Between Expectation and Reality: The Implementation of Educational Technology's Study at MAN 1 Malang, Indonesia

Anif Fatimatus Solichah[1], Dimas Aulia Rifqi[1], Alan Sigit Fibrianto[1(✉)], and Afahlul Nur Faizin[2]

[1] Sociology Education, Universitas Negeri Malang, East Java 65145, Indonesia
{anif.fatimatus.1807516,dimas.aulia.1907516}@students.um.ac.id, alan.sigit.fis@um.ac.id
[2] MAN 1 Malang, Putat Lor Street, East Java, Indonesia

Abstract. The Ministry of Religion Affairs since early 2018 has improved and equalized Madrasah education in the era of the Industrial Revolution 4.0. This policy is to support the realization of the "Great Madrasah with Dignity". Covid-19 has also forced education to utilize technology in totality. This then requires madrasahs to carry out technology-based learning. So that educational technology is very intensely carried out until now. However, man 1 Malang's internal policy of prohibiting students from carrying handphones clashes with the central government's policy of using educational technology in learning. This study seeks to explain whether the policy of prohibiting handphones carries implications for the use of educational technology in Madrasah. The research method uses qualitative methods with data collection through observation, interviews, and literature studies. The results showed that the ban on carrying mobile phones hindered teachers from implementing certain learning models that required students to access information via the internet. So that MAN 1 Malang teachers must apply learning strategies and models that emphasize more on the student experience in everyday life.

Keywords: learning · application · technology · education · MAN 1 Malang

1 Introduction

Technology in the 21st century seems to have become something that must be owned and curated in various fields. Similarly, in the field of education, learning is currently required to apply innovative and literate learning skills to the latest media and technology [1]. This is by the direction of the Minister of Research and Higher Education in 2018 which is facing the industrial revolution 4.0, it is necessary to change education policy. One of the policies that must be carried out is the reconstruction of educational institutions that are

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responsive and adaptive to the 4.0 revolution or the digital era [2]. The existence of Covid-19 also encourages learning to be carried out online or remotely. The implementation of PJJ for all schools aims to reduce the mobility and transmission of Covid-19. The policy then indirectly requires each school to be ready to adjust technology-based learning both in resources and skills [3]. This then encourages various schools to collaborate or use internet-based platforms to support learning in schools. Technology allows the creation of global learning in schools for both teachers and students. This means that the learning resources carried out do not only emphasize the knowledge possessed by the teacher and the learning support books. However, the knowledge or material that students want can be easily accessed via the internet. So in the technology-based learning process, teachers are not only teachers but also mentors [4].

Based on research conducted by Cholik[5], there are at least three categories of information technology utilization in learning activities. First, technology is a tool in the delivery of learning materials. Second, technology is a medium of learning. The first and second categories have interconnected links. Technology allows teachers to provide learning materials that can be accessed 24 h by students with the help of platforms or applications as a learning medium. There are various platforms that teachers can use in conveying information such as Quipper, Edmodo, or Youtube. Third, technology is a medium of communication for educators and students. The ease of technology allows students to ask questions about learning activity information anywhere and anytime. A platform that is often used in the use of technology as a communication tool is Whatsapp. However, based on the results of previous studies, the use of technology in learning in Indonesia is still experiencing inequality. According to Santoso [6], there are two problems due to the establishment of remote loot learning. The first is about the limitations of stable internet coverage in various regions of Indonesia, especially the 3T (lagging, frontier, and outermost) areas. The second is about the ability of teaching staff to adapt to the PJJ learning method.

MAN 1 Malang is an educational institution under the auspices of the Ministry of Religion. No different from the Ministry of Culture, the Ministry of Religion since early 2018 has improved and equalized Madrasah education in the era of the Industrial Revolution 4.0. This policy is to support the realization of the “Great Madrasah with Dignity”. So it is hoped that education in Madrasah can have more contribution in bringing Indonesia to reach the 5th rank of world economic strength towards a prosperous society [7]. However, contrary to the government’s policy of directing for technology-based learning, MAN 1 Malang has a rule prohibiting the carrying of mobile phones. Even though mobile phones are the main information technology that is notable owned by every student, in contrast to laptops. Therefore, this study seeks to explain two formulations of the problem. First, how the application of educational technology can still proceed without the use of information tools in every learning in the classroom. Second, how is the alternative carried out by MAN 1 Malang to carry out learning activities that are still charged with digital technology?

