


The Influence of the Implementation of Learning Technology During the Golden Age

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Keywords:	Abstract
Implementation, Learning Technology, Golden Age.	<i>The rapid development of information technology today cannot be avoided, its influence in the world of education. Educators or teachers must fully understand the use of educational technology to avoid accidental damage or educational failure. For this reason, this research examines learning technology as a scientific discipline. This study used the library study method by utilizing the Publish or Perish software as a provider of data information sources needed through several search keywords. The study results show that the importance of attention from many parties to improve the quality of education is accompanied by an increase in the quality of human resources for educators.</i>
Implementasi, Teknologi Pembelajaran, Golden Age	Perkembangan teknologi pembelajaran yang semakin cepat dan tidak terelakkan saat ini telah membawa dampak yang signifikan dalam bidang pendidikan. Pendidik atau guru harus memahami betul pemanfaatan teknologi pembelajaran untuk menghindari kerusakan atau kegagalan pendidikan yang tidak disengaja. Masa Golden age merupakan masa pertumbuhan yang sangat pesat dan membutuhkan perhatian dalam memberi stimulus. Peran stimulan akan mempengaruhi pertumbuhan selanjutnya. Untuk itu, penelitian ini mengkaji terkait pengaruh penerapan teknologi pembelajaran pada masa Golden Age di TK Fullday School Hadlonah Darussalam. Penelitian ini memakai metode Deskriptif kualitatif, hasil akan didapat dari observasi lapangan, wawancara dan angket. Hasil penelitian menunjukkan tentang inovasi dalam penerapan teknologi pembelajaran di TK Fullday School dan juga implikasi dalam penerapan teknologi pembelajaran tersebut.

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1. Introduction

Early childhood is an individual experiencing a very rapid growth and development phase, even considered an extraordinary stage of development (Santika, 2018) can also be said that children at an early age are experiencing a developmental stage that will have very big implications for their future life, and is the most crucial and fundamental period in the overall journey of human growth and development (Hasanah & Priyantoro, 2019). Furthermore, early childhood is a critical period in forming foundations and aspects of personality that will affect subsequent experiences. The phase of children at an early age is often referred to as the golden age because, in the age range of 4 to 6 years, the development of the child's brain reaches around 80%. Therefore, providing appropriate educational stimulation at this time is very important (Yunaida & Rosita, 2018).

Golden age is a period where children experience very rapid growth. At this time, various environmental stimuli play a major role in determining further development. Golden age is a crucial element of a person's psychological development. At this stage, a child's ability to think to gain knowledge increases rapidly, and everything gained from knowledge has a major impact on the child's future (Rijkiyani, Syarifuddin, & Mauizdati, 2022). Providing effective and appropriate stimulus can be realized through collaboration between educators and parents, who can align learning approaches with students' needs and development levels (Tiara & Pratiwi, 2020).

The educational process for children in the golden age should be carried out by providing meaningful concepts for students through real experiences because there is a possibility that students will show optimal activity and curiosity, and educators act as guides and facilitators for students. These periods are critical periods when a child needs the right stimuli to achieve perfect maturity (Ardiana, 2022). Educational institutions are the second environment for children because they provide opportunities to interact with educators and peers. The interaction process can affect the development of children. The stimulus provided by educators to students has a significant role in optimizing child development (Hasanah, 2018).

The education provided to students during the golden age is the first and main foundation for developing a child's character (Santika, 2018). The development of each character in students during the golden age tends to be influenced by physical and psychological touches from the surrounding environment. The environment is the largest part of changes in the behaviour and attitude of each child because the environment tends to dominantly touch every aspect of a child's development (Hidayat & Nur, 2018). Learning in Kindergarten is not a school but a fun place for students in the golden age because Kindergarten is a space that provides a sense of security, comfort and fun for children (Ardiana, 2022).

