INTEGRATED APPLICATION-BASED DIGITAL LEARNING TECHNOLOGY IN SUCCESSFUL LEARNING ACTIVITIES DURING THE PANDEMIC

Mahsusi[1], Syihaabul Hudaa[2], Nuryani[3*], Ahmad Bahtiar[4], Makyun Subuki[5]
Indonesian Language and Literature Education, Faculty of Tarbiya and Teacher Training, UIN Syarif Hidayatullah Jakarta[1,3,4,5]
Management, Faculty of Economics and Business, Institut Teknologi dan Bisnis Ahmad Dahlan Jakarta[2]
nuryani@uinjkt.ac.id*

ABSTRACT

This study aimed to look at madrasah's efforts in developing a learning system through "digital learning." This was done by examining the digital learning system implemented at MAN in terms of its advantages and disadvantages. The method used in this research was descriptive qualitative, with the data collection techniques employed were direct observation and interviews. Meanwhile, the research location is four MAN in Jakarta and Tangerang area, including. The four madrasahs that became the research locations were MAN Insan Cendekia Serpong (South Tangerang), MAN 1 Tangerang, MAN 4 Jakarta, and MAN 13 Jakarta. The researcher conducted interviews with school parties, namely teachers and principals. The results showed that three madrasahs have well-managed e-learning systems. In this case, they are MAN IC Serpong, MAN 1 Tangerang, and MAN 4 Jakarta. The e-learning system used by each madrasah is E-Learning Madrasah which can be accessed using the web and applications from Play Store. Meanwhile, MAN 13 Jakarta still needs to have its e-learning system and use standard features such as zoom, G-meet, etc. Basically. Madrasahs such as MAN IC Serpong, MAN 4 Jakarta, and MAN 1 Tangerang have registered to utilize the digital learning platform with all the features provided. Meanwhile, MAN 13 Jakarta has yet to register, so it cannot utilize the features contained in the digital learning platform. This research implies that madrasahs have innovated well in digital learning implementation so that learning during the pandemic can run well and smoothly. This research further contributes theoretically and practically to the world of education, especially for madrasas regarded as "second-class" schools. In general, this research contributes to the development of the world of digital learning by providing a valuable platform through the various features provided.

Keywords: E-Learning Application, Learning technologies, Characteristics of Madrasas

1. Introduction

Madrasahs in the digital era have a big share in the world of education, especially in the implementation of Islamic material. However, not all parents are aware of the current development of madrasah (Afifi et al., 2022). People still consider madrasahs as educational institutions that focus on religious knowledge (Barton, 2013; Chusni et al., 2020). This thinking is what makes many parents send their children to general education institutions.

In addition to the above problems, facilities in madrasahs also need to be a concern for the local government. Researchers found that some madrasahs in Indonesia were still in poor condition. Damage to classroom ceilings, incomplete practical tools, and even lack of benches in the classroom are problems in madrasas (Nurelisa et al., 2022). Inadequate facilities make the learning atmosphere less enjoyable.

Furthermore, another problem arose when the pandemic hit Indonesia. The conventional learning system must change. However, not all madrasas are ready to face the pandemic with a digital technology system (Sintema, 2020). Learning is done using WhatsApp groups, while presentations using the Zoom application, Google Meet, and others. This unintegrated system makes teachers have additional tasks in attendance. As a result, many teachers need to be more focused on teaching at school (Sitaridis & Kitsios, 2022).

The lack of socialization of madrasah to the community makes the curriculum in madrasah less known. This is in contrast to public schools that provide information using banners in various places (Basit, 2022). Public school socialization is also carried out through digital media, such as: on Facebook, Instagram, YouTube, and other media known to the general public. Through socialization in the media, public schools showed their curriculum and other advantages (De Logu *et al.*, 2022).

Other problems faced by madrasahs also emerged in early 2020 during the pandemic. Some madrasahs are ready to face the pandemic with online learning systems (Daniel, 2020; Rose, 2020; Ting et al., 2020). However, there are also madrasahs that are not ready to face the pandemic, so that the learning system becomes less effective. The unpreparedness of madrasahs to face the pandemic is due to their inadequate technology (Chusni et al., 2020; Compen et al., 2022; Horsch et al., 2022).

