

E-Money Tab As An Attendance Tracker For Elementary School Students

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Submitted: 2020-10-01

DOI: 10.23917/ppd.v8i1.12227

Accepted: 2020-12-03

Published: 2021-07-25

Keywords:	Abstract
<p>e-money; tablet; attendance; discipline; students</p>	<p><i>This study aims to describe: 1) the process of using e-money tab, 2) the advantages and disadvantages of using the e-money tab, 3) the impacts of using the e-money tab. This study was conducted as a qualitative study facilitating a phenomenological research design. Data was collected through interviews, live observation and analysis of documents. Study subjects included the principal, the IT team and students of 1 Muhammadiyah Elementary School, Ketelan Surakarta (Elementary School of Muhammadiyah 1 Ketelan Surakarta) and was conducted on location. Results of this study showed that: a) the use of e-money tabs as an attendance tracker can only be accessed at school and requires a strong internet network, b) an advantage to the use of e-money tab as an attendance tracker is being able to track attendance of students with ease, allowing teachers to ensure discipline and parents to monitor the arrival and departure time of their children to and from school. On the other hand, a disadvantage to this system is the instability of the internet network especially when multiple students are using the e-money tab at the same time, causing error in the server, c) the e-money tab has impacted the process of attendance tracking, in which it has maintained and improved discipline of students.</i></p>

INTRODUCTION

Background

Education can be regarded as an essential necessity. The education process can influence change in an individual towards a positive character. As explained by Sukmadinata (2011: 4), education functions as a tool for students to develop their potential, skills and self-character in a positive manner for both themselves and their environment. Due to this, education has to be improved and developed to situate with the change in eras. Good education will produce high quality human resources. According to Samino (2015: 1), education is absolutely necessary for the building of maturity in students. Education can shape their characters and improve their moralities, knowledge and understanding of

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technology. The process of change and improvement in education aims to enhance the quality of education in Indonesia.

Character building refers to the attempt done by teachers to influence their students positively while at school. This is in line with the comments by Minsih (2015: 112), who explained that schools are an educational institute that play a big role in developing a student's personality. The characters of students must be cultivated from a young age so that they form exceptional personalities. This is also in accordance with what was mentioned by Widyahening (2016: 177), in which character building can be initiated from an early age, even while still a baby or in the womb, to produce people with positive characters. The development of a good character will influence the child's personality when they grow older. This is because character is something that sticks to a person's personality and behavior. An activity that is done repeatedly will become a habit, and a habit that becomes a routine will become part of a person's character (Putri, 2018: 41). Character building is one of the main components that needs to be developed in life.

One characteristic value necessary to be developed in discipline. Discipline needs to be developed in schools so that students will have good characters. In accordance with Abbas (2018: 240), discipline needs to be developed in schools to produce students that are educated and disciplined. Discipline is the act of controlling oneself and the individual's ability to follow rules (Annisa, 2018: 108). The lack of self-control in students will cause them to deviate from school rules, such as coming to school late when lessons have started (Putra, 2019: 110). Character building is not the sole responsibility of educators, but of everyone around the child's life. This includes family, members of the school and the child's community (Wuryandani, 2014: 288). The cultivation of discipline in students must always be supervised and proper examples must be set by all to guide these students. This way, students will not feel burdened and will understand that discipline is a mutual commitment which is applied to all members of the school. Discipline is a character that can be shaped during the education process. In this era, there are many ways to take advantage of technology to improve the quality of education.

The development of technology affects all aspects in life, especially in the field of education. The advancement of technology must be adapted, as it will advance science as well. The rapid development of facilities in many different fields in life is a form of advancement in technology and science (Mubarok, A. 2017:230). New innovations that have been developed well and have been continuously supervised can improve the quality of education in Indonesia. The advancement of technology in education improves its quality when applied in schools. This is in line with Budiman (2017: 32), whereby the development of information technology in this era affects the field of education.

