



The Role of Technology in Education Sector at Digital Era

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ABSTRACT

Technology is a tool, machine, material, and process that is constantly developed and applied to help facilitate humans in solving various problems. In accordance with the focus of this study is to know the role of technology on the field of education in the digital age. And there are two destinations, the first of the field of education in general and the field of education in particular in this case college. The method used in this research is the library research) with the results of the study of the translation of the technology role in the field of public scares education and specifically the field of education of college.

INTRODUCTION

According to Salsabila and Agustian (2020) in this time, humans are heavily dependent on technology. This makes technology as a basic needs of everyone. From children to adults, experts to people are often at the technology in various aspects of their lives. Technology in the present is growing very rapidly.

This time is also called the digital age. Harris argues that the digital era is one of the era or age in this life that has a proven condition of progress and leads to the digital form. The development of digital era will continue to run so quickly and can not be stopped by humans. These conditions can occur because basically as we humans will always demand and ask for all things to be done efficiently and practically. It will also provide different types of impacts, whether it is in terms of positive and negative.

The digital generation is the era where technology will be able to meet daily needs. The existence of digital influences will eventually also impact on all areas, including in the field of education. Therefore the field of education should be able to adapt and follow the development of the digital era in order to follow the time. One of the most efficient costs is to adapt various technological reluctance to education. The demand of the development of the age in this era demands the world of education to always adjust the development of technology with the efforts to improve the quality of education.

Adaptation of Technology and Sciences are commonly known as IPTEK. Which according to Abraham (1991) whose process of technological progress produces modernity, characterized by economic growth, social mobility, expansion or cultural exploration, and education. Education is one among some important aspects of human life. Good and well applied education system is the key to printing the generation of a generous, character-of-day nation, and quality.

Science and Technology (IPTEK) are very rapid in various fields, one of them in the world of education. All forms of learning process can be done easily. Tondeur Etal (in Selwyn, 2011) states that digital technology is now beginning to be used in the field of education as a means to support learning, either as a means of information (means of accessing information) or as a means of learning (supporting learning activities and tasks). The rapid development of science and technology will emerge equipment and applications that are very easy to learn and utilized to learning media. This is stated (Ratminingsih, 2020: 1) that in the development of technology in the world of education now, educators and learners can search and find various information about knowledge.

Thus, through higher education and advanced education can be born in the community. Technology involvement in the world of education presents changes in learning process activities. Therefore, the adaptation or technology role must be equipments to all levels of education. Because with the technology that became the coverage of an educator of reaching becomes more broader. One of them with the technology of an educator or educational organizers has more source of material that is widespread without the limited to formal

education. The digital era is able to expand the accessibility, improve the effectiveness and efficiency of learning.

In addition, educators can use technology as a learning media or facilitator to convey students to students through various applications such as zoom, Google Classroom, Google Meet, Quiziz, Telegram, and WhatsApp groups. What is Nurillahwaty's convention (2022) that by using learning media, educators can provide an interesting and simple material description so that students are keen and engaged in teaching and learning activities in the classroom. The use of learning media with utilization of current technology can affect student learning outcomes.

Because the development of science and IPTEK can be said to be an educational process becomes more advanced. Many changes from time to time there is a technology. Compassion is like; How Teacher Teach, How Students Learn And Learning Materials Always Used In Update

THEORETICAL REVIEW

According to Salsabila and Agustian (2020) in this time, humans are heavily dependent on technology. This makes technology as a basic needs of everyone. From children to adults, experts to people are often at the technology in various aspects of their lives. Technology in the present is growing very rapidly.

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METHODOLOGY

The focus on this study is to know the role of technology on the field of education in the era of technology. And there are two destinations, the first of the field of education in general and the field of education in particular in this case college.

The method used in this research is the library research (integrated library), which is meant by library research is research activities implemented by collecting data in the form of books, journals, and previous research results related to the object of this study. Methods of data collection using Internet assistance to search for various reference books and previous research journals that match the subject of discussion of research.

RESEARCH RESULTS & DISCUSSION

1. *Teknologi*

Technology began to be introduced in the decade of 80s. This term refers to the development of computer technology which is then combined with communication technology. Information can be defined as a result of data processing. While technology is a tool, machine, material, and process that is

constantly developed and applied to help facilitate humans in solving various problems.

According to Rusman et al. (2012), technology is "a series of information handling stages that include the creation of information sources, maintenance of information channels, selective revenue information, information storage & information, and information usage." Thus, technology includes everything related to data processing, information distribution / distribution process, manipulation, to information management.