At the beginning of the pandemic, some madrasas in Indonesia held learning through WhatsApp groups. If examined in depth, the learning system using WhatsApp groups is very ineffective (Daniel, 2020; Dwivedi et al., 2020; Kapasia et al., 2020; Mishra et al., 2020; Pokhrel & Chhetri, 2021; Rose, 2020; Ting et al., 2020). The teacher distributes materials to students, then continues with a discussion on WhatsApp with students. However, not all students in the group participated in the discussion. In addition, attendance is also given in the group, so even students who do not participate can fill in their attendance.

The way of learning using WhatsApp groups is considered by parents as a form of school unpreparedness for the pandemic. In fact, some developed schools have even implemented a game system in an effort to minimize boredom during the pandemic (Syaliman et al., 2022). The unpreparedness of schools has made parents begin to be selective in choosing a destination school for their children (Araújo et al., 2020; Coman et al., 2020; Merchant & Lurie, 2020). In fact, some selective parents do not dare to risk sending their children to schools that still do not have an e-learning system (Ramadhani et al., 2022).

Digitalization of learning in the digital era coexists with educational goals. One of the goals of education is to liberate learners in a fun way and to educate the nation (Muhardi et al., 2020). This means that technology is not a problem for students and teachers to use in the classroom. However, the facts on the ground are that many students and teachers have difficulty using learning technology (Alqahtani & Rajkhan, 2020; Araújo *et al.*, 2020; Coman *et al.*, 2020; Merchant & Lurie, 2020; Schneider & Council, 2021; Zhu & Liu, 2020).

In addition to student and teacher readiness factors, schools as educational facilitators need to prepare facilities and training for students and teachers (Bernacki et al., 2020). Training for teachers is expected to be a solution to minimize technology stuttering, so that teachers can optimize the technology used (Almusharraf & Khahro, 2020). In addition, the role of schools in introducing technology to students during the student orientation period is also considered important (Sepulveda-Escobar & Morrison, 2020). The goal is that students can already use the e-learning system used in learning activities.

The emergence of technology in education should be adapted in all sectors of education (Kurniawan, 2022). Madrasah, as one of the places of learning, needs to adjust to technological developments (Alam, 2022). As the name implies, madrasah comes from the word "darasa" which means "a place of learning for students" (García-Morales et al., 2021; Nguyen et al., 2020). As a place of learning, madrasas also have distinctive characteristics compared to other public schools. One of them is the implementation of Islamic values and religious moderation.

This characteristic can be a differentiator and attraction for parents to send their children to madrasah. Therefore, madrasahs are also required to keep up with the times and digital technology to accommodate the needs of students in participating in learning activities (Englund et al., 2017). In addition, the curriculum in madrasas must also be adjusted to MBKM. The goal is for students to have knowledge and experience in applying the knowledge gained.

Some of the technological developments needed by madrasahs to be able to compete with public schools are e-learning applications, interesting teaching materials, integrated assessment systems, and KBM outcomes (Calhoun et al., 2020; Iyengar et al., 2020). With a well-coordinated system, students and teachers can work together to optimize the KBM. Through this synergy, the expected learning outcomes can be achieved well.

Madrasahs as Islamic-based education providers need to innovate in learning activities. For example as conventional schools do by implementing general knowledge that is integrated to the material presented. Madrasahs can also innovate the existing materials by providing their own characteristics, namely the implementation of Islamic and religious moderation.

In learning Indonesian in madrasah, a teacher can insert material that has religiosity value in it. The religiosity material can be included in short stories, novels, poetry, or other texts. In addition, materials that have religious moderation values can also be included in fiction stories created by teachers or use other materials that are already available in a literary work (Fahri & Zainuri, 2019).

Innovations made in madrasahs are expected to be able to accommodate the problems of the current era. Problems that are often faced in madrasahs in the digital era are the too long materials, monotonous learning methods, and unpreparedness for the pandemic (Maqsood et al., 2021). Then, from these problems comes learner boredom in participating in learning activities. The impact is not achieving the expected graduation standardization.

