

Simple Technologies in Early Childhood Learning: Benefits, Advantages and Disadvantages

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Abstract. Simple technology is a learning medium or program that contains a combination of images, sounds and animations in an integrated and synergistic manner with the help of computer devices and devices to achieve learning goals in the classroom. To understand more deeply related to simple technology in early childhood learning, this article with systematic literature review method will review the application of simple technology in early childhood in terms of benefits, weaknesses, and advantages. The results of this study are intended as a guide for teachers as field practitioners to be more creative and innovative in utilizing existing resources but still in accordance with the needs of the learning process and the development of the times. Furthermore, this research is also useful for policymakers in the field of education in order to provide supporting infrastructure for early childhood education according to learning needs. The results showed that simple technology has positive benefits for children's development, because children can learn by using their senses of vision and hearing, making it easier to learn. The advantages of simple technology in Early Childhood Education (ECE) make the learning process more interesting and fun and children become more understanding, feeling, growing their attention, abilities and skills towards the learning material delivered by teachers in class. Meanwhile, in the application of simple technology, weaknesses are also found, namely the lack of ability of teachers to master technology in carrying out learning in class, so that the application of simple technology has not been carried out optimally.

Keywords: Early Childhood Education, E-learning, Technology

1 Introduction

The development of the times requires humans to continue to innovate in creating a technology that makes it easier for humans to do a job in all fields, including the field of education [1]. The field of education is required to always keep up with the times, one of which is by utilizing technology in the learning process in the classroom [2].

Early childhood education is a basic education that is also required to be able to use simple technology in teaching and learning activities in the classroom. The early childhood education level is a basic education that is shown to children from birth to the age of six years as a coaching effort carried out through the provision of educational stimuli as a form of stimulation to develop growth and development that is possessed both spiritually and physically in preparation for entering further education levels [3].

The results stated that the development of the early childhood brain in absorbing information coming from the surrounding environment can reach more than 50% [4]. This age is a fundamental phase for every child, where every information received and experience experienced by children can equip children from an early age in facing their problems [5]. In the time of globalization, technology is developing faster and faster, and facilitates human life because of the sophistication it has. Simple technology is a technology that can facilitate human work in the face of their problems [6].

Simple technologies need to be introduced to children directly, especially in the process of learning in the classroom. The use of simple technologies such as laptops and LCDs in the classroom learning process is very helpful for teachers in explaining new learning to children [7]. The quality learning process can actually be started from an early age by considering aspects of development and characteristics of children in a holistic and integrative manner. This means that quality learning is a major factor in the success of education in early childhood. The quality of learning can be improved through adequate classroom management by prioritizing humanist principles and approaches for children [8]

However, in general, there are still many obstacles, obstacles and challenges of learning in early childhood education institutions, both formal, informal and non-formal. In the past, learning was more traditional, manual, dogmatic, using unchanging learning strategies and methods. In addition, learning tends to be teacher-centered and does not give the child the opportunity to freely discover his potential in early childhood. This is due to the low quality of ECCE teachers in handling learning and knowledge in the field of early childhood education [9]. Moreover, the ability of teachers to use information and communication technology that can be applied to ECCE learning in schools is still not optimal.

The competence of early childhood education teachers in 2020 in Indonesia is still not as expected where teachers do not have the ability to master simple technology in the learning process in the classroom [10]. So that learning in class becomes monotonous, less varied and not challenging. Indeed, this can cause early childhood to tend to feel bored and saturated in learning activities in the classroom. In addition, ecce learning is still not utilizing and involving the use of technology adequately, thus causing the learning atmosphere to be less effective, inspiring, and productive [11].

Teachers are now required to be able to master and utilize information and communication technology in indoor and outdoor learning [12]. It aims to stimulate physical and psychic development in this modern era through the help of technology. Learning today, is more geared towards modernization activities with the help of advanced technology in the hope of helping early childhood in exploring potentials, interests, and talents in an interactive, productive, effective, inspiring, constructive, and fun manner

[13]. In addition, early childhood is also expected to have simple life skills from the application of the technology.

Learning using simple technology provides opportunities and opportunities for teachers to be able to improve and develop their competencies, especially pedagogic and professional competencies. The use of technology in learning is assumed and expected to be a solution in overcoming learning problems in the classroom caused by the suboptimal role of teachers in utilizing the use of technology in the world of education, especially early childhood education [14]

Therefore, this study aims to fill in the gaps of existing research, this article reviews simple technologies in early childhood learning: benefits, advantages and disadvantages. The results of this study are intended as a guide for teachers as field practitioners to be more creative and innovative in utilizing simple existing technology but still in accordance with the needs of the learning process. Various case studies and results were examined. Moreover, barriers limiting the use of simple technologies in teaching and learning were identified; and some unresolved cases and future research of decisions outlined.