Applying learning strategies is one solution to finding the right system or concept for transforming knowledge for students in the golden age (Suhendro, 2020). Education for children during the golden age includes all things, both efforts and actions carried out by educators and parents in the process of stimulating, guiding, caring for and nurturing by creating an atmosphere and environment where children can explore experiences, feel and understand material in learning experiences obtained from the environment through observation, imitation,

repeated experiments and the involvement of all the child's potential and intelligence (Hewi & Shaleh, 2020).

Educational activities are activities to make a complete human being, namely a human being who has sharp faith, intellectual intelligence, moral sensitivity, broad understanding, firmness of attitude, creative innovation, aesthetic thirst, courage to fight, and all other positive values. (Hasibuan, 2015). To maximize potential and create and maintain a positive learning environment, form a strong learning community, provide consistent and timely feedback and utilize appropriate learning technology to support learning activities (Watnaya et al., 2020). Thus, technology in education should involve teaching thinking strategies, motivation and self-development, which are sufficiently identified as important factors in creative technology focus skills (Cropley, 2020).

Educators or teachers must fully understand the use of educational technology to avoid unintentional damage or failure of education (Thomas et al., 2019); in the following case, it is the inability of students to compete with the developments of the times. Thus, by optimizing and utilizing educational technology, we can improve the quality of learning by providing broad access to knowledge and quality education (Hasibuan, 2015). Learning technology is expected to play an important role in developing student potential and achieving learning goals (Almah et al., 2020).

2. Methods

This study uses a qualitative descriptive method. Research with a descriptive method means that the study results will be described transparently or only describe and generalize the data found. At the same time, research with a qualitative method means that research is on objects or a complex phenomenon and is presented with natural, real, and un-engineered conditions. So, it can be concluded that this study uses a qualitative descriptive method, a type of research conducted to investigate an object, condition, group of people, or other phenomena with natural or realistic conditions to create a systematic overview or detailed description that is factual and accurate. In this case, this study will examine how innovation in the application of learning technology during the golden age at Fullday School Hadlonah Darussalam Kindergarten. The research location was at Fullday School Hadlonah Darussalam Kindergarten. The subjects studied were 13 educators at Fullday School Hadlonah Darussalam Kindergarten, consisting of the Principal, Deputy Head of Curriculum, and Teachers.

The data presented in this study consists of primary data and secondary data. Primary data was obtained using interview techniques as a method of data collection. This interview was conducted directly with each subject in this study and took place face-to-face. Then, secondary data was obtained using the library research method or literature study. The research steps in writing this article are to find references related to the title of this article. Data is collected by searching several databases, such as Google Scholar through Publish or Perish, to help find the required reference information sources. The search is carried out by entering keywords, namely learning technology, golden age or early age and teachers, and the year of publication is no more than eight years. The last step is to analyze the writings or sources of information from the reference articles.

Primary data analysis is carried out in stages, including data collection, data reduction or simplification, data presentation, and concluding. In the secondary

data analysis process, selection, comparison, combination and classification of various views are conducted to find conformity. Some important steps in this study include filtering references by searching and selecting relevant topics from various articles. The next step is examination; this section is done by reading the article's abstract related to the topic explained and then reading the article's contents. The last stage involves writing an explanation of the research topic using a summary.

3. Result and Discussion

The golden age is an important period in a child's development because it is the first golden period in a child's life, namely at 0 to 5 years old. In this phase, what must be considered is the attention of the role of parents because, in this phase, the child's growth develops very rapidly. At least in this case, what parents and educators should pay attention to training children's motor skills and introducing them to the development of children's potential, training children's cognitive abilities, understanding disorders in children's growth and development and education provided at an early age. In this case, the age of children 0 to 5 years is called the Golden Age because during this period, children grow rapidly, and research results say that 50% of adult intelligence begins to form at the age of 4 years. Full-day school Hadhonah Darussalam Kindergarten is a school institution under the Hadlonah Darussalam Foundation located at the Islamic Center Pondok Modern Darussalam Gontor in Joresan Village, Mlarak District, Ponorogo Regency. The institution has a vision and mission: to realize quality and independent Early Childhood Education by implementing Early Childhood Education based on Islamic teachings and its Principles, educating them to optimally develop their potential optimally and prepare them to become Islamic, communicative, and independent individuals. Furthermore, the educators at the Hadlonah Darussalam Fullday School Kindergarten stated that before students are given material through technology, they must first be equipped with the instillation of strong *aqidah* and the instillation of good morals so that when children are familiar with technology in providing learning materials in class, they will know the limits and can manage themselves or filter themselves so as not to be carried away or influenced by technology and of course this must be with the supervision and guidance of parents, especially during this Golden Age.

