Technology Application In Education And Learning Process

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Abstract. Talking about education, firstly, education is a conscious effort in realizing the learning process in order to make students actively develop their potential to be able to have noble character, intelligence and personality that are good for themselves and society. Along with the development in the world of education that continues to change rapidly or develop rapidly which can change the mindset of educators, from being rigid to modern. That is very influential to education. The main purpose of education is to produce or make someone to have quality, knowledge and character, so that he has a broad view to get the desired ideals and to be able to adapt in environment. Education provides motivation to be a good person in all aspects of life. Education itself is a very important thing in human life. Therefore all citizens have right to get good quality of education. In education the role of a teacher is very important. A teacher is an educator, a teacher and an example for his students. Teaching is a very complicated matter, not as easy as we imagine when teacher is teaching, he must know each character of the students. In addition the teacher must also prepare designs before conducting the teaching and learning process. The teacher must think of ways that are used to increase students' interest in learning and improve the quality of teaching. With the rapid development of technology, teachers must be able to use these technological developments in the teaching and learning process in the classroom. So that there will be no lag in that development. In the teaching and learning process the teacher only uses the monotonous lecture method that will reduce students' interest in learning because students may feel bored or think it is not interesting for them. Therefore the teacher is able to apply the technology in learning. It is usually known as Educational Technology. Educational Technology is a medium that is used as a tool in education or the learning process to be more effective, and can be easily observed by students. The purpose of this Educational Technology is as a media to solve problems in learning that can improve learning performance. So that it can increase learning interest for students. Educational technology also help teachers in making media used in the learning process, so that students can attract the desire to learn. By Educational Technology, teachers can create media that enable them to apply the material presented with images on the internet.
material can be presented through videos or stories on YouTube. It is the same as making a TTS column from this technology the teacher can make questions through this TTS. So there is a touch of games in learning. This can increase students' desire to learn. In addition, this can also make students more active and critical in learning activities.

1. Introduction

Rivai says that, the advantages of learning combined by educational technology are, firstly to accommodate slow participants in more individual ways, secondly, to stimulate student learning interest in doing exercises or assignments given by teachers [1]. From the benefits obtained, the use of technology in education is believed to increase the results and motivate the students themselves [2]. Improving learning outcomes directly is an indicator of effectiveness and efficiency in implementing learning. So, the development of learning by utilizing this technological development is very important and must be used by the teacher or educator as well as possible. Turning this psychological development to be negative things need to be avoided because the image of educators and students will be bad. A development will give positive or negative impacts depend on the way it is used by human [3].

Discussing about the positive impacts or benefits of educational technology, the negative effects are also exist [1]. If the display of the contents of the learning is not well designed or just like a learning textbook, it cannot increase the motivation of students because they will quickly get bored. In addition, teachers who do not understand the application of technology will not be able to design learning through this technology, because of the limited knowledge about the technology possessed by these educators. The relationship between teacher and students is teacher is only as a facilitator while students need to develop their ability to understand the material or topic presented by the teacher. So that students learn happily and enthusiastically. Educators or teachers need to innovative and creative in making teaching methods for students so that the learning process is more interesting and can reach the target learning. This can be happen if the teacher continues to update the teaching materials by using varied learning methods by utilizing technology [4].

Based on the study that was done by Anitah in 2010, especially if in the teaching and learning process the teacher only uses the monotonous lecture method that will reduce students' interest in learning because students may feel bored or think it is not interesting for them.

The teacher uses this educational technology as a medium for learning. Learning media consists of two components, namely hardware such as LCD, TV, Radio, Computers and software such as the contents of the learning that is on the hardware that will be delivered to students [5]. Technology that is very practical can easily lift the learning process. By the use of visual technology, teachers can facilitate the learning process with educational things. Other learning media such as the internet are very easy to reach. Because of its free nature, educators can easily find out information from any perspective [6]. However, by the entry of technology into the world of education as it is today the role of teachers or even parents is very important, to support the character education of students. The role of the teacher to sort out and choose which is best for students is very important so as not to deviate from the positive things of this educational technology for the learning process.