2 Methods

The research method used in the form of the Systematic Literature Review method is carried out by collecting library data in the form of methods, theories documented in the form of journals, notes, books and existing documents with the aim of identifying, reviewing, evaluating and solving a problem in depth to relevant library materials [15]. The source of literacy used is a research manuscript indexed by the Scopus database with simple technology keywords. Articles used as references are articles published between 2012 and 2022. Researchers then group existing articles to then record, review and analyze articles in depth, especially regarding the research results presented in the discussion section and conclusion section. In the final part of the study, the researcher compares the findings presented in the article and gives conclusions.

3 Result and discussion

3.1 Benefits

Technology is widely used to support the learning process including in early childhood education. The learning process has an important role in improving the quality of education, so it is appropriate that the learning held can bring benefits to students [16]. The usefulness and meaningfulness of learning can be built through the creation of a pleasant learning atmosphere and being able to provide stimulation to students from various aspects while helping to optimally explore their potential [17]. The use of technology has been proven to be able to increase children's interest in learning because of the more attractive appearance when children receive the latest information from the teacher.

Simple technology is an application and media that is designed in a modern way and is used as a source of learning theory and practice, learning. Today, information technology is widely used in the world of education. The use of information to learn media can have a positive impact on learners, making it easier for them to find the information they need during the learning process [18]. The following is an overview of the use of simple technology in the classroom during the implementation of learning:

- 1 The teacher uses a laptop to display the power point application which contains the learning materials of the day
- 2 Teachers can make video tutorials that students can learn at home independently together with parents in relation to the day's learning
- 3 Creation of e-learning through the school web
- 4 Making learning videos in class by the teacher, which can then be uploaded back to the internet to be seen again by participants at home

Simple technology will not replace teachers in the learning process, but teachers who are willing to learn and innovate in using simple technology in the classroom during the learning process will replace teachers who do not want to develop themselves in using simple technology during the learning process [19]. Figure 1 explains the benefits of simple technology in the classroom learning process for teachers and learners.

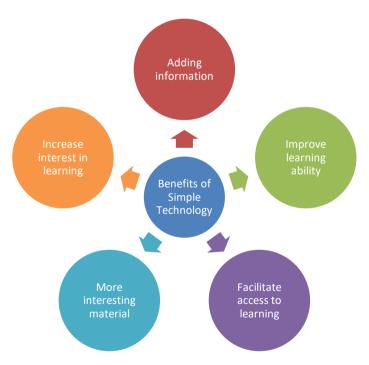


Fig. 1. Benefits of Simple Technology In Education

The following is an explanation of the benefits of simple technology in education in the form of a learning process in the classroom:

a. Adding information

Simple technology makes it easier for teachers and students to find the latest information related to learning materials in the classroom via the internet [20].

b. Improve learning ability

Simple technology improves the ability of students to find the latest information related to learning materials in class via the internet under the supervision of teachers and parents [21]

c. Facilitate access to learning

The learning process can be eased by the presence of simple technology in education. Suppose the teacher can provide learning materials or assignments through the WhatsApp Group so that students can immediately complete and accumulate the task [22].

d. More interesting material

The use of technology in education makes learners feel more comfortable and does not look boring or monotonous. This is because the provision of information with chaging technology looks more diverse and modern [23].

e. Increase interest in learning

More complete information and knowledge are not only more accessible, but can increase learners' interest in pursuing their learning [24].

The use of technology in education has several benefits for the continuity of learning. On the other hand, we must keep our children in mind when dealing with technology. Technology makes information so easily available that it contains both negative and positive information.

3.2 ADVANTAGES

Technology today cannot be separated from human life, this also has an impact on the world of education where educators are required to be technologically literate and able to apply technology, especially simple technology in teaching and learning activities in the classroom [25]. Technology is here to answer and meet the needs of humans who need convenience in all fields. Then the presence of technology its purpose helps a person and usually relates to speed in work. Due to the great role of technology in education, it also benefits from this technology [26]. The simplest is that in the past, textbooks were the only learning resource for teachers and learners. Today, technology has given rise to digital textbooks. The emergence of the internet world is the first step in transforming the world of education, where technology is an essential need today.

Technology recognition efforts can be made anywhere and anytime, from simple and very simple technologies to advanced technologies [27]. This is so that children can know the functions, dangers and how to use it. A child's curiosity could have dismantled

the results of the technology beyond parental supervision. as a result, the results of such technology are damaged. All technological outcomes around schools that are beneficial to children's learning should be utilized for learning [28]. Therefore, schools should establish good cooperation with various institutions in the community where children's learning is semi-successful.

The benefits of using simple technologies, the Internet applied to early childhood, can certainly stimulate certain intelligence and capacity building. Readable verbal intelligence from the growth of a child's vocabulary [29]. Another thing that can be developed from computer learning for the child is stimulation to develop eye coordination with the precision of hand movements [30]. Indirectly, computer media learning stimulates children's fine motor development, especially excitatory power in children, so that children can train their thinking skills more creatively, especially when using computer technology [31]. The advantage obtained is the use of educational software such as programs for basic reading and writing, numeracy, history, geography, etc. In addition, these educational devices are now also mixed with entertainment elements that correspond to the teaching materials, so children also start to like them. Figure 2 describes the advantages of using simple technology in classroom learning activities.