The main program at the Hadlonah Darussalam Fullday School Kindergarten is:

1. Development of basic skills.
2. Instilling Islamic teachings.
3. Faith.
4. Morals.
5. Worship.
6. Introduction to the basics of communication (Indonesia, Arabic and English).
7. Introduction to Latin letters and the Qur'an.
8. Introduction to the profession.
9. Creativity and art (dancing, drum band, colouring and drawing).
10. Reading the Iqro/Qur'an.
11. Life skills (independence) include learning to eat without being bribed, brushing teeth, wearing clothes, and prayer equipment independently

Learning technology systematically and systematically applies strategies and techniques taken from behavioural science concepts, physical sciences, and other knowledge to solve learning problems. In learning technology, problem-solving is in the form of instructional system components that have been arranged in design or selection functions in utilization and combined so that a complete instructional system concept is formed (Nurmandiah & Asmariani, 2019). Instructional design and active learning strategies should be key when developing classroom learning (Green et al., 2018). Thus, learning technology has become an important component of public education (Cherner & Curry, 2017).

A good learning process is created from the efforts and strategies of teachers or educators in managing the class effectively and efficiently. Learning effectiveness is achieving learning objectives or accuracy in managing a situation (Makki, 2020). Thus, the importance of basic competencies that need to be achieved regarding the orientation of the learning process on basic competencies and the selection of learning technology can improve the achievements and abilities of students (Subekti & Kurniawati, 2020). Educators must always carry out supervision by building good communication so that the role of teachers in improving the quality of learning through the use of learning technology in the educational process can be carried out properly (Gunawan & Amaludin, 2021).

Educators or teachers act as facilitators in fulfilling what is needed in learning for students by providing appropriate learning media and appropriate learning resources, both for students who are around them and those who are physically far away (Surani, 2019). Educators or teachers must have knowledge of the use of learning technology both on a local and global scale that is relevant in the school environment and in the field of education. This is very important because their awareness of the learning technology system is a primary requirement for them to become effective professionals (Rahadian, 2017). In this case, it is important to have expert staff and human resources who are able to properly manage learning resources as a medium or tool that will be used to improve the quality of education by considering educational values and ethics (Ajizah, 2021).

When designing a classroom, it is important to understand the types and characteristics of the learners who fill the classroom. In the 21st century, learners have become diverse in character and type and span a spectrum related to culture, personality, learning style, and age (Green et al., 2018). In the development of the use of educational technology, an educator should be able to create and introduce learning media using technology that can attract attention and increase students' interest in learning (Anggraeny et al., 2020). When educators integrate technological media into learning, students can pay more attention and become an extraordinary attraction, so the use of technology in the learning process can increase student achievement (Rusydiyah, 2019).

3.1. Innovation in the Application of Learning Technology during the Golden Age at the Hadlonah Darussalam Fullday School Kindergarten.

There are six important aspects of child development at this age: the evolution of religious and moral values, physical motor development, cognitive development, language development, social-emotional progress, and art development. Learning technology is developed to solve learning problems and facilitate learning activities systematically and practically with the support of software and hardware, and these are implemented in the form of learning resources (Rahadian, 2017). Learning technology allows active learning

that can link learner engagement and learning theory for overall learning outcomes and satisfaction (Green et al., 2018).

