email is 5%, the purpose of Social Media is 25%, the purpose of Purchasing Goods/Services is 6%, the purpose of Selling Goods/Services is 3%, the purpose of Entertainment is 21%, and the purpose of Financial Activities According to these findings[14], there is the use of the internet to support the learning process by 10%. This percentage is quite high, which indicates that the use of the internet for the community is not only for the purpose of supporting entertainment, but also for the benefit of supporting education; in this particular case, the user segmentation consists of students. The fact that the internet plays such a significant role in assisting educators and students in maximizing learning activities and in facilitating the learning process with internet capabilities is, of course, an issue that can give rise to concerns about this particular matter.

### 3.2. Characteristics of Internet Users in the Learning Process

The survey data from the Central Statistics Agency [12] also provides specific information regarding the educational level of internet users involved in the learning process. In order to enhance the learning process, it is crucial to identify the degree of education of internet users. BPS data reveals that the population at the Senior High Schools/equivalent makes up 35.25 % of internet users, followed by internet users with the latest education level Junior high school/equivalent as many as 23.12 %, internet users with the latest education level S1 and above as many as 21.65 %, internet users with the latest education level namely Elementary School/equivalent as many as 17.35 %, and internet users with the latest education level namely Senior High Schools/equivalent as According to the results of the analysis presented above, internet users with a Senior High Schools level or similar are most likely to use the internet to support and get information on the learning process.

### 3.3. The Role of the Internet in the Learning Process

#### A. The Role of Parents, Teachers and Students in Adapting the Use of the Internet

Benefits for education through the proper use of ICT developments is a fundamental issue regarding the skills that teachers must possess in order to maximize the potential of the internet for learning media, as well as teachers' knowledge in providing digital literacy regarding the positive and negative effects of the internet on students. With the help of social media, messaging applications, and chat forums, the internet has made it feasible for students to stay in contact with their teachers or other classmates. Parents can connect and communicate with instructors and school administrators regarding their child's academic achievement. Students can explore new ideas and expand their knowledge by interacting with like-minded people in online forums. However, it must be emphasized that the internet can have a negative impact if students are not taught digital literacy, so parental



supervision is still required when students are learning at home, and teacher supervision is necessary when adapting internet use to the teaching and learning process.

#### B. Effective Digital Learning Media

Internet has become the most important instrument for effective teaching and learning [15]. By uploading their teaching materials (notes and videos) on the school's website or through e-learning, teachers can use it as a teaching tool. Using video lectures and notes makes the learning experience more engaging and dynamic. Internet-accessible interactive learning media, animations, PowerPoint slides, and various other learning media can be used by teachers to capture the interest of their pupils. Digital media consumption is one of the most fundamental aspects of our existence. Digital bulletin boards conserve paper and permit the presentation of audio and video to capture students' attention. There are numerous paid websites that provide high-quality educational information and are accessible to a wide audience. In addition, the usage of digital media in education can facilitate the learning process for students because it simplifies knowledge. Additionally aiding students in visualizing what is being taught in schools. Internet-based video tutorials and other online resources facilitate the delivery of instructional content by teachers.

#### C. Supporting Digital Learning Platforms

The internet has the potential to serve as a support system for digital education facilities, particularly the many online learning platforms that are available for use by both instructors and students[7]. For instance, when there is a pandemic, all education is conducted online. Because of this, there are a number of different platforms that can be used to form virtual classes. These platforms include Google Meet and Zoom, which have become the most widely used platforms for online meeting activities. In addition, Google Classroom can be used as a platform for collecting and completing assignments and other exams. In addition, there are communication media platforms such as WhatsApp, Google Classroom, e-mail, and Youtube that are used to support the communication process that is involved in the learning process between the teacher and the student.

#### D. Internet supports Information-Based Innovative Learning Patterns

Internet access can facilitate students' access to free or fee-based educational materials of high quality. Teachers can also use the Internet to access materials and interactive learning resources, such as quizzes, interactive games, and tutorials. All content can be uploaded to multiple platforms and is accessible to students. Students can receive the most up-to-date information, which aids them in comprehending the subject matter, completing assignments, and the need to improve their skills with various information services that can be accessed via smartphone or laptop. This demonstrates that the Internet not only facilitates innovative learning patterns, but also emphasizes the veracity of the information received, as its veracity can be verified. The independence of students in exploring information and learning materials is consistent with the curriculum's emphasis on student-centered learning (student-centered) [16] in integrating technology with the support of internet accessibility[17] and increasing self-reliance in supporting student interests and talent.

## 4. CONCLUSION

This research utilizing a literature review methodology concluded that the role of the internet cannot be separated from the development of information and communication technology (ICT), which has become an integral part of the process for producing quality and communicative information and supporting ICT-based learning at all levels of education. This percentage indicates the use of the internet by students in supporting the learning process. The majority of internet users for the learning process are from high school or equivalent education levels, indicating that the role of the internet is very diverse in relation to digital learning adaptation, requiring active participation from parents, teachers, and students.

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