In addition to the various problems above, madrasahs also need to show their superiority in other scientific fields. For example, such as the achievements shown by public schools that won the OSN 2022. However, this does not mean that madrasahs do not have achievements. In Indonesia, there are several excellent madrasahs that have good governance competencies, such as MAN Insan Cendekia Serpong, MAN Insan Cendekia Gorontalo, MAN 2 Malang, and other MANs in Indonesia.

These MANs are categorized as madrasahs that have been able to compete with other public schools. In fact, even for the international standard school category, the MAN has been able to compete with its various achievements. In addition, the boarding management in the school does not only provide academic achievement, but also builds the characteristics of students in accordance with the standardization of the curriculum in madrasah.

Some research projects related to the readiness of madrasahs in facing online learning has been conducted previously (Nur & Mariyah, 2022) with the title "Analysis of Madrasah Readiness in Implementing Online Learning during the Covid-19 Pandemic in Madrasah Ibtida'iyah Se-Kota Tanjung Pinang". The results of the research conducted by Nur and Mariyah found that madrasahs in Tanjung Pinang were able to implement online learning well, but unfortunately teachers were unable to control students due to distance learning. In this case, the technology still relied on the standard applications and did not have its own online system.

Other studies were also conducted (Hidma et al., 2022); (Shavira et al., 2022); (Deliani, 2022); dan (Afifah et al., 2022) using student active learning approach in the classroom. The research conducted is included in the descriptive qualitative type using classroom action research. The results obtained in their research are that madrasahs have readiness in online digital era learning activities. However, the system used is still using the existing systems, such as: Google Classroom, Google Meet, and other applications.

Furthermore, various problems were also found in the implementation of learning (Hidma *et al.*, 2022); (Shavira *et al.*, 2022); (Deliani, 2022); and (Afifah *et al.*, 2022). In this case, the problems are that there are some students who are constrained by facilities (do not have laptops/computers), teachers who are unable to adapt to create materials, and the difficulty of networks in the regions. In addition, the limitations of controlling students in the classroom are also a problem that must be faced.

The difference between the research conducted by the researcher and various previous studies is that the current researcher examined the digital era learning system used by MAN Insan Cendekia Serpong, MAN 1 Tangerang, MAN 4 Jakarta, and MAN 13 Jakarta. The selection of schools in Jakarta aimed to compare whether the learning technology used is the same or different from other schools. In addition, researchers also conducted direct data collection and school web-based literature studies.

The purpose of writing this article was to examine the e-learning system owned by MAN Insan Cendekia Serpong, MAN 1 Tangerang, MAN 4 Jakarta, and MAN 13 Jakarta. The researcher also tried to examine the readiness of the research destination school in facing the digital era. In addition, the e-learning application used was also examined in order to find the advantages and disadvantages that may be owned.

2. Research Methods

This research belongs to the descriptive qualitative type using a direct action approach. The first step taken by the researcher was selecting the destination school. Then, after getting the destination school, the researcher made a letter to visit the destination school. After obtaining permission, the researcher interacted with the school to find out the e-learning system used.

Furthermore, the data sources in this study were obtained through interviews and literature studies through the school's web. Then, the data that have been collected were examined based on its usefulness in learning activities. In this case, the researcher tried to find the advantages and disadvantages of the e-learning system used by MAN Insan Cendekia Serpong, MAN 1 Tangerang, MAN 4 Jakarta, and MAN 13 Jakarta.

This research was carried out for three months (May-July 2022), where the data review process took 2 weeks. The research results are presented descriptively using in-depth text. By conducting descriptive qualitative analysis, researchers could explore research results objectively (Emzir, 2017; Moleong, 2017). The results of the research review are expected to be a consideration for stakeholders to improve.

3. Results and Discussions

Practices in learning activities do not only occur in universities, but are enforced since learners are in Madrasah Aliyah (MA). Students begin to be accustomed to conducting research and explaining the results of research using articles or papers. However, since the pandemic hit the world, the learning system has changed. Therefore, the e-learning system and learning methods have become important factors supporting successful learning. The current researcher chose MAN Insan Cendekia Serpong, MAN 1 Tangerang, MAN 4 Jakarta, and MAN 13 Jakarta as the object of this research. The selection of this school is due to its excellent achievement in education.

