

Character-Based Digital Curriculum and Learning: A Case Study in Madrasah Ibtidaiyah and Elementary Schools

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Abstract

This study examines the curriculum and learning processes implemented at Madrasah Ibtidaiyah Pembangunan and Pembangunan Islamic Elementary School, focusing on integrating character values. Utilizing a qualitative research methodology, the investigation collects data through in-depth interviews, direct observations of classroom activities, and analyses of relevant documents, all aimed at gaining a deeper understanding of the educational practices at these institutions. The findings indicate that both Madrasah Ibtidaiyah Pembangunan and Bina Insani Elementary School exhibit distinctive learning characteristics that set them apart from other Islamic educational institutions. The academic policies at these schools have successfully embraced digital learning models that are closely aligned with character education. This approach effectively fosters essential character values among students, including a heightened sense of responsibility and a strong discipline regarding the appropriate use of information technology. The results suggest that the integration of digital learning with character education can substantially enhance the overall development of students within Islamic educational environments.

Key Word: *Curriculum; Digital Learning; Character Education; Madrasah Ibtidaiyah; Elementary School*

INTRODUCTION

In the context of educational development during the era of globalization, formal Islamic schools are often viewed as an alternative for fostering the moral character of young students. The internalization of character values from an early age is crucial within the school environment, as these values encompass both outward behavior and the underlying motives and principles. Madrasahs are



expected to serve as exemplary institutions that provide quality education while emphasizing character development. These institutions uphold the traditional education system while remaining committed to Islamic values and teachings.

The 2013 Curriculum has struggled to instill desirable character traits in students effectively. (Holmes & Mclean, 2018; Mahmud et al., 2023) With the hope that children will have good character, which can be applied in daily life. In addition, there is a lack of consensus on the best approach to integrate digital technology with character education. (Aldhafeeri et al., 2016; Bereczki & Kárpáti, 2021; Stringer et al., 2022)

The implementation of a character-based digital curriculum in Madrasah Ibtidaiyah and elementary schools is a significant educational reform that aims to integrate digital literacy with character education. This approach is particularly urgent due to the rapid digitalization of education, especially those accelerated by the COVID-19 pandemic, which necessitates a shift from traditional to digital learning environments. However, this transition presents several challenges and opportunities that need to be addressed to ensure its success. With the rapid digitization of education, there is an urgent need to adjust the curriculum to encourage digital competencies and character development in students. (Gallardo-Echenique et al., 2015; Melash et al., 2020)

The COVID-19 pandemic has highlighted the need for digital education, so primary schools must adapt quickly to digital curricula to maintain continuity of education (Hsiang et al., 2022; Tengku Kasim et al., 2022). Digital literacy is essential for students to thrive in the future labor market, making the integration of digital technology in education a priority. (Buchholz et al., 2020; Stringer et al., 2022) A character-based approach is important because it aligns with sustainable development goals, promoting quality education and cultural inclusion. (Asmayawati et al., 2024; Clark et al., 2016)

Research that discusses character education and digital learning has been conducted before. As Mansir et al. have noted, character education is very important in shaping students' personalities and instilling values that guide them toward positive life goals. It is effectively implemented through structured student activities and a school environment that promotes personal growth and character development. (Mansir et al., 2020; Toropova et al., 2021) Another study says a research-based approach to character education emphasizes the need for scientific evaluation of its effectiveness, suggesting that informed practices can significantly increase the impact of character education in schools. (Berkowitz & Bier, 2004). Mahmud explained in his research that the 2013 Indonesian Curriculum (K-13) aims to develop 18 national characters in students, although its effectiveness has been questioned. An alternative approach suggests that character development should occur at home, at school, and in society, using Islamic educational principles. This holistic approach facilitates the development of various character traits, such as

honesty, discipline, and social awareness, in different environments. (Mahmud et al., 2023; Yazar Soyadı, 2015)