Elementary School of Muhammadiyah 1 Ketelan Surakarta is not just prestigious in academics, but also in non-academic matters. As technology develops, this school always adapts to new programs facilitating technology. Among which are the use of e-money as a main method of transaction in school, e-learning as an online platform for studies, e-infaq as an online method of infaq payments, e-library as a platform for students to borrow books from the library, e-rapot as a method of end of semester evaluations, and their latest project, the e-money tab as a student attendance tracker. The use of technology by Elementary School of Muhammadiyah 1 Ketelan Surakarta has been supported by the study by Rahmawati (2020: 5), who investigated the advantages of technology in the process of student assessment also known as electronic reporting (elektronik raport / e-rapot).

With the demand for technology development in the 4.0 revolutionary era, SD Muhammadiyah 1 Ketelan designed the e-money tab. The availability of this system as a student attendance tracker aims to improve discipline among them. It also acts as a method to reduce the use of paper as an Adiwiyata model school (Adiwiyata: cares about the cleanliness, beauty and health of the environment). The e-money tab as an attendance

tracker is a new invention. Past studies have explored the use of fingerprint and SMS Gateway digital attendance tracker systems.

Problem of Study

Previously, schools have not been using technology optimally. For example, the use of paper-based methods of attendance tracking that has not been changed. This can be seen as a method that is not as effective, as parents are unable to directly observe whether their children have arrived in school and if they were punctual. This is in accordance to (Wibowo, S., 2018: 1094) who mentions that the use of paper-based attendance methods lead to difficulties in parents knowing their children's rate of attendance, sick leaves, permit leaves, missed classes as well as lateness in schools. With the advancement of technology, schools can now develop a digital attendance tracking system. This facility can support Elementary School of Muhammadiyah 1 Ketelan Surakarta as a technology-based school.

State of the Art

These past studies were done by Diartono (2010: 81), which concluded that this system is beneficial for monitoring attendance of students in school. The e-money tab is internet based, and thus if it is not connected to the internet, the tablet is unusable. This study is in line with Prasongko & Dewi (2015: 18), who mentioned that the use of a web based attendance tracker application system is able to improve the speed and ease of attendance report development, allowing it to be done in 20 minutes. The novelty of this study is that it conducts surveillance and records students' attendances using the e-money tab and is directly connected to the parents' mobile phones. Using the WhatsApp application, parents will be sent their children's attendance information. If students are not present at school without explanation, then the application will automatically notify the parents, allowing them to follow up with their children at home (Mubarok, A., 2017: 231).

Gap Study & Objective

Based on the presented study problem, the author is now conducting a study observing the use of e-money tab as an attendance tracker. The following includes some focus of the study: 1) The process of e-money tab use as an attendance tracker that improves building in students. 2) the advantages and disadvantages of the use of e-money tab as an attendance tracker in building discipline in students. 3) the impacts of e-money tab use as an attendance tracker in building discipling of students.

METHOD

This study is a qualitative study using a phenomenological research design to explore the use of e-money tab as an attendance tracker in building discipline in students. According to Creswell (2010: 20), a phenomenological study observes humans and identifies their experiences when faced with a certain phenomena. This study was conducted in Elementary School of Muhammadiyah 1 Ketelan Surakarta that is located at 1 Kartini Street, Ketelan, Banjarsari, Surakarta. Subjects of this study include the IT team, principal of the school and the students of the school. The object studied is the use of the e-money tab as an attendance tracker. The study was done on 19th and 24th June 2010.

The author collected data by: 1) interview method, the author enquired about the use of the e-money tab as an attendance tracker in building discipline in students, the advantages and disadvantages associated with the use of e-money tab as an attendance tracker in building discipline in students as well as the impacts of the use of e-money tab as an attendance tracker in building discipline in students. 2) observation method, by observing the process of using the e-money tab as an attendance tracker in building discipline in students. 3) assessment of documents method, done to collect data regarding the use of the e-money tab as a student attendance tracker, notification of attendance

through whatsapp and the interface design of the e-money tab on the computer. The validity of data collected in this study was tested using triangulation of technique and data source.