E-Learning System

Researchers found that the system used by madrasahs in Indonesia, currently follows the program developed by the Ministry of Religious Affairs under the name "E-Learning Madrasah". The results of the search through the system found that MAN 13 Jakarta did not have an integrated system on the E-Learning Madrasah website.
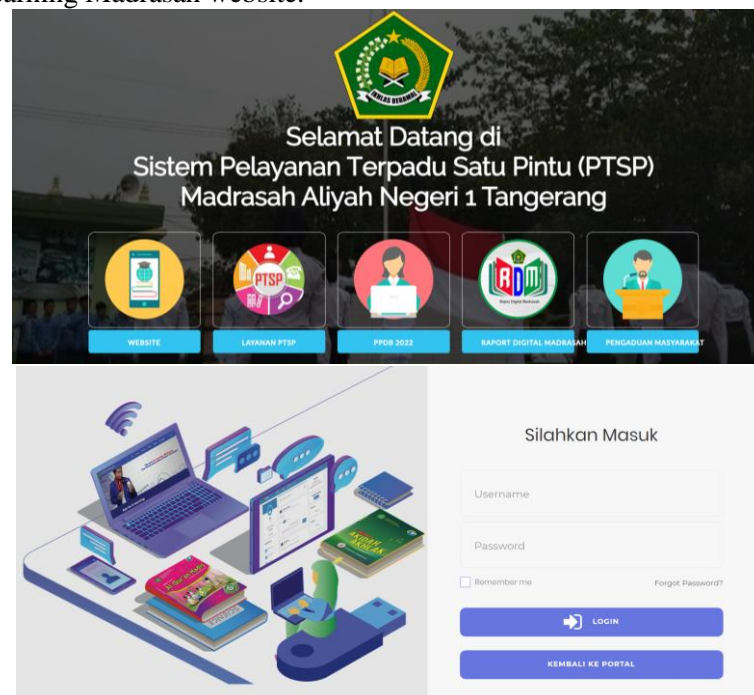

Fig. 1. E-Learning Madrasah

The Madrasah E-Learning System managed by the Ministry of Religious Affairs has several excellent features that can optimize the learning activities. These features are categorized as very good, because they are able to accommodate the needs of teachers and learners.
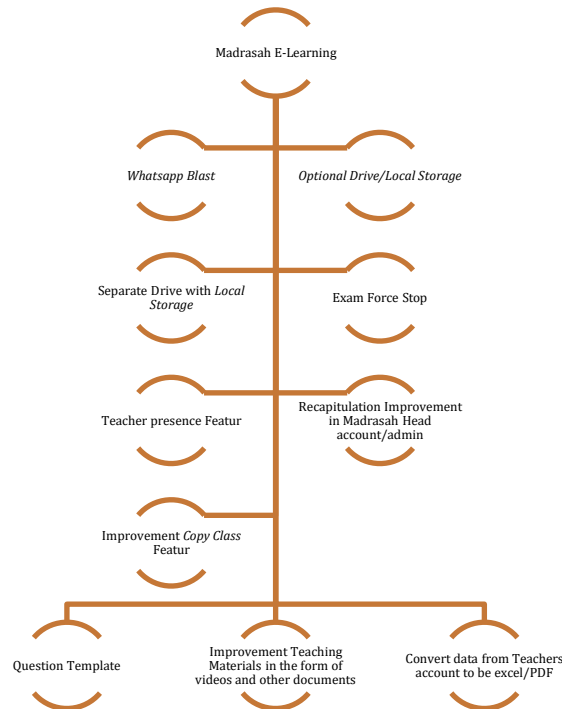

Fig. 2. Features in Madrasah E-Learning

There are ten features in Madrasah E-Learning that accommodate the needs of teachers and learners. The ten of features or points above have been well organized in Learning Management System. The following is a brief explanation of the features by the researcher.