Related to digital learning, a study in Poland highlights the need for teachers to have comprehensive digital literacy skills, including understanding intellectual property and safe online communication. This is important for creating a secure digital learning environment and is a major challenge for schools today. (Tomczyk, 2020). The shift from traditional, teacher-centered learning to student-centered e-learning during the COVID-19 pandemic poses significant challenges for Islamic education in primary schools. Issues such as low student engagement, minimal feedback, and high dropout rates are prevalent. Teachers face difficulties in encouraging the development of students' personalities through digital platforms, requiring a more creative approach to align with the goals of 21st-century education. (Chalkiadaki, 2018; Tengku Kasim et al., 2022)

Problems in learning often occur in the field, including in the learning process, methods, and media used in learning. One of the challenges teachers face in education is when they adopt a student-centered e-learning approach, which is different from traditional Islamic educational practices, which leads to issues such as low student involvement. (Haug & Mork, 2021). Sustaining digital education reform is difficult due to obstacles such as lack of time, required effort, and inadequate evidence of student learning outcomes. (El-Hamamsy, Monnier, Avry, Chevalier, et al., 2024). In addition, there is a lack of consensus on age and proper methods to introduce the concept of digital technology, which complicates the implementation of the curriculum. (Stringer et al., 2022).

Digital curricula can improve self-efficacy among teachers and provide the necessary support for sustainable adoption. (El-Hamamsy, Monnier, Avry, Chessel-Lazzarotto, et al., 2024). Pedagogical innovation and curricular adaptation can significantly improve digital literacy and integrate cultural values, optimizing educational outcomes. (Asmayawati et al., 2024).

Teachers may struggle with the new demands of digital education, requiring professional development to boost confidence and overcome implementation barriers. (Stringer et al., 2022). The transition to digital learning can be resource-intensive and may not immediately show an improvement in student learning outcomes. (Osman, 2024). While the character-based digital curriculum offers many benefits, such as increased digital literacy and alignment with global education goals, it also presents challenges that need to be carefully considered. Addressing these challenges requires a collaborative effort among educators, policymakers, and researchers to ensure the sustainability and effectiveness of these education reforms.

Previous studies have focused on environment-based curricula, emphasizing the integration of environmental awareness into learning activities at Madrasah Ibtidaiyah. However, this study does not discuss the role of digital tools in improving

the curriculum (Atikoh et al., 2022). Character education has been explored through an integral approach, focusing on traditional methods such as prayer and memorization, but lacking the incorporation of digital learning strategies (Correani et al., 2020; McDonald et al., 2018)

This gap is highlighted by the lack of comprehensive studies that combine these two aspects of education, especially in the context of Islamic primary schools. The following sections outline the specific gaps identified in the existing literature. Character education has been studied sporadically, with many of its applications not based on a scientific knowledge base. Existing research mainly focuses on acquiring general principles of effective practice rather than integrating these principles with the digital learning environment. (Berkowitz & Bier, 2004). There are significant challenges in integrating digital technology with play-based learning in early childhood education. Current curricula often separate play from digital learning, which points to a gap in understanding how digital tools can support character education in young children. (Edwards, 2013). While this study provides insight into character education and digital learning separately, no research effectively combines these elements in the context of Islamic basic education. Addressing this gap can lead to a more holistic approach to education that prepares students for the digital age while cultivating essential character traits.

This research proposes a unique framework that combines character education with digital learning, addressing gaps in current educational practices. It emphasizes inquiry-based learning as a method to improve character and digital literacy among students. This article focuses on integrating character education in the digital learning curriculum in Madrasah Ibtidaiyah and SD Islam. The main goal is to improve students' character development through a structured curriculum combining digital tools and character-building activities. This approach aims to prepare students for the complexities of the modern world by cultivating essential character traits in addition to academic skills.