The IT functions include:

- a) Capturing, IT serves as a catcher or input. For example accepting input from keyboard, scanner, microphone, and other input technologies.
- b) Processing, IT serves as a processor that compiles the detailed records of activity so as to facilitate the processing of data inputs.
- c) Generating, that is the technology serves to produce a form of more directed information from processing results. For example graphs, tables, and so on.
- d) Storage, namely data storage function or information. For example on the use of hard disk, flash, and so on.
- e) Retrieval, the search bulb, regain the previously stored data.
- f) Transmission, the function of sending information or data from one location to another location through the computer network.

2. *Education Economics*

The first quotation of Education Technology in 1972 states that education technology is (field) involved in efforts to facilitate learning, both in the preparation stage through identification activities, development of organizing and use of all learning sources and in the learning process itself.

Sukban (2016) argues that (Educational Technology is The Study) is the definition of education in 2004 education formulated through creating, using, managing the right processes and learning resources as studies (powered) and initial practices in facilitating learning. This is where these two definitions have the same character and orientation to understand educational technology instead of as well as established disciplines of psychology, sociology, and economics, but as fields of science reviews.

As a process of education technology that is abstract. Education technology can be understood as an elaborate and integrated process involving people, ideas, procedures, equipment, and organizations to analyze problems, searching the way to overcome problems, implement, assess, and manage the case of solving that cover all aspects of human learning (AECT, 1997).

In line with that, the emergence of education technology was born of the problem in an education. The issue of education that appears today, equals equity opportunities to achieve education, relevance, and efficiency of education and improvement of quality / educational quality. Serious problems still perceived by education ranging from basic education to higher education is a matter of quality, of course this can be solved through the educational technology approach.

3. *Technology Technology in Education*

The existence of technology should be interpreted as an effort to improve its effectiveness and efficiency, and since the technology is born and developed to solve the problems faced by humans, technology and problems can not be separated. In this context, educational technology can also be seen as a product and process. It can be concluded that education technology is not just science, but also a source of information and learning resources that meet the needs of education and facilitate the learning process.

Due to the global demands, the World of Education needs to be able to update technology and always adapt of technological developments to improve the quality of education, especially in order to adjust its use in the world of education especially in the existing learning process. Therefore, educational technology can be very helpful in providing teachers for professionals to work professionals and utilize existing learning facilities for the development of existing technologies. The role of technology in learning is to encourage collaborative relationships and build meaning in a more easily understood context.

In addition, conventional learning methods require students or learners face to face with teachers to obtain learning materials. In the modern era, such methods become less relevant and ineffective. In modern education, there is a technological intervention to support the implementation of learning activities both at the school and college level.

In the era of globalization, education needs to adapt to changes in mindset and a fast, practical, and precise need. The presence of technology is able to serve the need. With technology support, students can access extensive information through the utilization of technology in particular the Internet. The interaction between students and teachers become more flexible and freely. Technology plays a single-learning tool through various means of modern communication. For example computers, mobile phones, electronic mail (email), online learning software, and so forth.

This means that technology support provides an opportunity to teachers to provide learning without having to face to face with its students. Similarly, students can obtain materials, information, and references with wider range. Broadly, the role of education technology in realizing quality education, among others:

- a) The means that help and complete the process of learning teach and practically.
- b) Technology and communication act as a leisure of the learning to deliver the material of education quickly, right, and efficiently.
- c) Means that help take, process, store, to present data quickly, precisely, and efficiently.
- d) Provide learning facilities through planning processes, development, utilization, management and evaluating learning resources,
- e) Resolving existing learning issues and comparable by combining different diverse disciplines, utilizing technology to make work effective

and efficient, either as a product or as a process to discover the learning issues,

- f) Providing alternative solutions for completion of the performance of the organization of the organization of education that are prepared using performance and instructional, can create new innovations in education and teaching to solve existing problems.

Dressing the above points it can be concluded that the role of educational technology is needed to provide the correct platform for future learning.

4. Technology in college

According to Indrajit (2011: 32), the role of technology and communication to the learning process of teaching in the institution of higher education institutions such as universities, academies, high schools covering 5 things. Here are the five roles and its explanation.

a. Supports learning activities in the campus environment

The teaching and learning process in the campus environment will result in interaction between lecturers and students. The interaction is generally more one-way in which the lecturer explains the material while the students listen to the exposure of the material. In the process, the lecturer usually explains in the form of scratching and overalls. While students are expected to imagine and absorb what is lecturer.

