Hacking Impossibility in an Era of Disruption: Development of Online Teaching Materials for Early Childhood

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Abstract

Education is a conscious and planned effort to develop children's potential. This is in accordance with the purpose of education itself, namely to educate the nation's life. Early Childhood Education is an education that is held with the aim of facilitating the growth and development of children as a whole or emphasizing the development of all aspects of a child's personality. To realize effective learning, comprehensive efforts need to be taken to the ability of teachers to use the internet as a means of learning. However, based on the growing issues in education, learning has not worked effectively, and even many teachers teach without using online learning resources. The purpose of this study was to find out how the influence of the use of online teaching materials on the effectiveness of learning in Kindergarten in Sipoholon District, North Tapanuli Regency. Based on research that has been carried out, it can be concluded that the online teaching materials used in Kindergarten for children in Sipoholon sub-district, are less effective on student learning development. So it is hoped that it can contribute knowledge to schools and parents to be able to develop online teaching materials in schools, so that the effectiveness of student learning outcomes is getting better.

Keywords: Era of disruption; online teaching material; early childhood

Preliminary

Education is a conscious and planned effort to develop children's potential. This is in accordance with the purpose of education itself, namely to educate the nation's life. In the process of educating children, it is necessary to create a good relationship and learning atmosphere between teachers as educators and students as students (National Education System Law Number 20 of 2003). Teachers who are competent in teaching are able to create effective learning, for this reason, in the learning process teachers must be able to develop teaching materials, communicate, understand, support, and provide freedom in learning so that student learning processes and results will be maximized (Kristiawan et al., 2021).

Early Childhood Education is an education that is held with the aim of facilitating the growth and development of children as a whole or emphasizing the development of all aspects of a child's personality (Besser et al., 2022). Therefore Early Childhood Education provides opportunities for children to develop personality and potential to the maximum, on this basis Early Childhood Education institutions need to provide various activities that can develop various aspects of development such as moral, cognitive, language, social, emotional, physical and motor development. Institutionally, Early Childhood Education can also be interpreted as a form of education that focuses on laying the foundation towards growth and development of both fine and gross motor coordination, emotional intelligence, multiple intelligence and spiritual intelligence. Juridically in Law Number 20 of 2003 concerning National Education System Article 1 paragraph 14 it is stated that Early Childhood Education is an effort aimed at children from birth to the age of six years which is carried out by providing educational stimuli to help the development of physical and spiritual growth so that children have readiness to enter further education. Furthermore, Article 28 states about Early Childhood Education that:

1.   Early Childhood Education is held beforethe basic education level.
2.   Early Childhood Education can be implemented through formal education channels such as children's Kindergarten, informal such as family and or non-formal education, such as or Play Group and so on. To achieve these educational goals, quality teaching and learning activities are carried out.

Effectiveness is a measure of whether or not the achievement of an organization's goals is successful. If an organization has achieved its goals then the organization has run effectively. Learning is an activity carried out to achieve knowledge, attitudes and skills by requiring high concentration, using the right learning materials will make learning effective (Mahmood, 2021).

Learning effectiveness is a process of learning activities where students are intellectually and emotionally involved, so that children really play a role in active participation in carrying out learning activities. Learning effectiveness is an aspect of a plan or program, namely a programmatic study plan, if the entire plan can be implemented then the plan or program is said to be effective.

The efforts of Early Childhood Education teachers in developing learning effectiveness are very important because the effectiveness of learning is a determinant of the success of the learning carried out. So teachers as educators need to provide stimulation so that children are active and passionate in learning, and must be able to choose and use the right learning materials to achieve learning goals that are in accordance with the provisions made by the school.

To realize effective learning, comprehensive efforts need to be taken to the ability of teachers to use the internet as a means of learning. However, based on the growing issues in education, learning has not worked effectively, and even many teachers teach without usingonline learning resources. They teach regularly as they are so that learning is teacher-centric. Related to the development of computer network technology that exists today, children can learn by using the internet network as a learning resource, of course with the guidance of teachers.

Many learning materials have been developed by a teacher to foster learning effectiveness and make it easier for children to understand and master certain materials. One

of the learning materials that are in accordance with the learning materials to be able to increase the effectiveness of current learners is the use of online teaching materials.

Today's technology has brought about rapid changes in aspects of education, Early Childhood Education teachers need to change the paradigm of how they teach and do their job. Applying science and technology will make it easier for teachers to do their tasks such as conveying and obtaininginformation more easily. The benefits of the internet as one of the largest media in the world. Technology can be used as a driver for the advancement of education through learning media packaged in various forms of online teaching materials.