METHODS

This study used a qualitative research approach. The research method was carried out evaluatively with a focus on the ability or competence of Madrasah Development teachers to apply digital-based and character-based learning. As a qualitative research study, this study will involve more researchers as key instruments. During the research activities, the researcher will involve the following research subjects: (1) Director of Education of the Syarif Hidayatullah Foundation, (2) Director of Human Resource Development of the Syarif Hidayatullah Foundation, (3) Headmaster of Islamic Elementary School Pembangunan, (4) Headmaster of Madrasah Ibtidaiyah (MI) Pembangunan, (5) Student from MI Pembangunan and Islamic Elementary School Pembangunan, (6) Teachers of the Islamic Elementary School Pembangunan, (7) Teacher of the MI Pembangunan, (8) Deputy Curriculum

Officer of the Development Islamic Elementary School, (9) Deputy Head of the MI Development Curriculum, and (10) 5 Student Parent Representatives.

In the search for data, research activities will use the following instruments: (a) **Observation:** In this case, the researcher observes students' behavior during learning activities, especially regarding religious character, responsibility, independence, and discipline. Conduct direct observation of learning activities carried out by PAI teachers, with a focus on observation of the use of digital media during learning. Including observing the learning tools carried out and supporting facilities owned by Madrasah Ibtidaiyah (MI) Pembangunan and SD Islam Pembangunan Yayasan Syarif Hidayatullah Jakarta. (b) **Interviews:** In this study, interviews were conducted with the Foundation Board, the Director of Education, the Director of Human Resources, the Principal of SD Islam Pembangunan, the Principal of MI Pembangunan, students, and parent representatives. (c) **Documentation:** In qualitative research, documents are complementary to the use of observation and interview methods. The documents needed in this study include (1) the profile of the MI Pembangunan, (2) the profile of SD Islam Pembangunan, (3) the Learning Implementation Plan, (4) the academic guidelines of the MI Pembangunan, (5) the history book of the MI Pembangunan, etc.

The data obtained through observation, interviews, documents, and *desk studies* will be processed using descriptive analysis techniques. Descriptive analysis is used to explain completely the character-based digital-based learning design. The data processing technique is planned to be carried out in a way that is appropriate for qualitative research and must be adjusted to the data obtained.

RESULT

1. *Character-Based Digital Learning Process*

Madrasah Ibtidaiyah (MI) Pembangunan and SD Islam Pembangunan 2020 have launched a gradual learning transformation from conventional regular to digital learning. The rationality put forward includes changes and developments in information technology. The demands of the times have demanded educational institutions, including these two Islamic academic institutions, to adapt to all the needs of changes that occur. Digital learning refers to utilizing information communication technology in learning activities, starting from planning activities and evaluation of learning by using the Learning Management System (LMS) as the learning platform.

LMS is a software application that can automatically handle a training activity's administration, implementation, and reporting. LMS is software/software used for administrative purposes, documentation, searching for a report, or creating material during the online teaching and learning process by connecting to the internet. This LMS is used to develop web-based online learning material and manage how these learning activities can run in tandem with the results.

LMS has the following functions: (1) Centralizing and automating administration; (2) Able to provide services and guidance that can be carried out by users themselves, without involving others; (3) Assemble and present learning content on a regular basis, (4) Use the web-based platform as the application platform; (5) Supporting ease of portability and better standardization, (6) Regulating learning content that is reuse.

In digital learning activities, learning activities are carried out through various approaches, such as contextual teaching and learning (CTL), cooperative learning, interactive learning, scientific approach, and others. This is as admitted by the Principal of SD Islam Pembangunan that the existence of SD Islam Pembangunan teachers has been very creative in choosing learning approaches that can arouse students' interest and motivation to learn.

