



## Digital Literacy and Numeracy Education to Enhance Students' Interest in Madrasah Ibtidaiyah

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### ABSTRACT

"Digital literacy involves the knowledge and skills of users in utilizing digital media, such as communication tools, internet networks, and so on. Digital numeracy emphasizes the ability to apply basic mathematical concepts and symbols to solve everyday problems in a digital context. The limited use of digital technology for accessing digital literacy and numeracy education resources is a concern for educators aiming to prepare high-quality students globally at the Ihyaul Islam Madrasah Ibtidaiyah Educational Institution. Researchers employ videos in the learning process to demonstrate that the use of video media in education can enhance students' learning interest and knowledge of digital literacy and numeracy. It is hoped that this program will help increase interest in digital literacy and numeracy learning for students. This research aims to provide an understanding of the importance of enhancing digital literacy and numeracy, especially in the development of engaging, innovative, efficient, and effective learning media suitable for children's early development, to educators and parents"

## **INTRODUCTION**

"The Ministry of Education and Culture continues to make efforts to improve the quality of education, one of which is by promoting a culture of literacy through the National Literacy Movement model (Fajri, 2023; Fajri et al., 2021). The National Literacy Movement is an initiative aimed at fostering students who are literate and possess noble character through various activities, such as reading books for 15 minutes in schools (Ambarwati & Kurniasih, 2021; D et al., 2022; Patriana et al., 2021; Siskawati et al., 2020; Wahyuni, 2022). Among various types of literacy, one fundamental literacy that can be implemented in basic education is numeracy literacy (Budiharto et al., n.d.; Ekowati et al., 2019; Faridah et al., 2022; Pusapningtyas, 2020; Sidiq et al., 2023)."

## **LITERATURE REVIEW**

"Literacy numeracy can be defined as the ability of students or individuals to analyze things in everyday life and express them orally or in writing using various Arabic numerals and Hijaiyyah letters (Salvia et al., 2022).

Education is a process of shaping human personality that allows the potential and resources of each individual to grow and develop (Latifah, 2020). In the era of globalization, education is crucial and prioritized because there are global challenges that learners must face. Through education, learners are expected to prepare themselves well to meet the challenges of globalization. Education in the era of globalization cultivates analytical and problem-solving skills. The applied learning techniques can encourage new discoveries and imaginative thinking. In 21st-century education, learners are required to have four skills: critical thinking skills in problem-solving, skills in building relationships and expanding connections through communication, skills in creating new things (Annisa Alfath et al., 2022; in Yakin, 2019; Fajri, 2023; Jariah, 2019; Junaedi, 2019; Kuncahyono & Aini, 2020; Rifa'i, 2018; Suhairi & Santi, 2021; Tafonao, 2018; Tahel & Ginting, 2018; Zaman, 2020). These skills, and collaboration skills, can be achieved by understanding and applying literacy in learning.

In the current era of globalization, students are less interested in literacy due to technological developments in the field of information, such as gadgets and television (Anashrulloh & Tranggono, 2022; Ate & Lede, 2022; Herawan, 2021; Perdana & Suswandari, 2021; Rahmwati, 2021; Siregar et al., 2023). When students use gadgets, the lack of supervision and guidance from their parents results in the majority of students becoming addicted to playing with gadgets (Bali et al., 2023; Jannah & Oktaviani, 2022; Khakima et al., 2021; Mahmud & Pratiwi, 2019; Mulyati & Watini, 2022; Nudiati, 2020; Ratnasari, 2020; Sulistyanto et al., 2023). To reduce the use of gadgets by students, the government has created the School Literacy Movement (Wulandari, 2017). As the times evolve, digital learning media is becoming more prevalent. In the past, learning media was used in a simple manner, for example, teachers explaining using books or other concrete objects. Whereas in the current era, the advancement of digital technology is widely utilized as a learning medium."

From the explanation above, it is clear that this research is motivated by several reasons, namely that teachers have not used innovative digital-based media. Apart from that, in implementing numeracy literacy, teachers only invite students to memorize types of numbers in Arabic and hijaiyah letters. Seeing these problems, innovative digital-based media is needed to advance students' digital numeracy literacy. Looking at these problems, innovative digital-based media is needed to advance students' digital numeracy literacy (Ate & Ledo, 2022). Thus, researchers collaborated with class II teachers at Madrasah Ibtidaiyah Ihyaul Islam to increase students' digital numeracy literacy using learning video media. Learning videos include Android-based applications so they can be used anytime and anywhere.

Researchers are interested in utilizing learning videos with digital numeracy literacy skills because researchers want to design learning that is needed in the era of globalization. Researchers use learning videos that students can install on their respective smartphones to make it easier for students to learn both at home and at school. Apart from that, students can also improve digital literacy when using it. Students will also be taught numeracy literacy skills such as mentioning types of numbers in Arabic and hijaiyyah letters. By looking at the success of previous research, researchers want to show learning videos with digital numeracy literacy skills in children in order to get better results.