Learning technology at this time can be done with several methods, such as those implemented and applied by 13 educators at Fullday School Hadlonah Darussalam Kindergarten, namely with the discovery learning method, project-based learning, self-direction learning, learning by doing, role-playing and simulation, cooperative learning and collaborative learning. The statement was obtained from the results of interviews and questionnaires with the question, "How is the innovation of learning technology implemented by educators during the golden age at Fullday School Hadlonah Darussalam Kindergarten?". Based on this question, we obtained and visualized the data as in the graph below:

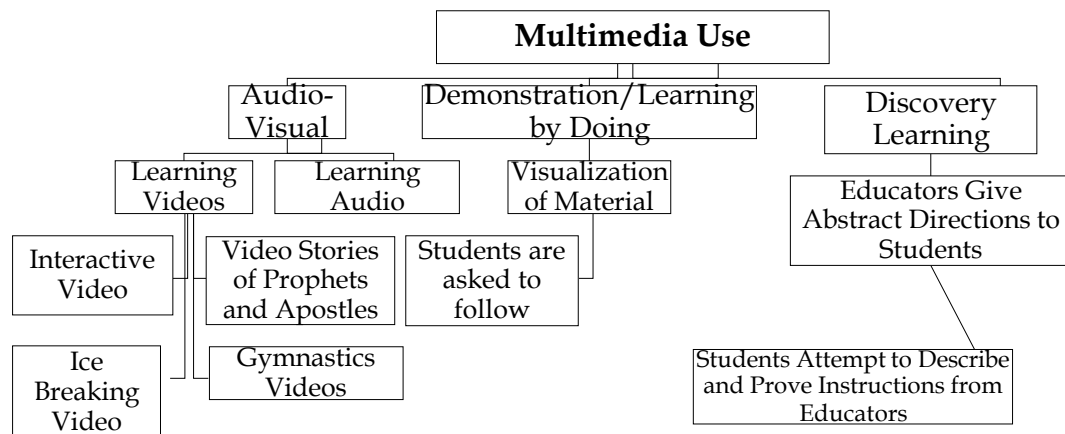


Figure 1: Multimedia Use

The results of the field study show that the role of educators at the Hadlonah Darussalam Fullday School Kindergarten in efforts to develop the quality of students has been innovative by utilizing the role of learning technology in the learning and teaching process in their classes. Some of the methods used are:

a) Audio-Visual Learning.

This learning method is demonstrated by providing learning videos with colourful images and shapes, such as animals, plants, and humans, as an effort to trigger and stimulate students' sensory abilities. In addition to providing videos, educators also provide other learning resources, namely learning audio in the form of recordings of short surahs intended as a guide for students to help memorize short letters in the Qur'an. Providing learning resources using this method is a method that students in the golden age most prefer because the use of tools that display various colours, shapes and forms has proven to be effective in attracting the attention and interest of students. The study (Suryani & Seto, 2021) stated that students' level of understanding by using learning resources in the form of learning videos on how to classify and place unused items or trash in their place increased and increased enthusiasm of students' desire to learn. The progress of learning at this audiovisual stage has attracted a lot of attention from various parties, especially learning technology scientists who play a role in formulating the definition of learning technology to advance and develop this field so that it can have a positive impact on

national development and improve intelligence and the quality of human life (Muhammad Yaumi, 2016).

b) Demonstration of learning or learning by doing.

This learning method is demonstrated by the teacher's depiction in front of the students, and then the students directly practice the material. For example, the teacher illustrates how to make fruit salad and demonstrates its stages, such as cutting fruit with a knife, mixing fruit together in a container, mixing condensed milk and yoghurt, and grating cheese. The next step is to invite students to try the stages of making fruit salad, which has been demonstrated one by one. The activity is presented as an effort to introduce students to how to cut fruit carefully so as not to scratch it and how to mix the ingredients so that students understand how to make fruit salad properly and correctly. Implementing this activity is also considered important for students during the golden age because, during this period, students are expected to have various experiences and learning needed in the future phase. In addition, students during this period also absorb various experiences and learning into memories and knowledge concepts for them.

c) Discovery Learning

This learning method is demonstrated by inviting students to go around or walk around the school to get to know the environment around the school. For example, educators invite students to walk to the rice fields with the aim of introducing them to what rice looks like and the next process until it becomes rice. At this stage, educators provide simple directions or information, and students are given the freedom to express their opinions regarding what they have seen in the rice fields. The activity is presented as an effort to spark students' critical thinking skills towards anything they see. Students in the golden age have a high level of curiosity. Thus, educators need to pay attention to directing students' curiosity and satisfying students' curiosity with good, correct and precise answers.

