

## FACTORS OF THE DEVELOPMENT OF EDUCATIONAL TECHNOLOGY AND MEDIA LITERACY IN A PANDEMIC SITUATION

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**Abstract.** This study is a form of review study related to the implementation of the use of educational technology, where this technology refers to changes and developments in society. These changes and developments make Indonesian culture also participate in these changes. Moreover, this technology refers to the overall prospect of development by describing certain parts. Like, the field of education that allocates the use of this technology as one type of field that is influenced in addition to economic, cultural or other industrial elements. Especially at the time of the ongoing pandemic like today, which asks the community to be more vigilant and even the government ordered to carry out a distance guarding process. This then gets one element of support from the ministry of education to use technology as an intermediary. Therefore, the main purpose of this study is to find out the form of influence given from the use of educational technology and literacy media in pandemic situations as well as the factors that cause this development. The method used in this study is a form of literature study method by applying elements of qualitative methods from various journals. The results of the study show some of the major influences that occur due to globalization on human resources which refer to several results, namely; (1) Government Regulation as one of the main factors in the development of this element; (2) The efficient use of educational technology in learning so that students are more familiar with audio and visual-based learning. Not just face-to-face as usual which does not provide appropriate methods in other ways that can increase students' knowledge.

**Keywords:** Educational Technology; Literacy Media; Pandemic Situation;

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## **1. INTRODUCTION**

On the nowadays, who are not maintaining the aspect of education? It is generally the one of aspect that really prioritized by every people on this world. Further, Education is a human need. Education is always changes, developments and improvements in accordance with development in all areas of life. Changes and improvements in the field of education include various components involved in it both education implementers in the field (teacher competence and quality of educators), the quality of education, curriculum tools, facilities and infrastructure. educators), the quality of education, curriculum tools, facilities and infrastructure and the quality of education management including changes in methods and strategies for more innovative learning and learning strategies that are more innovative. Efforts to change and improve and these efforts aim to bring the quality of Indonesian education better. In order to educate the nation's life, then improving the quality of education is a very important thing for development. Education is very important for sustainable development in all aspects of human life. The national education system must always be developed in accordance with the needs and developments that occur both at the local, national and global levels.

According [1], in this digital era or information age, science and technology are developing rapidly. This development has an impact on the openness and spread of information and knowledge from and to the whole world, penetrating the limits of distance, place, space and time. In fact, human life in this digital era will always be related to technology. Technology is essentially a process to get added value from the products it produces to be useful. Technology has influenced and changed humans in their daily lives, so that if we are now 'stuttering technology', it will be late in mastering information, and will also be left behind to obtain various advanced opportunities. Information has an important and real role, in the era of the information society or science society. Information and communication as part of technology is also developing very rapidly, affecting various lives and providing changes to the way of life and daily human activities, including in the world of education. Education is experiencing a very rapid development as well, including the existence of digital learning. By utilizing the development of information and communication technology, education can reach all levels of society. Education is not antipathetic or allergic to the development of science and technology, but instead becomes the subject or pioneer in its development. People with an interest in education are required to have the ability to understand technology according to their needs or technological literacy, which is also called having technological literacy, because it will play a role in present and future life. As a result, in the world of education today and in the future there are several trends, including an increasingly developed learning system with the ease of organizing education.

By the implementations of technology, the education system are currently saved as the situations that happened by the pandemic situation which already caused the most of learning has to be done by long-distance. As stated by [2] Since the emergence of the outbreak in Indonesia last March 0f 2020, the Government of Indonesia and the Ministry of Education and Culture have imposed closed to reduce the spread of the virus. In Purwakarta itself, the Regent and the Head of the Education Office made a circular letter number 420/689/Disdik, all students and teachers must implement a learning program at home or use Distance Learning. This is commonly needed the aspect of tools to organizing the learning that done by long-distance learning. Further, the educational aspect that created the way of basic of the comprehensive must be needs some technology product, and it is keeping along with the other prospects and created the side of advantages.