However, limited human resources and technological infrastructure in Early Childhood Education schools are the main obstacles to the implementation of online learning. This includes the difficulty of teachers mastering technology, aka gaptek. Many teachers in the country are already elderly, most of them also have difficulty adjusting to technological developments. They were confused, including me, who had to be taught to use my son's cell phone. In addition, sometimes teachers also feel very comfortable with the way of teaching they usually use. These habits also hinder the application of online learning. For this reason, there needs to be special ways and strategies so that teachers become literate and utilize information technology. You have to learn to think more advanced in everything so as not to be left behind, so that the communication and information process of teachers and children is more effective.

Information obtained from various Kindergarten institutions in Sipoholon Subdistrict, North Tapanuli Regency, the most basic problem is the problem of learning effectiveness. The problem of learning effectiveness was chosen as a study because there was a lot of data found regarding indications of lack of effectiveness of learning in Kindergarten in Sipoholon District such as: children's learning methods that are less regular, for example in terms of the use of learning time, the use of learning time is not consistent, learning activities carried out by children are not complete, meaning that learning does not produce learning goals that have been determined, unproductive learning means less producing changes in attitudes, knowledge and skills. Because the learning activities carried out are still old patterns or ways of learning that are usually done so far. While nowadays there are many forms of online learning materials available. With online teaching materials, children are more interested in learning because the teaching materials are presented with carefree and joyful nuances, playing, singing with sophisticated animations.

Theoretical Framework

Research methods

The research approach used in this study is quantitative. Creswell mentions that, quantitative research is a type of educational research in which the researcher decides what to study; ask specific, narrow questions, collects quantifiable data from participants; analysis these numbers using statistics; and conducts the inquiry in an unbiased, objective manner. That the emphasis of research is in the search for causal or causal relationships between the variables studied. This quantitative descriptive research is a study intended to determine the effectiveness of learning through the development of teaching materials online on subjects that are investigated for student learning outcomes (Creswell, 2019). Researchers can also find out the media used in learning by observing during research activities.

Results and Discussion

Effectiveness

The word effectiveness comes from the root word effective. Based on the understanding in the Big Dictionary Indonesian the word effective has the meaning of an influence effect, an effect or can bring results. So that effectiveness is activeness, usefulness, and conformity in an activity of people who perform tasks with the intended target. Then it can be concluded that effectiveness is a state of affairs that indicates the extent to which the plan can be achieved.

Effective is a change that brings meaning, influence and benefit. Effective learning is a learning process that makes students more actively involved in learning. Effective learning is the ability to create a pleasant learning atmosphere so as to provide creativity for students to be able to learn with the potential they already have, namely by providing freedom in carrying out learning in their own way of learning.

Learning

The definition of learning is contained in the Big Dictionary of Indonesian which is the process of how actions make people or living beings learn. Furthermore, in the Law of the Republic of Indonesia Number 20 of 2003 concerning the National Education System, it is stated that learning is the process of interaction of students with educators and learning resources in a learning environment. Every lecturer or lecturers are important to understand the learning system, because with an understanding of this system, each lecturer will understand about the learning objectives or expected results, the process of learning activities that must be carried out, the use of each component in the activity process to achieve the goals to be achieved and how to know the success of these achievements.

Learning Effectiveness

Based on Popham's opinion, that the effect of the learning process should be viewed from the relationship of certain lecturers who teach certain groups of students, in certain situations in an effort to achieve certain instructional goals. In other words, it is also stated that the effectiveness of the learning process means the success rate of lecturers in teaching certain groups of students by using certain methods to achieve certain instructional goals.

Effectiveness can be measured by looking at student interest in learning activities. If a student does not impart in a lesson, they cannot be expected to succeed well in learning the learning material.

Indicators of success or effectiveness are (Bahasoan et al., 2020):

1.   The completeness of learning if the media used succeeds in ushering students to achieve predeterminedinstrusion goals, as evidenced by the student's response during learning.
2.   Learning is said to be effective if it can increase interest and motivation if after learning students become motivated to study harder and obtain better learning outcomes.
3.   Learning is said to be effective if the facilities and infrastructure used to support the student learning process have been fulfilled.

Characteristics of Learning Effectiveness

The effectiveness of the learning program is characterized by the following characteristics (Hamid et al., 2020):

1.   Successfully deliver students to achieve predetermined instructional goals

2.   Providing an attractive learning experience, actively involving students so as to support the achievement of instructional goals

3.   Have facilities that support the teaching and learning process.

4.   Based on the characteristics of effective learning programs as described above, the effectiveness of learning programs is not only in terms of the level of learning achievement, but must also be viewed in terms of supporting processes and facilities.

Learning Effectiveness Criteria

The effectiveness of learning methods is a measure related to the success rate of a learning process. The effectiveness criteria in this study refer to:

1.   Completeness of learning

2.   The learning model is said to be effective in improving student learning outcomes if statistically student learning outcomes show a significant difference between initial understanding and understanding after learning (significant outcomes).

3.   The learning model is said to be effective if it can increase interest and motivation if after learning students become more motivated to study harder and obtain better learning outcomes.