Supporting factors in learning technology are learning resources, namely messages, people, materials, equipment, techniques, and backgrounds or environments that must then be utilized optimally. Furthermore, several requirements must be met first in order to implement learning technology support in terms of technology or infrastructure, mastery of knowledge and skills, policy support from the government or stakeholders, and readiness of users, both educators and students (Makki, 2020). Learning resources have a direct and deliberate role in designing, preparing, and adapting to students' competencies and learning needs (Rusydiyah, 2019).

Some methods that educators have utilized in presenting the learning resources above are basically still adjusted to the circumstances and needs of students at their age. The principal also added that implementing learning technology at Fullday School Hadlonah Darussalam Kindergarten began with mapping related to learning resource needs for students. After the mapping by educators was formulated, the school provided supporting facilities in an effort to make learning activities effective and efficient. The facilities provided by the school include LCD projectors, laptops, whiteboards, speakers, and internet networks.

Discussions related to learning technology are more directed at the maximum use or utilization of learning resources. The main objective of studies related to learning technology is problem-solving in learning and providing facilities for learning activities. In this case, learning technology maximizes students' role in interacting with various innovative and varied learning resources, such as the use of gadgets, applications or software, and books (Makki, 2020).

3.2. Implications in the Implementation of Learning Technology in the Golden Age at the Hadlonah Darussalam Fullday School Kindergarten

The application of learning technology in the classroom has many implications or impacts that are felt after receiving the activity. The existence of innovations carried out by academics that are proven by the emergence of learning technology as a discipline has advantages, namely training independence, skills, collaboration, communication, unlimited access, and self- management (Setiyowati et al., 2020). In this case, the application of learning technology in Fullday School Hadlonah Darussalam Kindergarten has several implications. The implications presented by the 13 educators are based on the experience of each educator after presenting and implementing learning technology in their respective classes. Some of these implications are :

1. Easy to understand

The use of learning technology as one of the learning resources for students makes it easier for students to understand the material being given. The use of learning resources, as previously explained, is considered to be able to facilitate the understanding of the subjects being taught because students are allowed to see, feel, and experience them directly. This condition makes the material being taught easier for students to accept and understand.

Students today have a high level of sensitivity in absorbing various information. So, the use of interactive media and learning resources is considered to be able to guide children in an effort to stimulate their brain stimulation (Chandra, Dektisa, & Arini, 2018) in forming a new concept of knowledge for students and optimizing students' abilities.

2. Can hone imagination power

The use of media and learning resources, as explained above, is considered to help students hone their imagination to become more creative. The application of the learning resources above provides an opportunity for students to pour out all their thoughts into a concept that ultimately becomes new knowledge for students. Such as how students express themselves when responding to the use of learning resources inside and outside the classroom. \

Participants are allowed to imagine how to cut fruit so that the pieces can fit into each person's mouth. According to (Trenngonowati & Kulsum, 2018), Students in the golden age are in a very valuable phase because of their extraordinary intelligence development, so the learning process at school has a role in determining and developing their quality in the future.

3. Make students more critical and broad-minded.

The learning process, by utilizing diverse and non-monotonous learning resources, such as multimedia, is considered to trigger curiosity. So that in such a learning process, students become more likely to ask and find out about the materials taught so that students become more knowledgeable.

As in the implementation of learning related to the exemplary stories of the Prophets and Apostles, if not visualized by educators, students do not have a focused image or even students do not have the results of understanding related to the material of the exemplary stories because students are not given the opportunity to stimulate their minds. This condition is also supported by (Prasetiawan, 2019), who states that students who enter this golden age are characterized by actively asking questions, often following/imitating, memorizing actions and words, the ability to understand things quickly, having accurate arithmetic, and having strong memorization skills.