Triangulation of techniques were conducted by comparison of data collected from interviews, observation and assessment of documents on the use of the e-money tab as an attendance tracker by students, the principal and the IT team at Elementary School of Muhammadiyah 1 Ketelan Surakarta. Triangulation of data sources in this study was done by checking data collected during interviews on the use of the e-money tab as an attendance tracker with sources including students, the principal and the IT team at Elementary School of Muhammadiyah 1 Ketelan Surakarta.

Analysis of data was done using the Miles Huberman model, in which several things is conducted, including: 1) reduction of data, done by the author to summarize, choosing only core components and focusing on important points regarding the analysis of the use of e-money tab as an attendance tracker in building discipline in students. 2) presentation of data was done by including data correlated to the use of the e-money tab, advantages and disadvantages, and the impacts of e-money tab use. 3) verification of data, the author concluded analysis results from data obtained regarding the use of e-money tab as an attendance tracker in building discipline of students in Elementary School of Muhammadiyah 1 Ketelan Surakarta.

RESULT

Elementary School of Muhammadiyah 1 Ketelan Surakarta have implemented the use of an online attendance tracker using the e-money tab since the beginning of the 2019 academic period, and it has been running well as hoped by the school. The e-money tab is developed based on the e-money card, which is the main method of transaction in the school. In line with the thoughts of (Wulandari, D. 2018: 1928), who mentioned the use of electronic money as a transaction method is now becoming a trend in Indonesia. In this era of advancing technology, schools are demanded to develop digital facilities that improve the quality of education. This is similar to the study by (Budiman 2017: 41) that explains the global demand for education to keep up with technological advancements to improve quality. In the future, schools must be able to utilize technology in all its processes. Schools must also be able to provide technology education to students from a young age to allow them to be able to develop with new technologies in the future. To support the digital era, Elementary School of Muhammadiyah 1 Ketelan Surakarta launched electronic based facilities such as e-infaq, e-library, e-learning, and e-money tab.

Table 1. Results of interview regarding the impacts of *e-money tab* use as a student attendance tracker

No.	Subject	Interview Results
1.	Subject 1	States that students have become more disciplined and have a better understanding of technology.
2.	Subject 2	States that with the <i>e-money tab</i> as an attendance tracker, it has made the students be more disciplined.
3.	Subject 3	States that the <i>e-money tab</i> can minimize the frequency of lateness in students so that they are more disciplined.

As shown on picture 1, the e-money tab is a student school attendance tracker that utilizes e-money cards and a tablet. Attendance is recorded in the morning when students arrive in school and in the afternoon when they leave school. When a student scans their e-money card on the tablet, their individual identities and information of their attendance will be recorded. At the same time, this information will be sent through WhatsApp to their class teachers and parents. With the existence of the e-money tab, students are pushed to be disciplined in coming in on time. The following shows the process of using e-money tab as a student attendance tracker that is observed in this study:

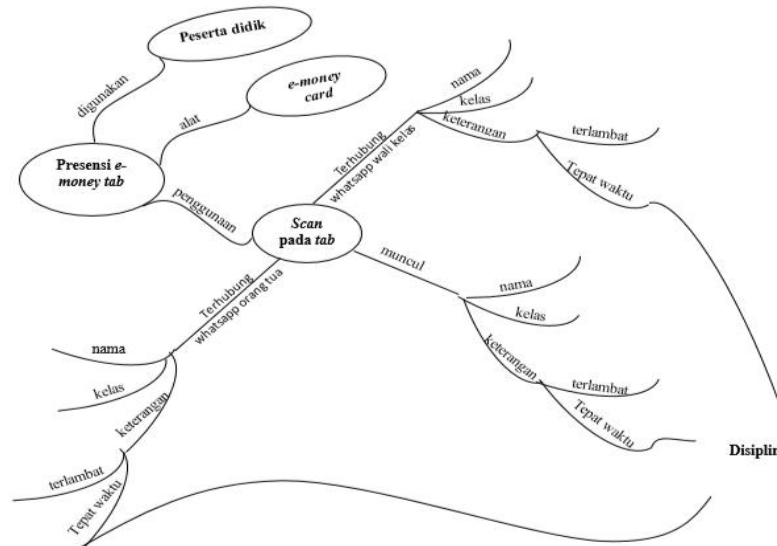


Figure 1. Process of using e-money tab by students

The e-money tab is developed as an attendance tracker to shape students to become more disciplined in coming to school on time. As written by (Nani, 2020: 8), the use of a fingerprint based attendance tracker for office workers in Sorawolio subdistrict tends to improve discipline of staff in arriving on time. This was supported by written data that was recorded with extensive details on the arrival and departure times of the staff. The utilization of the e-money tab as an attendance tracker would ease both teachers and parents in supervising students while they are at school. This is in line with the study by (Rahayu, 2018: 39) that states that the use of the fingerprint application system eases work performance by the administrative team, lecturers and parents of students in monitoring university students' attendance. Therefore, it is believed that the use of the e-money tab as an attendance tracker can be used to improve work performance of teachers in processing attendance data and in overseeing the discipline of students in school.

DISCUSSION

The process of e-money tab use in Elementary School of Muhammadiyah 1 Ketelan Surakarta

The use of the e-money tab as an attendance tracker in Elementary School of Muhammadiyah 1 Ketelan Surakarta is an effort to introduce technology to students while they are young to improve the quality of the school as a model technology-based institution. The use of e-money tab as an attendance tracker can also improve work performance of the teaching staff in processing attendance data, as well as eases both teachers and parents in overseeing the students while at school. This corresponds to the study by (Mubarak, A. 2017: 234) that states that attendance tracking facilitating an sms gateway system eases

teachers in supervising the actions of students as there is multiple surveillance, both from the teachers and from the parents preventively. The *e-money tab* is used as an attendance tracker that has been functioning for over one year as it was started early since the beginning of the 2019 academic period.

Before the *e-money tab* was used as an attendance tracker, the IT team first conducted socializations to the principal, teachers, parents and students. This socialization was conducted through spreading written notices and a live demonstration of how to use the *e-money tab*. With these, the principal, teachers and students became familiar with the right and proper use of the *e-money tab*. This is similar to the study by (Asmira, 2016: 1017) that states that socialization and training of the use of a fingerprint-based system followed initially by some and then the rest of the staff led to the successful implementation of the system. Students were very enthusiastic with the use of the *e-money tab* as an attendance tracker, and this improved their discipline. This is in accordance with the study by (Wulandari, 2019: 109) that states that the implementation of the fingerprint system was followed with positive response from the staff and was effective in improving their discipline. Attendance was tracked every day in the morning when students arrive and when they leave school. This is comparable to the study by (Inayatillah, 2015: 28) that stated government employees and lecturers conducted attendance scanning twice in a day according to their arrival and departure times. With the existence of the *e-money tab* as an attendance tracker, we have seen a reduction in students that arrive late. The school implemented a code of conduct that stated that students attending school past 07.15 WIB are said to be late, and thus classified as not disciplined because of tardiness.

Advantages and Disadvantages of the e-money tab in Elementary School of Muhammadiyah 1 Ketelan Surakarta

One of the advantages of using the *e-money tab* as an attendance tracker in *Elementary School of Muhammadiyah 1 Ketelan Surakarta* is as part of the school's technology development. This is similar to the study by (Budiman, 2017: 32) that says that the development of technology in this globalisation era impacts the field of education. Thus, there is a global demand for the education sector to evolve its use of technology to improve its quality. The use of the *e-money tab* as an attendance tracker allows parents to easily monitor their child as attendance is directly connected to the parents' WhatsApp. This is similar to the study by (Putra, 2018: 168) that states the use of a fingerprint based system as an attendance tracker that is connected with the *Global System for Mobile Communications (GSM)* server allows attendance to be informed to parents.