Utilization of technology in the form of illustrations in the form of multimedia helps facilitate students in absorbing explanations of lecturers. At the same time, the lecturer is also helped in the teaching process thanks to visualization aid that includes text, audio, and video. This makes it easy for lecturers to explain the material that is difficult to describe.

Technology helps lecturers back to its main role as facilitator and coordinator. The role is executed by providing questions, commands, challenges, or statements that can be answered directly by the students. In other words, learning activities that occur no longer focus on lecturers. But the focus moves to each individual, in this case the student.

b. Empowering lecturers and students

The role of technology as a college of administration of college academics is closely related to the rapid development of rapid science. The development of science brings its own challenge for lecturers and students. It is important for lecturers and students to adapt to be able to face the speed and maintain its competitiveness.

The Internet becomes an important effectiveness of "effects" for the college academic community to provide access to its updates especially in the field of science studied. Utilization of Search Engines like Google helps lecturers in providing cutting-edge and quality materials for students. To facilitate the search process, lecturers can use relevant keywords as required by the teaching material meanwhile, students are able to empower itself by utilizing websites on the Internet that provide different types of sources or scientific references.

Starting from journals, articles, e-books, or other. Regardless of this convenience, students still have to be careful in filing reference. For example, only take scientific publications that can be accounted for as referrals. The Internet not only provides sources in text format. There are many reference to knowledge packed in multimedia formats interesting, including:

- Audio / video recording contained lectures submitted by lecturers from various world colleges. This allows students to study quality materials through virtual lectures without limited space and time.
- Animation 2D / 3D on the science phenomenon facilitates the lecturer and students get a more concrete illustration.
- Audio / video recording that describes the results of research, expert opinion, academic debate, or other.
- Movies on processed results from research institutes that are accessible for free by anyone who needs it.

c. Manage intellectual assets

Intellectual assets are like the backbone for the sustainability of a college. These assets are collectively collected from the time of time through the process of education, research, and devotion to the community as the principle of Tri Dharma Education.

The portion of the examples of college intellectual assets include:

1. Dictate teaching
2. Scientific journals
3. Writings of scientific works such as thesis, final tasks, thesis, dissertation
4. Paten
5. Study case
6. Lindure of the library, and so on.

Given the importance of intellectual assets for a college, the urgency in its storage and management cannot be delayed. Therefore, it is important to present and store the intellectual assets in digital format. Technology in this case institution as a means of accessing, collecting, storing, categorizing, multiplying, distributing, and maintaining the existing intellectual assets (Indrajit, 2011: 37). Digitalization of intellectual assets requires adequate infrastructure by building servers connected to the database containing the collection of such assets. So it can be accessible and utilized by all the academic communities even public.

If all colleges do digitize their intellectual assets, the concept of "knowledge sharing" against digital data can be realized. This will certainly contribute greatly to the progress of the world of education. Example digitalization of university integral assets that can be widely accessible eg

libraries, e-journal, e-laboratory, e-books, and so on. All collection of digital assets can be obtained through PCs, smartphones, tablets, or other.

d. Supporting the research process

College duties not only implement teaching activities. But also organizes a series of research or research in various disciplines. However, implementing research from start to finish requires a lot of resources. In addition, research also often costs high.

However, the existence of information technology that continues to grow quickly provide new ease. So the diverse direction of research can be done effectively and efficiently. In the research process, information technology supports many things, among others:

1. Reference Resources
2. Virtual Communication
3. Implementation of e-laboratory
4. Publication

CONCLUSIONS AND RECOMMENDATIONS

Technology is a tool, machine, material, and process that is constantly developed and applied to help facilitate humans in solving various problems. In accordance with Focus in this study is to know the role of technology on the field of education in the era of technology. And there are two destinations, the first of the field of education in general and the field of education in particular in this case college.

The role of technology in the field of Digra Digital education is as follows; (1) The means that help and complete the process of learning teaching practically and modern. (2) Technology and communication act as a learning rides to deliver the material of education quickly, right, and efficiently. (3) means that help take, process, store, to present data quickly, precisely, and efficiently. (4) Provide learning facilities through the planning, development, utilization, management and evaluating learning resources. (5) Resolving existing learning issues and comparable by combining different diverse disciplines, utilizing technology to make work effective and efficient, both as a product and as a process to discover the learning issues. And (6) Providing alternative solutions for completion of the performance of the organization of the organization of education that are prepared using performance and instructional, can create new innovations in education and teaching to solve existing problems.

While the role of technology in the field of Digital Digital Education is as follows; (1) Supports learning activities in the campus environment, (2)

empowering lecturers and students, (3) managing intellectual assets, and (4) supporting the research process.

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