4. Increase student activity and interest in learning.

Learning practices using various media and learning resources can provide opportunities for students to become active participants in the learning process. Students are given the opportunity to move and play an active role in the learning process, such as in activities such as making fruit salad, walking to the rice fields, doing gymnastics, re-explaining the exemplary stories of the Prophets and Apostles, and so on. In implementing learning technology, educators become actors or actors who facilitate students' learning activities, so it is not surprising that the use of multimedia in learning can increase the activeness and interest in learning.

5. Stimulate students to be more enthusiastic about learning.

Placing students as active parties in learning is considered to be able to make them more enthusiastic about learning. This is because students are allowed to continue moving and thinking to minimize boredom in learning. Especially for students who are in the golden age, the level of participation and enthusiasm of students should be maintained so that the goals of developing their quality and capacity in the future can be achieved properly.

In general, whatever learning methods and learning resources are used by educators that are adjusted to the conditions and situations of the needs of students have the main objective, namely as one of the factors that can play a maximum role in helping the growth and development of students in the golden age. This main objective is the most important indicator for educators in mapping and formulating learning methods as well as possible because this golden age phase only occurs once in a lifetime and will not be repeated. So, it is important to provide intelligence stimulation by paying attention to factors in the growth environment of students, one of which is educational services (Prasetiawan, 2019). Good learning must be based on various considerations so learning activities can run smoothly and optimally (Syafriaferdi, 2020).

Educators feel the implications of implementing learning technology in this institution because learning technology has an impact on children's happiness in learning, especially during this golden age. The definition of happiness here is that learning is easy to understand, sharpens imagination, makes children more critical and think broadly, increases their activeness and interest in learning, stimulates them to be more enthusiastic in learning, and makes them more relevant and interactive. Educators use this learning technology to adjust to conditions and situations according to the child's abilities and learning styles. Educators make the most of this period and conceptualize the best possible learning methods because the golden age will not happen a second time.

The function of education for students in the golden age is not only to provide various learning experiences like education given to adults but also as a factor that plays a role in optimizing the development of their capabilities and intelligence (Mustakim, Fauziyah, Rahim, & Sukaris, 2020). Providing information or answers to questions asked by students becomes a stimulus and event that enters their memory and will form a pattern and perception that is conceptualized into conclusions and principles that continue to develop and strengthen into character (Prasetiawan, 2019).

Documentation of one of the activities at the Hadlonah Darussalam Fullday School Kindergarten:



Figure 2. The activity of watching a film about the Prophet Muhammad



Figure 3. Demonstration/learning by doing (Cooking Class)

4. Conclusion

An educator must serve as a facilitator for students seeking learning media according to their needs, and educators must understand learning technology as a requirement for professional teachers. The golden age is a period that must apply the right strategies and concepts because this period is the foundation and mainstay in developing children's character. The application of learning technology is here to provide a concept that colours the world of education, especially in this golden age. Fullday School Hadlonah Darussalam Kindergarten is here and also innovates in the application of this learning technology, although this learning technology is not something that is absolute and primary. According to educators at Fullday School Hadlonah Darussalam Kindergarten, before being introduced to today's technology, children must be equipped with strong aqidah

and good morals to fortify themselves and know the limits of using the technology. The innovation applied in the use of educational technology here is that Fullday School Hadlonah Darussalam Kindergarten uses several methods, namely the first learning with Audio Visual Learning by showing pictures and stories of the Prophet through film screenings, audio playback in the process of memorizing short letters and so on. Second, with Demonstration learning or learning by doing, for example, the practice of making fruit salad, turmeric and tamarind drinks, and so on. Third, Discovery learning triggers children to think critically. The process factors for implementing this learning technology in this institution are maximizing messages, people, materials, equipment, techniques and the environment and carrying out the concept of material mapping to facilitate the application of the learning technology.

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