## **METHODOLOGY**

This research approach is descriptive qualitative. The qualitative descriptive research in this study is intended to produce data descriptions and theoretical generalizations regarding the management of digital literacy and numeracy education programs at MI. The research was conducted at Madrasah Ibtidaiyah Ihyaul Islam starting on August 30 2023, namely in class II with a total of 7 male and 9 female students. Meanwhile, the subjects of this research are teachers and students. Data collection in this research used documentation, interviews and observation techniques.

The documentation used in this research is documents in the form of planning, organizing, managing and evaluating school literacy and numeracy education programs (Harsiati, 2018). This documentation was carried out to obtain document data such as the learning outcomes scores of Madrasah Ibtidaiyah students regarding Digital Literacy and Numeracy Education to Increase Children's Interest in Learning. These data are used as study material to be analyzed and generalized as research results. Documentation data was obtained from data from teachers or students of class III Madrasah Ibtidaiyah Ihyaul Islam. Documentation data regarding the learning outcomes of 16 students, namely test scores consisting of 10 questions given to all students.

Interviews were used to dig up information related to the process of implementing digital literacy and numeracy education programs at Madrasah Ibtidaiyah. Researchers during this research conducted interviews with digital literacy and numeracy education program managers at MI. Technically, interviews are conducted directly, namely face to face or by telephone. In order to focus the ongoing interview and not expand on issues that are less related to

the topic of this research, the researcher has anticipated this by making an agreement in advance regarding the topics that will be asked about to the informant either in person or by telephone. This interview was conducted with teachers and students of class III Madrasah Ibtidaiyah Ihyaul Islam regarding digital literacy and numeracy education data to increase children's interest in learning. Interviews were conducted with the class teacher and several students to determine the teacher's increased interest in learning through digital literacy and numeracy learning. The interview was conducted as a free interview but still discussed digital literacy and numeracy education to increase children's interest in learning.

Observation is a tool used by researchers to collect data, namely a recorder and notebook. Observations were carried out through observing the process of implementing the Madrasah Ibtidaiyah digital literacy and numeracy education program (Kusmanto, 2022). This observation was carried out during the implementation of digital literacy and numeracy education to increase children's interest in learning. One type of data that you want to obtain is student interactions or activities during learning activities regarding digital literacy and numeracy education. Observational data is really needed as material for studying data in the field during research activities.

The final step is data analysis. Data analysis in this research applies an interactive analysis model. Interactive analysis is an analysis process that has three components, namely 1) data reduction, 2) data presentation, and 3) drawing conclusions/verification which is carried out simultaneously or cyclically. In this interactive analysis, we move between the three components of the analysis through the collection process until we reach the stage of drawing conclusions.

## **RESULTS**

Based on the results of research in class II with 16 students, the researchers obtained documentation data about learning outcomes through a test of students' numeracy literacy skills in the digital era which used a test instrument in the form of 10 questions and was carried out by the class teacher. Each question consists of indicators of numeracy literacy ability, namely: 1) Being able to know types of numbers in Arabic and hijai'iyah letters 2) Being able to memorize numbers in Arabic. The results of the documentation data in this research can be presented in the form of tables, diagrams and pictures. The example displays the table as below.

Table 1. Percentage of Student Learning Results Through Digital Literacy and Numeracy Education to Increase Student Interest in Learning Madrasah Ibtidaiyah Ihyaul Islam

No	Indicators	Persentase	Interpretation
1	Able to use various types of numbers in Arabic and hijaiyyah letters.	81,25% (13 student)	High
2	Not able to use various types of hijaiyah numbers and letters.	18,75% (3 student)	Low
<b>Amount</b>		<b>100%</b>	

Based on the results of the documentation data, it can be seen in the table above that from the percentage calculation results for each indicator, it can be seen that in the first indicator, the percentage result was 81.25%, meaning that 13 students out of a total of 16 had high abilities, namely through digital literacy and numeracy education to increase interest in learning. children, students can use various types of numbers in Arabic and hijaiyah letters. Then, in the second indicator, documentation data was obtained regarding student learning outcomes reaching a percentage of 18.75%, meaning that 3 students out of a total of 16 had low abilities, namely through digital literacy and numeracy education to increase children's interest in learning. Data was obtained that students were not yet able to use various types of learning. hijaiyah numbers and letters. Thus, it can be concluded that the results obtained by students regarding numeracy literacy skills were 81.25%, meaning that the digital literacy and numeracy education program was said to be successful for class II students at Madrasah Ibtidaiyah Ihyaul Islam.

Based on the results of observations in class II at Madrasah Ibtidaiyah Ihyaul Islam regarding the digital literacy and numeracy education program, we obtained data about the implementation of digital literacy and numeracy education to increase children's interest in learning using three (3) stages, namely: habituation, development and learning stages. Each stage has different activity details.