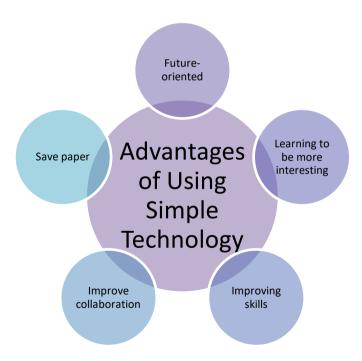


Fig. 2. Advantages of Using Simple Technology In Education

Here's an explanation of figure 2 in relation to the advantages of using simple technology in education:

a. Future-oriented

Simple technology in education encourages teachers and students to prepare themselves to face the future in an increasingly advanced world through the use of technology in the classroom [32].

b. Learning to be more interesting

Simple technology learning methods are increasingly challenging students to be more active in exploring new, more interactive information [33].

c. Improving skills

Technology can improve a variety of skills, including digital learning, collaboration, and problem solving [34].

d. Improve collaboration

Learners can work and collaborate with people in other locations. Remote learners can join online classes [35].

e. Save paper

Through simple technology-based learning, students do not need to bring many books, but through simple technology, students can learn with the project method in finding information related to the learning material at that time [36].

3.3 Disadvantages

In this increasingly sophisticated modern era, technology has become an indispensable part of human life, both adults and children are inseparable from the use of technology. Longer technologies bring us closer to people's daily lives, simplifying and giving users new insights [37]. On the one hand, the use of simple technology in the learning process in the classroom at the early childhood education level is still felt to be lacking. This is due to the low quality of teachers this means that ECCE learning in the classroom is monotonous, unchanging and non-challenging [38]. Influenced by the lack of quality of teacher education, on the other hand, it is also influenced by the lack of motivation of teachers in developing their abilities to increasingly innovate to provide interesting learning for children through simple technology.

Early childhood can become bored with learning activities in the classroom, if learning is carried out monotonously and not innovatively. In addition, ECCE learning does not use and integrate technology appropriately, resulting in a less effective, inspiring, and less productive learning environment. On the other hand, the lack of training for ECCE teachers is related to the use of simple technology in classroom learning by the government, so teachers do not have more motivation in learning the use of simple technology in the classroom [39]. Furthermore, problems arise during the implementation of learning activities for early childhood including understanding of limited IT use, networks, internet quotas, lack of facilities (availability of cellphones andoids) resulting in ineffective learning activities [40].

Many educators still believe that the role of simple technology today is too small. Teachers are limited in their use as a tool to help the learning process. ECCE educators need to look at something differently that simple technology is very helpful for teachers

in achieving their desired learning goals. The expectations of educators through simple technology of classroom learning become more interesting and exciting. By using interesting and diverse simple technologies. This can affect children's motivation and creativity, and accelerate children's understanding of learning concepts.

4 Conclusion

Simple technology is a technology that can facilitate human work in facing the problems they have. The quality learning process can actually be started from an early age by considering aspects of development and characteristics of children in a holistic and integrative manner. This means that quality learning is a major factor in the success of education in early childhood. The quality of learning can be improved through adequate classroom management by prioritizing humanist principles and approaches for children. However, in general, there are still many obstacles, obstacles and challenges of learning in early childhood education institutions, both formal, informal and non-formal

The benefits and meaningfulness of learning can be built through the creation of a pleasant learning atmosphere and being able to provide stimulation to students from various aspects while helping to explore their potential optimally. The use of technology has proven to be able to increase children's interest in learning because of the more attractive appearance when children receive the latest information from the teacher. The benefits of simple technology in education in the form of the learning process in the classroom: a) Increase information, b) Improve learning ability, c) Facilitate access to learning, d) More interesting material, e) Increase interest in learning.

Efforts to introduce technology can be carried out anywhere and anytime, ranging from simple and very simple technology to advanced technology. This is so that children can know the functions, dangers and how to use it. A child's curiosity could have dismantled the results of the technology beyond parental supervision. The benefits of using simple technologies, the Internet applied to early childhood, can certainly stimulate certain intelligence and capacity building. In addition the advantages of using simple technology in education: a) Future-oriented, b) Learning to be more interesting, c) Improving skills, d) Improving collaboration, e) Saving paper.

On the one hand, the use of simple technology in the learning process in the class-room at the early childhood education level is still felt to be lacking. This is due to the low quality of teachers this means that ecce learning in the classroom is monotonous, unchanged and not challenging. Influenced by the lack of quality of teacher education, on the other hand, it is also influenced by the lack of motivation of teachers in developing their abilities to increasingly innovate to provide interesting learning for children through simple technology. The expectations of educators through simple technology of classroom learning become more interesting and exciting. By using interesting and diverse simple technologies. This can affect children's motivation and creativity, and accelerate children's understanding of learning concepts.

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