2. Discussion

Learning activities are the main activities in education. The achievement and purpose of education use processes that are designed and carried out creatively, innovatively and not using technology in education. One of the problems in the world today is the problem of education quality. From that basis, the effort that can be made is to develop the learning process by using the interests of students in developing cognitive, effective and conation abilities. Through the facilities provided, students can learn independently where and anytime without limits by space and time. The way they learn is also more varied, not only by using this method but also educators can present material with visual, audio, animation, or text media.
The essence of learning is about the process of learning how students learn. The application of teaching and learning strategies emphasizes the activeness of students in the process is causing students to be able to use all of their abilities in carrying out various required learning activities. This shows that effective learning is imposed on the creation of optimal student learning activities. Teachers must be able to create conducive conditions so students can be more active in accordance with their own abilities and awareness. The effectiveness of teaching can be seen from the stated goals. Education must be systematic from the planning, development, implementation, evaluation and improvement stages, sensitive with task needs and learning needs, the goal must be clear in order to have an effort to achieve it. It must be starting from the abilities or strength of those concerned, namely students, educators, society and government. To support the effective learning process, educational technology is very necessary because in practice educational technology has a big contribution in the world of modern learning, related to the above principles that underlie educational technology in the learning process at least there are 5 namely education technology as an effort to obtain behavior, student learning outcomes are characterized by changes in behavior as a whole, learning is a process, the learning process occurs because of an impulse and goals to be achieved, learning is a form experience.

From the description above, in good learning in the context of educational technology, media or learning tools have beneficial values for teachers and students because they are quite effective and efficient in achieving the expected competencies. Media or learning tools such as radio, television, laptops, internet, LCD and others both simple and modern are very helpful for the effectiveness of the learning process. Educational technology-based learning will be very effective if the teacher applies a student centered learning model. In the process / concept of educational technology, the task of the media or tool is not only to communicate the relationship between the source (instructor) and the recipient (the student), but more than that it is an integral part and has interrelationships between components with one another, mutually interact and influence each other [4] [7].

Definition of educational technology according to AECT (The Association for Education Communications & Technology) is the study and ethics of practice to facilitate learning and improve performance by creating, using, and managing appropriate technological processes and resources [8]. Appropriate technology in learning must be assessed based on its potential to meet educational goals. The main potential of educational technology is supporting creativity and critical thinking. In order to understand better how to evaluate the feasibility of educational technology, it is important to identify what is the purpose of education, what is the technology of education and how is the application of appropriate educational technology.

Criteria for assessing the suitability of technology especially for higher education in developing countries include [6]:

a. **Systems independence**
It relates to the ability of technology devices to stand alone, to perform their duties with little or no other facilities or supporting devices that assist in their functions.

b. **Image of modernity**
The nature of humanity has the desire to feel important, and is perceived as valuable, therefore, successful technology brings its users not only to meeting needs, but also to feeling a level of sophistication, which can enhance their social status.

c. **Individual technology versus collective technology**
Related to the social or cultural standards in which the proposed technology will operate.

d. **Cost of technology**
The cost of the device must be such that people can afford it.

e. **Risk factor**
The development of new technology gives the possibility of success or failure. There are 2 kinds of risks that must be considered, namely internal and external risks. Internal risk is the risk associated with the way the technology is in accordance with the local production system, external stores related to the support of the system needed to support the functioning of the
technology is going well. These risks must be considered before and during the development of technological devices.

f. Evolutionary capacity of technology

Wherever and whenever possible it is preferred that technology has design characteristics that allow for continued development.

g. Single-purpose and multi-purpose technology

Technology devices have certain objectives that might be very useful for those who cannot afford to buy individually. In addition, the economic benefits of this approach also reduce the technical knowledge and skills needed to maintain the functioning of the device. Therefore, if possible, appropriate technology must be developed for various applications. The right technology might not exist. These criteria are not complete. All existing technologies do not have to be used "blindly". Learners need to do an evaluation, one of which can be done by evaluating the available technologies. Not all technologies and their interests must be followed. For example the development of multimedia now that has exceeded interactive multimedia, does not mean that it must be utilized in learning. What must be considered is the need and learning environment. Evaluation of learning technology such as multimedia must be carried out to further research for its application in learning. The best approach to building appropriate technology is to balance criteria with needs.

In the teaching and learning process educators must see the rapid development. One of them is the development in this era of globalization in the field of technology. Learning outcomes in schools are only relevance to the objectives of a formal curriculum that is limited and do not have meaningful relevance to real social life, even seems boring and no longer liked by students [2]. In the learning process there has not been a transfer of cultural concepts of intelligent thinking, critical and systematic. Therefore, it is very important for an educator to develop and utilize existing technology as an educational medium. One example of advanced technology and widely used today in education is computers. Nowadays computers become media and learning resources as well as media for student interaction with teachers in learning. The use of computer media in following the times in the era of globalization to be used when learning has been done by educators. But due to the understanding of computers that are still lacking, their use becomes less optimal.