Table 2. Observation Data on the Implementation of Digital Literacy and Numeracy Education to Increase Student Interest in Learning in Madrasah Ibtidaiyah Ihyaul Islam

No	Habituation	Development	Learning
1	What literacy skills are developed at the habituation stage? Provide learning videos. Provides integrated learning based	What literacy skills are developed at the habituation stage? Provide learning videos. Provides integrated learning based	What literacy skills are developed at the habituation stage? Provide learning videos. Provides integrated learning based
2	What is the focus and principles of activities in the habituation stage? Steps	a. What is the focus and principles of activities in the habituation stage? Steps	What is the focus and principles of activities in the habituation stage? Steps
3	Activity steps: Watch a video about digital literacy and numeracy 15 minutes before lesson begins.	Indicators of achievement at the development stage	Implement integrated literacy according to themes and subjects.
4	-	-	Make schedule
5	-	-	Assessment and evaluation

According to the data in the table above, the implementation of digital literacy and numeracy education to increase children's interest in learning at Madrasah Ibtidaiyah Ihyaul Islam is carried out routinely at every lesson, especially by class teachers and subject teachers regarding Arabic reading and writing hijaiyah letters. The implementation of habituation, development and learning is carried out every day except holidays, with this activity students become accustomed to it and become a provision for life in society.

To obtain more valid and accountable data, this research was continued with interviews. The implementation of digital literacy and numeracy education to increase children's interest in learning at Madrasah Ibtidaiyah Ihyaul Islam can be obtained from interviews with class teachers and class II students at Madrasah Ibtidaiyah Ihyaul Islam. As stated by several randomly selected class II students regarding this matter, it was found that the learning implementation data showed that students were very happy because the learning was more interesting about literacy and numeracy, namely that students directly practiced using literacy and numeration directly in everyday life, learning was also linked to life. children both at home and in the community, especially regarding learning to read hijaiyah letters which discusses literacy and numeration. The results of interviews with class teachers showed that in implementing learning, teachers can be more creative in linking learning with students' real lives and provide opportunities for them to be more active in learning, making children more interested and happy in learning, and students can be conditioned. maximally.

## **DISCUSSION**

Based on the research results, there are several research findings and their implications for education at the Madrasah Ibtidaiyah Ihyaul Islam level as well as the broader educational context.

### **Effectiveness of Digital Learning Approaches**

The research results show that the application of a digital literacy and numeracy approach can increase children's interest in learning at Madrasah Ibtidaiyah Ihyaul Islam. The data obtained during the research showed significant results regarding the effectiveness of this approach in stimulating interest in learning and exploring the potential for further improvement.

### **Influence of Learning Environment**

Learning environment factors, including support from teachers and parents, play an important role in the successful implementation of digital approaches. The discussion will discuss the extent to which teacher involvement and parental support influence children's interest in learning, as well as strategies to increase their participation.

### **Challenges and Obstacles**

The debate will include identifying various challenges and obstacles that may be faced in implementing digital literacy and numeracy education. This includes technical aspects, human resources, and other contextual factors that can influence implementation success.

### **Implications for the Madrasah Ibtidaiyah Ihyaul Islam Education System**

The discussion will evaluate the implications of the research results for the education system at Madrasah Ibtidaiyah Ihyaul Islam. This involves consideration of further integration of this approach in curricula and educational policy.

### **Global Relevance**

This discussion point will explore the extent to which the research findings can be applied more broadly in a global educational context, particularly at similar institutions in different countries.

### **Scope of Advanced Research**

A discussion of the potential for further research and development of this approach in the future, covering specific areas that need further exploration. Thus, the results of this research provide in-depth insight into the potential and challenges of implementing digital literacy and numeracy education at Madrasah Ibtidaiyah Ihyaul Islam, as well as providing direction for further research and practice in a broader educational context.

## **CONCLUSIONS AND RECOMMENDATIONS**

Digital literacy is the user's knowledge and skills in utilizing digital media, such as communication tools, internet networks, and so on. Digital numeracy is the ability to apply the concepts of numbers and symbols in basic mathematics to solve problems in everyday life digitally. In general, the results of research through observation, interviews and documentation obtained data on the level of interest in learning for class II students at Madrasah Ibtidaiyah Ihyaul Islam which is increasing by using digital numeracy literacy education programs,

especially in learning and children are more easily able to understand numeracy literacy learning material by using digital numeracy literacy media. . It is hoped that the results of this research will provide benefits to madrasahs, madrasah policy makers and readers in general as input in order to increase interest in learning, which in the end can be used as reference material to improve the quality of education.

Good literacy skills can support student learning outcomes. So numeracy literacy skills are one aspect that needs to always be improved through a habituation process. So the better the students' numeracy literacy skills, the better the learning outcomes for students will be. In implementing learning, teachers are expected to have good planning, choose the right methods and try to motivate students so they can grow and improve students' numeracy literacy skills so that they get good learning results.

### **FURTHER STUDY**

Research subjects that can be developed and recommended for future researchers are developing innovative and effective educational strategies by exploring the application of interactive learning models supported by technology, such as the use of special learning software, educational applications and other digital resources. With the rapid development of digital technology, a relevant and interesting learning approach is needed to optimize the learning potential of children in madrasahs.

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