a. WhatsApp Blast Feature

WhatsApp Blast feature is one of the features in E-Learning Madrasah. This features can be used to send messages to students, parents, or other teachers. This feature will make it easier for information to be spread to several parties.

b. Optional Drive/Local Storage

Optional Drive/Local Storage is a feature that allows teachers to store teaching materials on a drive or on local storage. In this case, if the local storage is chosen, then the file will be stored automatically on the personal computer. This feature makes it easier for teachers to save all the teaching materials they need and reopen them when needed.

c. Separate Drive with Local Storage

This feature is basically made to separate classes or teaching years in madrasah. It means, teaching materials and classes will be properly segregated for each academic year. The separation of folders can ease the uploading time of files with a large enough capacity.

d. Exam Force Stop

Force Stop Exam feature is one of the important features in learning activities. Teachers can set the exam time as determined by the teacher. If there are students who are late for the exam, the teacher can stop the exam when the exam time has been determined.

e. Teacher Presence Feature

The Teacher Presence feature in E-Learning Madrasah 4.5.1 has been updated by being able to see where the teacher's performance is carried out from. Whether the teaching and learning is carried out from home, school, or other places. By utilizing this feature, each learning activity becomes more integrated and flexible.

f. Recap Improvement in Madrasah Head/Admin Account

E-Learning Madrasah 4.5.1 feature has made it easier for the Principal/Admin to see teacher performance. The previous feature did not have a recap that could recap the teacher

performance daily or monthly. However, in the latest feature update, teacher teaching activity recap can be done.

g. Improvement Copy Class Feature

This feature allows migrating CBT-based exams properly. In the previous version, this feature was still missing, so teachers needed to create classes from scratch. The latest version now makes it easier for teachers to make improvements.

h. Question Template

Teachers can create exam questions using templates that have been prepared. The provision of templates aims to homogenize exam questions with other teachers. Teachers can also import files directly from their respective computer devices in excel or PDF format.

i. Improvement of Teaching Materials in the Form of Videos and Other Materials

Teachers can upload teaching materials in the form of videos or other formats into the Madrasah E-Learning. In addition, the teacher can preview the uploaded videos before being distributed to students. Thus, the videos distributed to students are appropriate

j. Convert Data from Teacher Account to Excel/PDF

This feature makes it easier for teachers to record the teaching that has been done in excel/PDF format. This conversion certainly makes it easier for teachers to administer teaching activities that have been carried out previously. The results of the recording can be listened to again as evaluation material both by the teacher personally and by the school in general.

Advantages of Madrasah E-Learning

Fig. 3. E-Learning features in devices

The mobile version of the Madrasah E-Learning feature is very convenient to view. Besides being comfortable, this feature is able to accommodate all the needs of teachers. For example, if you want to check your class assignment, you can check the class assignment feature on the Madrasah E-Learning page. Teachers can choose the class they want to check, then just click on the destination class, and can immediately find the assignment in it.
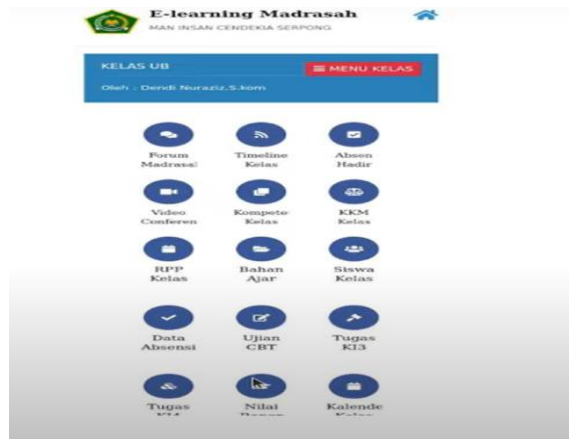
Fig. 4. Features in the Student Classroom

Another feature that can support direct two-way learning is the video conference feature. Unlike some other school systems that only store links, the video conference system on the E-Learning Madrasah website has advantages. One of the advantages is that this system has been managed directly by E-Learning Madrasah. In fact, its capabilities are like Zoom Meeting that is used in general. In addition to live broadcasting other needs such as: Lesson Plans, Learning KKM, Teaching Materials, Attendance, Assignments, and Exams are also done through this system.