2 Methods

This research uses qualitative methods. Qualitative research is used to get an idea and understand a phenomenon centrally [8]. This research was conducted at MAN Gondanglegi, Malang Regency in conjunction with teaching assistance activities. Data sources are obtained through observations, interviews, and literature studies. Observations were made during teaching assistance activities for approximately five months. Interviews were conducted with the teachers of MAN 1 Malang as key informants and six students as secondary informants. Data analysis was carried out in 3 step of activities that occurred simultaneously. The three flows in question are collection, data reduction, data presentation, and concluding.

3 Result and Discussion

3.1 Educational Technology

Educational technology is a system that is used to support a learning process. Educational technology is developing due to the need for learning. Therefore, according to Non Syariadi [9] educational technology consists of a combination of human elements, machines, ideas, and management procedures. This means that educational technology can be applied if there are humans who have ideas and know-how to manage them and there must be a machine as a processing tool. If one of these elements is lost, then educational technology will not work. According to Devies [10], there are at least three kinds of educational technology. The first technology refers to hardware such as computers, laptops, projectors, sounds, and other electronic devices. The second technology refers to software such as software. While the third Technology refers to the fusion of hardware and software. So that the third technology emphasizes the orientation of an integrated system. So the third technology emphasizes the problem-solving approach.

Referring to the era of the 21st century with the industrial revolution 4.0, fosters new communities such as knowledge society, information society, and networking society [11]. The emergence of the new community places that the community must address information and networks. Therefore, the education developed today must be literate in information and adapt to the Disruption Era. The disruption of the era allows for rapid and rapid development and technological change. Era disruption allows types of jobs to disappear and/or new types of jobs to emerging quickly [9]. So that if the children of the current generation are not equipped with creative educational technology. So what happens will be a lag and confusion in getting a job. The existence of the Merdeka Belajar curriculum which aims to restore the essence of the education system by providing freedom of thought to schools, teachers, and students in innovation and creativity shows that the curriculum is in line with the development of the industrial revolution era 4.0.

3.2 Application of Educational Technology in MAN 1 Malang

MAN 1 Malang is one of the schools that has been accredited A. So it can be said that MAN 1 Malang is a school that has good quality and quantity in terms of implementing

education in schools, both in terms of policies and facilities, and infrastructure. To support educational technology MAN 1 Malang facilitates LCD in every class. MAN 1 Malang also provides free wifi access that can be used for all students, educators, and educators in madrasahs. However, MAN 1 Malang only has two computer lab rooms, each of which contains 35 computers. Based on observations and school data, the ideal number of computer labs to have with students is 956, which is as many as five rooms. This means that the devices that support digital technology-based education are still not fully fulfilled.

Since June 2020, MAN 1 Malang has implemented online learning for the 2020/2021 Academic Year. This is following the issuance of a joint Decree between four Ministers of Indonesia signed by the Ministry of Education and Culture, Ministry of Relegiuos Affairs, Ministry of Health, and Ministry of Home Affairs dated June 15, 2020. This policy is a measure to prevent the spread of Corona Virus Disease 2019 (Covid-19) [12]. At the beginning of the application of distance or online learning MAN 1 Malang uses Madrasah E-learning products of the Ministry of Religion. Madrasah e-learning is a free application that can be used to support learning starting schools under the auspices of the Ministry of Religion starting from Madrasah Ibtidaiyah (MI), Madrasah Tsanawiyah (MTs), and Madrasah Aliyah (MA). However, in the implementation of the use of Madrasah E-learning, there are often some disturbances in the application. This relates to the application used simultaneously by all madrasas under the auspices of The Ministry of Religious Affairs of Indonesia. Therefore, then MAN 1 Malang also uses paid applications to support online learning so that it is optimal. The paid application used is Quipper Premium. In addition, MAN 1 Malang also uses CBT Rush as a learning evaluation tool during midterm exams (PTS), end-of-semester exams (PAS), and end-of-year exams (PAT). However, in addition to the application that has been provided by the school, teachers also use the Whatsapp application to communicate with students. Whatsapp supports teachers in reminding or motivating students to do learning activities online.

Efforts to use technology in every learning at MAN 1 Malang are still at the first level of technology. The use of technology in every face-to-face learning is still only like the use of projectors and LCDs. In an effort to provide learning materials the teacher maximizes the use of Quipper, so that students can access the material at any time via Quipper. But in fact only a few students are willing to open and read the material on Quipper. Even when there are assignments through the Quipper, many students collect them offline in class. Schools also allow students to bring mobile phones, but only when certain teachers implement the learning that requires bringing mobile phones. But teachers also cannot ask permission from the school every week to allow students to bring mobile phones to every meeting. So the policy of students may bring mobile phones when specific learning does not reflect the use of technology for each lesson. But these efforts have been quite well made by the school.

