

# How Technology Facility to Improve Numeracy in Riau Province

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**Received:** 12-01-2023; **Accepted:** 30-01-2023 ; **Published:** 30-04-2023

**Abstract.** The increase in numeracy in Indonesia depends on the facilities' quality at schools. This study aims to evaluate the technology facilities to improve the numeracy ability of students in Riau Province. The district to be the participant was Junior high schools of Dumai District. The research participant was teachers and students. The collection data techniques were interviews, observation, and documentation. The key instrument in this research was the researchers that gave questions to participants to get data about how the technology facility improves the numeracy of Students at Dumai District. The data analysis technique used in this research was analysis proposed by Creswell (2014). Results show that many facilities to increase numeration are still bad. Technology to improve students' numeracy is not yet adequate because Dumai must improve public facilities such as highways, Harbor, markets and etc. The government is limiting the budget to help schools.

**Keywords:** Learning' facility, technology advances, junior high schools

## 1. INTRODUCTION

The present era, popularly known as the modern era by today's Indonesian youth, is an era of globalization in which information and communication technology plays a significant role in almost every aspect of our lives [1], [2]. For example, if we ask just anyone on the street or at work, for instance, whether he has a Smartphone or not, then most likely, the person being asked will answer [3]. It shows that we cannot be separated from technological devices deep in everyday life. In other words, technology is a part of our lives that is difficult to separate. In the world of education in general, especially in higher education, processes, and practices cannot be separated from the use of technology. Try asking any student, does he have a laptop as a tool for taking and attending lectures [4]. Most likely, the answer is that he has. This shows that technology is an integral part of the world of education

For example, if there is a question about technology in mathematics education, is technology an essential part of the daily learning process? The possible answer is that technology still has not played a vital role in learning mathematics [5]. Even though the Information and Communication Technology (ICT) subject has been a compulsory subject in schools since 2007 and in the 2013 curriculum, it is recommended that ICT be integrated into each learning process [6]. However, the use of technology in learning activities, especially mathematics, can be said to be still not optimal. Several studies and research results in the context of learning mathematics in Indonesia, [7] David and Andrian (2021) state that learning mathematics in Indonesia still uses ordinary methods that tend to be traditional, in the sense that technology still relatively minimally used in everyday

mathematics learning activities. Technology use in learning mathematics is a critical issue to be discussed, and efforts must be sought to implement it.

The existence of technology today is considered very important in life human beings as a support in carrying out various activities both in doing work and in terms of education [8]–[10]. Educators can use technology as a learning media or mediator in conveying knowledge to students through several applications, such as Zoom, google classroom, google Meetings, or via WhatsApp groups [11]. Using the above learning media, educators can make interesting and not monotonous material explanations so that students are interested and remain enthusiastic in following the teaching and learning activities [12]. However, many students complain that online learning is less effective because students must learn self-taught (on their own). Many parents cannot teach material contained in books, constrained by networks and lacking adequate technology, up to an unstable signal.

These complaints can be a challenge for educators; how do they continue to motivate students to carry out learning with this technological approach? An educator must be able to innovate himself and his students, meaning that the teacher must be able to arouse the spirit of motivation in students by using a variety of interesting learning methods with sophisticated technology because, in this technological era, the teacher is greatly helped if some obstacles or obstacles cause the teacher not to come to class and students do not need to come to school to study at school [13], [14]. Therefore, technological support in learning is very important because technology can make the teacher's work easier [15]. However, to adapt to this technology, teachers need to study hard to master the technology so that teachers can implement it in learning mathematics. Technology can also support the work of teachers who are busy with administrative activities to prepare for the learning process.

Based on the results of interviews with teachers in Dumai District. They have said that technology in learning still can not be used in the learning process because many factors must be attention by every element of the education of Riau District from the Education authorities of Dumai District to the Principal. many factors can be reasons why the technology can not be used maximally in learning mathematics.

## **2. RESEARCH METHOD**

The research type used in this research was qualitative research with phenomenology approach. The participant or respondent research were teachers and principal of Junior High Schools of dumai District. The research instrument used was the researchers because the researchers directly interview the participant, that is; teachers and principal. Researchers used the two approach to get data of direct interview and focus group discussion (FGD). Direct interview are used to principal and Focus group discussion is used to teachers of Mathematics Subject. The analysis data technique is used in this research was from Cresswell that is, colelctiong data, display data, reduction, and conclusion.

### 3. RESULTS AND DISCUSSION

#### Research Results

Budgeting or funding in education is an important aspect that should be thought by element education starting from the education ministry of Indonesia to the district. Without adequate funding or budgeting, the learning process can not run optimally because funding or budgeting is based on buying or completing facilities for education. Funding or budgeting is important to pay the salary of principals, teachers, and educational staff. In the case of the technology facilities in teaching and learning, Dumai district can not optimal in budgeting for education aspect because some aspects are needed to be a priority like; health facilities, highway, harbor facilities, etc. Dumai district doesn't have big funds to accommodate every aspect of sustainable development yet, so the government must think hard to develop every aspect of Dumai District of Riau Province. Although Dumai District are the industrial City with many corporate and company, help from the company through human resource development (HRD) have used to build the Highway and other facilities more important priority because the economic development of a country depends on public facility such as; highway, market, traditional market, harbor, etc.

Can use the existing facilities of the schools now? maximizing the current facilities is a difficult thing that can be done by every element of education because funding will be used to buy something. The school must buy a computer, install the internet connection, and other software or hardware to maximize the learning process because technology without internet access is impossible can be done. Internet access in this era is something important for maximizing the learning process in the classroom. Because every student has adapted massively to the internet by playing a game and social media, the presence of internet access at schools is something that can not be avoided in this era. Teachers said that in Every activity students today always in internet access. Students almost every time used internet access for playing a game, youtube, Instagram, Facebook, telegram, tik tok, and another platform. Actually, this era will be soo effective if schools can benefit the teaching and learning process with the technological advances.

The procedure to get internet access is not easy, if we want to get help from the company, we must make proposals at every company and the company can help schools by giving the many to install internet access at schools. Not every company can help the schools because some people or organizations ask helping too at the company. This is the problem that always happen when the schools ask the budgeting or funding from the company. This reason why we rarely ask helping to company to complete the learning facility. The teacher said, the public schools' facilities depend on the government budgeting, so, we must wait our turn to get the budgeting if we want to build or develop the learning process.

#### Discussion

Budgeting or funding in the education aspect is essential because the learning process in the classroom can not be run optimally [16]–[18]. Every activity of education must support budgeting maximally because there are no activities that can be done without budgeting or

funding [19]–[22]. Although learning media is needed expensive facilities, learning media that is integrated with technology advances will be the best strategy to improve the learning process in the classroom [23]. So, every principal or teacher must pay great attention to the technology used in the school because the proper technology will increase students' interest in learning mathematics [24]–[27]. The learning media supported by technology always make the learning activities in the classroom interesting. In the new era of Globalization, technology in teaching and learning is an obligation to maximize the teaching and learning process. The effort to integrate the learning process with technology is something important to every authority of education in every country.

#### 4. CONCLUSION

Based on the research results, Technology informs learning media is an important thing that every stakeholder in education authorities must consider because technology effectively supports the learning activities in the classroom. Government must budget for technological advances so students' motivation and interest will increase and the objective of education will be achieved.

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