The display for teachers through E-Learning Madrasah is also very good. Teachers can check the academic calendar and check the classrooms they teach. The goal is that teachers do not forget about the classes they teach and the agenda for one semester. Then, this E-Learning Madrasah application also allows teachers to communicate with other teachers through the E-Learning Madrasah program in the "Teacher Chatting" column. If there are teachers who are confused about the system function, they can access the video tutorial.
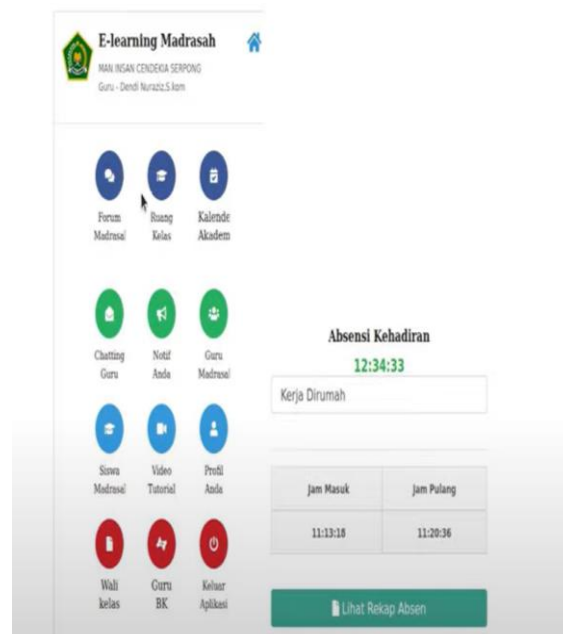

Fig. 5. Teacher E-Learning Features

In the Madrasah E-Learning feature, teachers can see their daily performance through the system. In addition, this system basically shows excellent transparency. This means that no one feels disadvantaged later. In addition, through this transparency system, the Ministry of Religious Affairs is trying to build discipline between students and teachers. Not just students, but also teachers who teach must apply discipline in their learning activities.

In accordance with the indicators of good online learning, that the online learning system must be able to accommodate the needs of learners and teachers, not burdensome in administration, the E-Learning Madrasah is in accordance with these standardizations (Afifah et al., 2022); (Deliani, 2022); (Nur & Mariyah, 2022); (Zhafira & Chairiyaton, 2020). Thus, the E-Learning Madrasah system can be said to be perfect for use at this time.

Currently, several madrasahs have implemented digital learning well. As explained in the results of this study, MAN IC Serpong, MAN 1 Tangerang, and MAN 4 Jakarta have used an integrated digital learning system. The system used is a system that has been provided by the Ministry of Religion as a form of support for digitizing learning. The application was even designed long before the pandemic hit Indonesia. This means that the Ministry of Religion has made efforts to encourage and support the progress of madrasas so that they can be competitive with other superior schools. Several previous studies conducted on madrasas concluded that madrasas are educational institutions that are a little behind. In addition, madrasas are also considered second-choice educational institutions. However, with this research, the assumptions in the previous research are no longer valid. At least, currently, madrasas have moved forward and developed to be able to compete with other leading schools.

5. Conclusion

Based on the research conducted by the researcher, it is concluded that MAN IC Serpong, MAN 1 Tangerang, and MAN 4 Jakarta have used E-Learning Madrasah as recommended by the Ministry of Religious Affairs. However, MAN 13 Jakarta still uses other common learning systems. Some of the systems used such as: G-Class, G-Meet, Zoom, Quizizz, and G-Drive. To support the success of learning, MAN 13 uses Zoom to conduct conferences with its students.

MAN IC, MAN 1 Tangerang, and MAN 4 Jakarta already use E-Learning Madrasah managed by the Ministry of Religious Affairs. This application is a very good application because it accommodates the needs of teachers and learners. Teachers are not burdened with the existing administrative system, students also find it easy to follow learning activities through E-Learning Madrasah. In addition, this system is also transparent in managing attendance, assessment, assignments, etc., thus making the quality of trust between students, teachers, and madrasah run harmoniously.

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