3.3 Barriers to the Application of Digital Technology in MAN 1 Malang

The application of educational technology in MAN 1 Malang has not been carried out optimally. This is related to various factors, both from the school's internal policies and the factors of student conditions. During the Covid-19 pandemic, MAN 1 Malang

conducted fully online learning using the Madrasah E-learning application and Quipper Premium. However, after the Four Ministerial Decree allowed to implementation of face-to-face learning, MAN 1 Malang continued to use Madrasah E-learning and Quipper Premium as a support for learning in schools. However, due to the internal rules of the Madrasah where all students are prohibited from bringing communication tools in the form of cellphones, information technology-based learning is still not optimally carried out. Although carrying laptops is still allowed, laptop ownership among students is still low. Even though the implementation of educational technology in hardware schools is one of the things that must be fulfilled first.

Futhermore the 2013 curriculum policy where learning must be student-centered using a scientific approach to train students to think comprehensively [13]. This means that in the implementation of learning, students are expected to be able to construct their learning. Thus the learning model in the classroom must be enriched with independent learning skills [14]. Learning models that lead to independent learning skills will lack the maximum output if the means of information sources are difficult to obtain. Man 1 Malang's internal policy of prohibiting students from bringing mobile phones to Madrasah has an impact on the lack of maximum centralized learning in students. Why does that happen? The 2013 curriculum emphasizes the role of teachers as facilitators, motivators, moderators, and innovators in learning. Therefore, students need to be equipped with knowledge and competencies that allow students to adapt to changes that may arise in the future. According to Ergusni [14], there are at least six competencies that students must have to adapt to changes. The six competencies include the following. 1) Access to information; 2) Ability to think clearly; 3) Competence in effective communication; 4) Understanding of the human environment; 5) Understanding of individuals and society; 6) The ability to improve individual abilities. Man 1 Malang's internal policy of prohibiting students from carrying cellphones hinders students from accessing information. Whereas in the student center learning model, students are emphasized on searching for information independently first. So the policy will hinder the learning model that requires students to access information that can only be obtained outside the package book or other student companions. Although in its policy MAN 1 Malang allows students to bring cellphones under certain conditions such as when pts, PAS, and PAT are implemented. In addition, students are also allowed to bring cell phones when there is a teacher who asks the school for permission to allow students to bring cell phones on certain days and hours of class. This means that teachers cannot immediately conduct a student center learning meeting that requires students to find information independently. This then becomes a challenge for teachers, especially sociology teachers who want to do several learning models such as problem-based learning. When a sociology teacher provides a social problem that must be analyzed and studied through the sociology paradigm, then students should do data mining by observation or at least with literature study. This is in line with the empirical nature of sociology where the science or information obtained must be based on observation and logical facts whose results are not speculative [15].

In addition, the existence of students who live in cottages is a separate arrangement for teachers in applying technology in learning. If teachers use educational technology to support student learning outside of school, this only applies to students who do not

live in the cottage. The cottage also has restrictions or even restrictions on the use of mobile phones for its students. So man 1 Malang teachers also cannot often carry out learning activities that require students to access cellphones related to most madrasah students staying in the cottage. So MAN 1 Malang teachers must choose strategies and learning models that do not focus on accessing information via the internet but must use learning strategies and models based on student experiences.

4 Conclusion

MAN 1 Malang has made various efforts in the use of educational technology as a support for learning. This is evidenced by the use of E-learning and Quipper during the Covid-19 pandemic. However, when face-to-face learning is carried out again, the use of information technology is only centralized in the first level of technology, namely the use of hardware. In fact, most teachers at MAN 1 Malang are also still not applying technology to every lesson in class. This is related to the internal policy of MAN 1 Malang which prohibits students from carrying mobile phones. So that if the teacher wants to apply a learning model that refers to the independent search for information by students, the learning model will be hampered. So in carrying out learning activities in the classroom, teachers must apply student center learning that prioritizes student experiences over information search. So if the policy of prohibits students from carrying mobile phones in schools is still implemented, it is still very difficult for MAN to implement technology-based learning. However, if MAN 1 Malang still want to maintain these rules, schools can add computers and rooms in the computer laboratory or can facilitate notebooks for each student. Notebooks can be set to only access learning activities. But the above solution will cost a lot of budget.

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