A disadvantage to the use of the *e-money tab* as an attendance tracker is that if the student loses their *e-money* card, they would need to report this and change into a new card. This is similar to what was reported by (Sujana, 2019: 11) that states that users would need to make a new card if their original *e-money* card is lost. Another disadvantage happens when multiple attendances are recorded at the same time, which causes the network to lag and a delay in the sending of notifications to parents through WhatsApp. This issue was also highlighted in the study by (Prasongko, 2015: 14) that states that attendance notification to parents sent through SMS gateway was only delivered after five minutes and requires credit in the modem and signal from the provider.

Impacts of using e-money tab in Elementary School of Muhammadiyah 1 Ketelan Surakarta

The use of the *e-money tab* as an attendance tracker allows teachers and parents to easily conduct monitoring. Teachers no longer need to oversee each student one by one while at school. This is similar to what was found by (Mubarok, 2017: 233) in which the

implementation of the SMS gateway based system eased teachers in maintaining and overseeing students that violated school rules. Using the *e-money tab*, there is a good system of communication between parents of the students with the school staff through notifications on WhatsApp. This also assists parents in monitoring their children while at school, and prevents the need for them to personally chat with the teachers to ask for information about their children. This was also found in the study by (Mubarok, 2017: 231) in which online applications plays a bridging role between parents and the school by attendance tracking through an application the automatically informs the presence of the students or violations that they may have done at school.

Evaluation and repairs on the *e-money tab* system is conducted routinely annually as well as whenever a problem occurs. This annual checking is conducted as a demand from the school to always keep on developing their program each year. This is in line with the study by (Fakih, 2015: 43) that states that evaluation is done to evaluate the attendance tracking information system to solve problems that are present in the conventional attendance system previously used. The *e-money* card acts as a main transactional tool in *Elementary School of Muhammadiyah 1 Ketelan Surakarta*. Aside from being used as an attendance tool, the *e-money* card is also used in buying food, drinks and stationeries at the school-owned company (*BUMS - Badan Usaha Milik Sekolah*), as well as for *infaq* payment at school and borrowing of books from the library.

CONCLUSION

Novelty and Contribution

In conclusion, this study has found that a) the use of e-money tab as an attendance tracker is a means of improving school quality as a technology-based model school. The e-money tab is an extension feature build from the e-money card and can only be accessed in schools with a strong internet connection, b) the e-money tab has several advantages, among which are the feature to record attendance of all students, allowing teachers to oversee students' disciplines and parents to monitor their children's arrival and departure times at school. On the other hand, the disadvantages to the use of the e-money tab is the likelihood for its server to become error prone, especially when used by multiple students at the same time and without a stable internet connection. c) The impact of this e-money tab as an attendance tracker is that it is able to help build discipline in students.

Limitation and Future Study

For future studies, there is a need for deeper studies of the use of the e-money tab as a student attendance tracker. For the government, it is hoped that the implementation of the e-money tab as an attendance tracker that can build discipline in students can be done in all schools.

Implication / suggestions

Some recommendations are presented by the author to different parties, among which are: 1) For the students, they must be able to improve discipline through the use of the e-money tab as an attendance tracker. 2) For schools, they must be able to improve the speed of their internet network so that the e-money tab system can be used maximally. In addition, schools should be responsible in adding on the number of tablets available to avoid lines during attendance recording as well as to reduce the amount of time needed. 3) For the school principal, they need to continue motivating and pushing students to improve discipline in schools. 4) For the IT team, they need to continuously study and follow the development of digital technology as to solve problems related to the use of e-money tab as a student attendance tracker.

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