Learning Effectiveness Objectives

The purpose of learning is the achievement of changes in behavior or competence in students after participating in learning activities the achievement of changes in behavior or competence of students sehave participated in learning activities.

Nana Syaodih Sukmadinata (2021) identified 4 (four) benefits of learning objectives, namely (Sukmadinata, 2021):

1.   Make it easier to communicate the intention of teaching and learning activities to students, so that students can do their learning actions more independently.

2.   Make it easier for teachers to choose and compile teaching materials

3.   Help make it easier for teachers to determine learning activities and learning media.

4.   Make it easier for teachers to conduct assessments.

Online Teaching Materials

According to Ariawan, teaching materials are one of the learning material or substance tools that are systematically arranged, and display the full range of competencies that students will master in learning activities (Ariawan, 2022). Teaching materials are all forms of materials used to assist lecturers or instructors in carrying out teaching and learning activities.

The preparation of teaching materials, both for the distance learning process and directly the face-to-face between educators/teachers and students is a characteristic of an instructional system. Teaching materials are designed based on a predetermined plan of teaching and learning activities by educators.

The content of online teaching materials held at the Early Childhood Christian Education Department Tarutung State Institute for Christian Studies is:

1.   Semester Study Plan. The Semester Learning Plan is a learning planning document that is prepared as a guide for students in carrying out lecture activities for one semester to achieve predetermined learning outcomes.

2.   Learning Modules. According to Kepenvoy of the Minister of Education and Culture

Nomor 025/O/2008 on Guidelines teknis Functional Positions of Lecturers, the definition of a module is subject matter that is compiled and presented in writing in such a way that the reader is expected to absorb the material himself. Modules are a unit of learning materials that can be learned by students independently. It contains clear components and instructions so that students can follow in sequence without the intervention of the teacher. Module writing aims to:

a.   Clarify and make it easier to present the message so that itis not too verbal.

b.   Overcoming the limitations of time, space, and sensory power, both students or participants inthe training and lecturers/instructors.

c.   Can be used right and varied, such as:

1)   Increase motivation and passion for learning for studentsor training participants;

2)   Develop students' ability to interact directly with the environment and other learning resources.

3)   Allows students or training participants to study independently according to their abilities and interests.

4)   Allows students or training participants to measure or evaluate their own learning outcomes.

3.   Power Point. Microsoft Office Power Point is a computer program for presentations developed by Microsoft, in addition to Microsoft word and excel that many people are familiar with. The power point program is one of the software specifically designed to be able to display interesting multimedia programs, easy to make, easy to use and relatively cheap, because it does not require raw materials other than tools for data storage. Microsoft Office Power Point provides slide facilities to accommodate talking points that will be delivered to students. With animation facilities, a slide can be modified interestingly. Power point media is a presentation application program which is one of the application programs under Microsoft Office computer programs and display to the screen using the help of LCD projector. The accuracy of the use of power point media is that it can help achieve student learning success. The use of power point media is one of the tools used during the learning process. The use of power point media will make it easier for students to understand the material presented.

4.   Practice and Evaluation Questions. In relation to the field of education, the evaluation specifically aims to find out the extent to which students have mastered the previously set learning goals and diagnose student learning difficulties. In order to achieve optimal educational goals, lecturers also provide guidance to students by trying to understand the learning difficulties experienced by students and their backgrounds and at the same time provide assistance to overcome them to the extent of their abilities and authorities.

5.   Video. Video is an electronic signal sending technology from a moving image. The use of videos in online learning also provides opportunities for children to participate in learning activities for a long time, because children can easily access the learning videos taught by the teacher again.

Based on research obtained from the analysis of correlation data between the category of online teaching materials and the effectiveness of student learning, namely that there were 28 people (93.3%) who used online teaching materials but were not effective on learning effectiveness, while there were 2 people (6.7%) respondents who used online teaching materials and were effective on learning effectiveness.

Thus, from the results of this study, it is known that the online teaching materials used in Kindergarten for children as late as Sipoholon are still not effective enough on the

effectiveness of student learning during the Covid-19 pandemic. Learning with online teaching materials can help students carry out learning effectively (Singh & Thurman, 2019).

In achieving the effectiveness of this online teaching material, it is influenced by the learning modules used in learning activities, namely by using adaily learning implementation plan. From the results of this study, it was found that most respondents who used online learning modules were quite effective in learning. And this is in line with research conducted by Ismi Laili, revealing that online learning modules are effectively used in online learning (Laili, 2019).

Conclusion

Based on the results of research conducted by the research group, it was concluded that to find out how effective learning is in Kindergarten in Sipoholon district, North Tapanuli regency. And researcher knows how to use online teaching materials in Kindergarten in Sipoholon sub-district, North Tapanuli Regency, and researchers know that online teaching materials which is used less effectively against student learning development.

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