The development of science and technology increasingly encourages renewal efforts in the teaching and learning process. In carrying out their duties, the teacher (instructor) is expected to be able to use tools or materials supporting the learning process, from simple tools to sophisticated tools (according to developments and demands of the times). Even more than that, teachers are currently required to make their own media to give to their students. If implemented properly computers as technology and learning media between teachers and students will be able to make students more active, creative, fun learning, not boring, and increase students' interest in learning. So that its existence is needed to better support the formation of individuals who are active, insightful and keep up with the times. Learning is the process of pouring ideas into new experiences. Knowledge is built little by little and the results are expanded through an unlimited and not sudden context.

In addition, so far many problem training activities given by the teacher to students aim to hone their skills in understanding a material concept. However what happens is the problem exercises given by the teacher are sometimes considered by students as a heavy, boring burden and very scary. Most students today prefer to play games on a computer compared to having to complete the problem exercises given by the teacher. In fact the game played by students in a computer sometimes requires more logic and more thinking skills than having to solve the questions given by the teacher. But the reality is one that causes students to prefer games that require more brain work because in these games more attractive and very nice appearance to be played besides that also because we have the nature of being happy to play. If we ask the flow of the game from a game that is being played they will quickly explain the flow of the game and the purpose of the game compared to asking questions at school and the exercises provided by the teacher.
The media is an intermediary to convey ideas, ideas about things that are packaged in such a way that the idea can be well received. The use of this media can also increase student motivation. With the increasing motivation to learn, the goals of the teaching and learning process will be more easily achieved. Problem that arises in the application of educational media is the lack of facilities and infrastructure to support the learning process. This is due to less prominent human resources such as the use of computers that use English and some application programs that cannot be mastered perfectly such as Microsoft Word, Power Point, and Excel etc.

In general, teachers when they are teaching who use the lecture method even though not all suitable teaching materials are delivered using the lecture method. If such perceptions can occur misperception or understanding, causing learning objectives not to be achieved. If the learning objectives are not achieved well, what is blamed is that the educator is sometimes even considered a failure in the learning process. So, educators must be good at turning their brains so that the learning process takes place well and learning objectives can be achieved in accordance with what is desired. In order for the learning process to run smoothly and well, teachers can use or use the media as a tool in the learning process. Media that can be used in teaching whether it's a reference book or anything that can help in the learning process so that students understand the material presented. Because by using learning media the learning process becomes more interesting and students better understand what is conveyed by the instructor.

Initially, learning media only functioned as a teacher's aim is to teach used visual aids. Around the middle of the 20th century visual utilization efforts were equipped with the use of audio devices, so audio-visual aids were born. In line with the development of science and technology, especially in the field of education, the use of teaching aids or learning media is now becoming more widespread and interactive, such as computers and the internet. Media has several functions [9], including:

a. Learning media can overcome the limitations of experience possessed by students. The experience of each student varies, depending on the factors that determine the wealth of a child's experience, such as the availability of books, the opportunity to travel, and so on. Learning media can overcome these differences. If students are not likely to be brought to the direct object being studied, then the object is brought to the students. The intended object can be in the form of real, miniature, model, or the form of images that can be presented in audio visual and audio.

b. Learning media can transcend classroom boundaries. Many things may not be experienced directly in the classroom by students about an object, which is caused, because: (a) the object is too large; (b) the object is too small; (c) objects that move too slowly; (d) objects that move too fast; (e) objects that are too complex; (f) objects that sound too smooth; (f) objects containing dangerous and high risk. Through the use of appropriate media, all objects can be presented to students.

c. Learning media allows direct interaction between students and their environment.

d. The media produces uniform observations

e. Media can instill true, concrete, and realistic basic concepts.

f. The media evokes new desires and interests.

g. The media arouses motivation and stimulates children to learn.

h. The media provides an integral / comprehensive experience from the concrete to the abstract

3. Conclusion

From the explanation above, it can be concluded that with the rapid development of technology teachers can use it as a means of teaching and learning, so that teachers can also be more active and creative in developing their knowledge given to students. In addition, with the use of technological developments towards a positive direction, it can also make students more active, creative, increase business and interest in learning. In the learning process, the role of Educational Technology is not only as a medium or tool but also as a communication tool between educators and their students who interact and influence one another. The application of technology in the world of
education is expected to make the learning process in general more efficient, more effective and have a positive impact. Effective and efficient means that education should be able to achieve the desired goals by reducing costs, labor and time spent.

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