## **2. RESEARCH METHODS**

The aspect of method become the one of alternative way in giving the new solutions or the alternatives in solving the questions of the problems that people has. Currently, method of the research are the contextual part that released to giving the progressive or the continual parts in giving the absolute and the art of things that conducted by the human in developing the opinion or the fact that obtained from the phenomenon. In the types of the research, currently are referred to the part that being the one of common situations or from the thought that obtained as usual. Furthermore, on the aspect of the research currently has the characteristics that maked the researcher possibly took. While, on these researcher comprehendly to the thoughts or the aspect that being the mind of the research which are connected to the descriptive. As stated by [3], descriptive research has strong correlations between the source of people imaginations and the another detailed comprehension. Related to the statements, the researcher took the descriptive or qualitative research to figure out the factors that influencing of the usage of education technology.

On this research, the researcher took the types of reviewing paper as the main techniques on reviewing and describing the results of the researchs. Generally, reviewing paper or articles such as the conductions on this research are needed the techniques as mentioned by [4], the concept of techniques are giving the aspect of reviewing into the correct strategies. In this part are correlated to the parts of study literature as the techniques on reviewing the type of the articles. While, [5] on his research also stated the strategy and the techniques of descriptions and qualitative parts are includes in the context of study literature review. Whereas, the continuing data on this parts are needed on the research as supportive data.

### **3. RESULTS AND DISCUSSION**

As stated by [6], The application of information and communication technology which is the development of technology, including computer media. Computers are tools and applications of information and communication-based technology that are utilized as the main device for processing data into useful information by processing, presenting, and managing information. Data processing with computers is called Electronic Data Management. Electronic Data Management is the process of manipulating data into more useful information. Data is an object that has not been processed and will be processed which is still raw. Meanwhile, information is data that has been processed and its nature becomes other useful data.

Beside that, [7]stated the educational technology is defined as a theory and practice of processes and resources for learning. This definition shows that educational technology as a field of work and a profession that is supported by theory and practice in the field of education. In addition, the definition formulates the area of Educational Technology to be more perfect including: design, development, utilization, management and evaluation. In this concept, educational technology is a field of work and a profession based on theory and ethical practice in an effort to facilitate learning and improve performance through the process of design, development of utilization, management and evaluation of relevant learning processes and resources to improve learning to be more effective and efficient.

Media literacy and digital literacy are an inseparable part of information. Information is something that cannot be separated from human life. Because of information humans can do various things. From time to time information continues to develop, followed by the development of electronic or digital media and telecommunications. Information is not only in printed form anymore, but can already be accessed by digitizing media. Therefore, the community is expected to keep up with the times so as not to miss information. So, to overcome the problem, people must have the ability known as media literacy and digital literacy. As stated by [8], Media literacy is a person's ability to use various media to access, analyze and produce information for various purposes in one's daily life that will be influenced by the media around us in the form of television, movies, radio, recorded music, newspapers and magazines. From that media, it is still added to the internet and even now through cellular phones, it can be accessed.

By the concepts that given by [9], the ongoing coronavirus disease 2019 (COVID-19) pandemic has highlighted key global weaknesses in our health and political systems to effectively and efficiently respond to emergent challenges. Politics at large is amorphous and driven by vested-interest silos preventing policy-makers from formulating and implementing strategies to achieve goal-driven outcomes that benefit society as a whole. Moreover at times, the lack of understanding at the highest level can lead to complacency and cause an unresponsiveness to hazards. Governments at large also lack the fundamental elements that make an organisation successful a clear statement of purpose, clear statements of specific goals, clear statements of values, and most importantly agreed statements of organisational interactional rules, all of which are prerequisites to allow an organisation to become adaptively responsive in rapidly changing environments Understanding an organisation as a complex adaptive system entails that its functionality needs to embrace systems and complexity thinking. In other words, thinking about the fact that everything is connected to everything else and that perturbations in one part of the organisation effects every other is essential. This has important implications for policy-making as policies have been equated to experiments into a complex adaptive system. Outcomes of experiments are not predictable with certainty, and as experience has demonstrated so frequently, all policies have unintended consequences, some of which have destroyed the system. The COVID-19 crisis offers the opportunity to or more precisely

demands us to collaboratively re-design our systems. Design starts with knowing what we want to achieve and then working backwards to identify what steps we need to take to get there from where we are now. We argue that adherence to such fundamentals is the basis for the readiness to respond to the resource demands of a pandemic, to achieve cooperation and adherence to epidemiologically proven containment strategies, and most importantly to create trust by being fully transparent. Even, or especially, as new information arises.

**Tabel 1. Table Study Literature**

Author	Title	Method	Result
[10]	Factors Affecting Teachers' Technological Pedagogical And Content Knowledge (A Survey On Economics Teacher Knowledge)	Qualitative	The results show that the teachers' experience, training, facilities and infrastructure, self-efficacy, as well as motivation are at a low level. Likewise, the teachers' TPACK seems to be low.
[11]	Factors affecting teachers' technological pedagogical and content knowledge (A survey on economics teacher knowledge)	R&D	Resulted in a digital literacy-based learning video media on the topic of natural resources and technology for class IV SD which has been tested for validity.
[12]	Optimizing the Use of Educational Technology and Media Literacy Skills during the Covid-19 Pandemic	Literature Review	The results of the study show that optimizing the use of technology in education during the COVID-19 pandemic can be done by focusing on increasing the utilization, service, and acceptance of this media as a learning tool

### **Impact of Technology Education Toward Of Learning System**

Learning today is very different from learning in the past. The rapid development of information technology in the era of globalization is inevitable affecting the world of education. The demands of global demands require the world of education to always and constantly adjust technological developments to efforts in improving the quality of education, especially the adjustment of its use for the world of education, especially in the learning process. Advances in information and communication technology have changed the human lifestyle, both in working, socializing, playing and learning, human lifestyle, both in working, socializing, playing and learning. In this era era, technology enters easily into our lives, including the education sector and one of them into the field of education. Thus, in the concept are mentioned by [13] In the world of education, there has been a shift, and even a fundamental change in the level of philosophy,

direction and goals. Fundamental changes at the level of philosophy, direction and purpose. It is not an exaggeration to say that the advancement of science was triggered by the birth of computer technology. One of the most prominent characteristics of this era is the increasing world of science, so that the relationship between them becomes faster and faster. In the context of the utilization of information and communication technology in the world of education, it has been proven that the narrowing and melting of the factors of "space and time" which have been the determining aspects of the speed and success of mankind's mastery of science.

Related to the statements, [14] giving the other opinion of the education technology which are currently enables continuous access to information and knowledge. Classes can be completed entirely online using a laptop or mobile device. Learning that is hybrid combines the use of technology from almost anywhere with regular in-person classroom sessions. It is possible to use technology to tailor learning plans for each student in both scenarios. Lessons can be designed based on student interests and strengths. Another advantage is that students can learn at their own pace. Students can rewatch videos in the lesson plan when they need to review class material to better understand key concepts. In addition, teachers can use the data generated by these online activities to see which students struggled with certain subjects and offer extra help and support.

### **Factors that Influencing of the usage of technology education**

As stated by [11], there are few aspects that created the technology become the one of parts of educations as following below:

#### **1) The independence of students**

They are required to learn independently with various appropriate approaches so that they able to direct, motivate, and organize themselves in carrying out their learning activities.

#### **2) The lock-down**

[15] stated The development of the health crisis that impacts the world economy has practically forced all countries in the world to retreat with predetermined strategic plans, which are then replaced by emergency response policies by mobilizing all resources to overcome the Covid-19 outbreak. Think tanks and strategic thinkers have corrected their projections, especially in 2020, which is likely to see an economic slowdown, recession, and even depression. Development in every country is sure to be disrupted. Each country revises its state budget and provides a large allocation of funds to deal with this corona outbreak. Given the disease comes through the coronavirus is quite deadly (on average, around 3-5% of deaths from victims who have been exposed to the virus), then patent drugs have not been found. Only preventive solutions are the best way to pursue so that each country can protect every life of its citizens. Various countries have implemented lockdown policies to limit the total spread of this virus. However, changing people's social behavior is not an easy job. Various countries, with all their limitations, face challenges that are not simple. Even developed countries in Europe and the United States are very overwhelmed. The general policy that requires people to carry out social and physical distancing (maintaining a safe distance between individuals and avoiding crowds) is not easy for human beings on earth accustomed to their social behavior.

## **4. CONCLUSIONS**

Advances in information and communication technology have changed the human lifestyle, both in working, socializing, playing and learning, human lifestyle, both in working, socializing, playing and learning. In this era era, technology enters easily into our lives, including the education sector and one of them into the field of education. Which already impact from the independence of students and the lock-down process. This is connected as the statement of education is experiencing a very rapid development as well, including the existence of digital learning. By utilizing the development of information and communication technology, education can reach all levels of society. Education is not antipathetic or allergic to the development of science and technology.

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