Learning is designed through various methods with the main goal of arousing students' enthusiasm for learning. After the learning session, students are given the opportunity to make presentations, and the medium that is often used is Canva. Before that, they received briefings to master the tool. Each school also introduces relevant new apps to support the learning process by ensuring students are trained first before using them independently. This aims to allow students to explore their creativity to the maximum in the learning process. (Interview Results on January 03, 2023)

For one of the teachers, learning strategies and methods should continue to be innovated and developed according to the needs of students. "The main essence of learning is how students feel comfortable in learning and show a high level of motivation in learning activities. All of that depends on the variety of learning methods and media used. I use a pretest in the form of quizzes so that the children focus because, in it, the children compete; after that, they only learn after learning, only the post-test. The score we take after the pretest is so much, and after the post-test learning, we can see whether the score has increased or not. If the teacher only gives assignments on the blackboard, the child sees the tabs. We do not know where the child sees the tabs, but when it is in the form of a learning game, the child is all focused. In quizzes, children are taught to compete to answer questions that are entered into the quiz. How children can focus on what we convey is the most difficult. To take that focus, we look for what is interesting for children; we also need to introduce ways that they are happy (Results of Interview with FR MI Pembangunan Teachers on February 10, 2023).



Figure 1. Learning Activities of SD Islam

The use of digital learning in education is closely related to the availability of supporting infrastructure, the environment, and the ability of teachers to adapt to the use of available information technology. Adopting a learning system using e-learning will affect the infrastructure, work procedures, human resources, and culture of the institution concerned. Support for learning support facilities in the MI Pembangunan and SD Islam Pembangunan includes the availability of Smart MP as e-learning or LMS used. It contains various activity tools that guide teachers and students in learning activities. All learning activities are carried out using Smart MP as the LMS.

To access this application, you need an internet connection and a browser (Chrome, Mozilla Firefox, Microsoft Edge, Safari, etc.). There are several steps to access it as follows: (1) open a browser on the <https://smart.mpuin-jkt.sch.id/login> page, (2) enter the login page by using the school/madrasah domain Gmail account to log in to the LMS SMART MP system. In Figure 2, you can see the LMS Smart MP display.

After the login process has been carried out, the dashboard display contains many tools, such as student profiles, student attendance, and others. The Smart MP learning subjects contain a list of subjects received by students in their class during one year of lessons. To view the list, click on the LMS - Subjects menu. In it, there will be (1) subject e-modules created by teachers as a learning guide and learning steps for students (both synchronously and asynchronously), and (2) a list of tasks to monitor tasks at certain meetings where there are assignments from subject teachers.

To view the contents of the Subject page, select one of the students you want to view and click on the Eye image. In Figure 2, you can see the LMS Smart MP display.

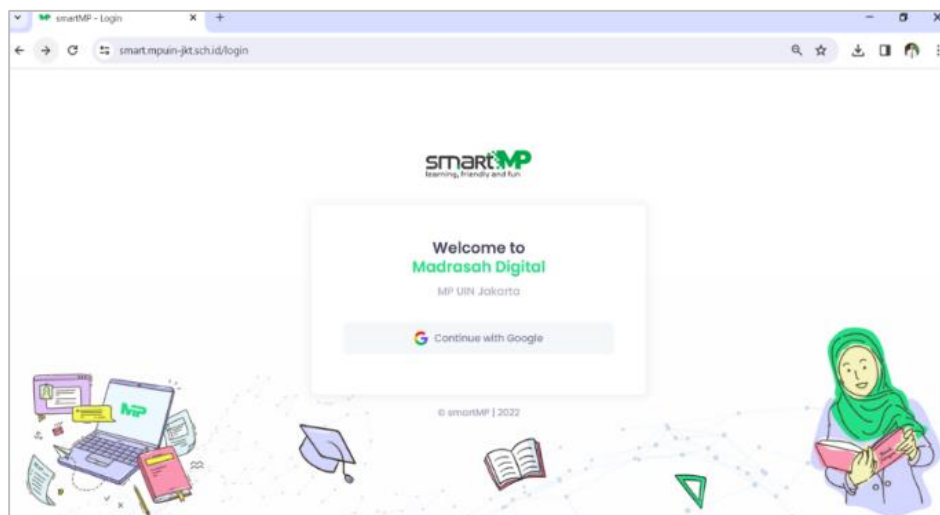


Figure 2: LMS Smart MP homepage view

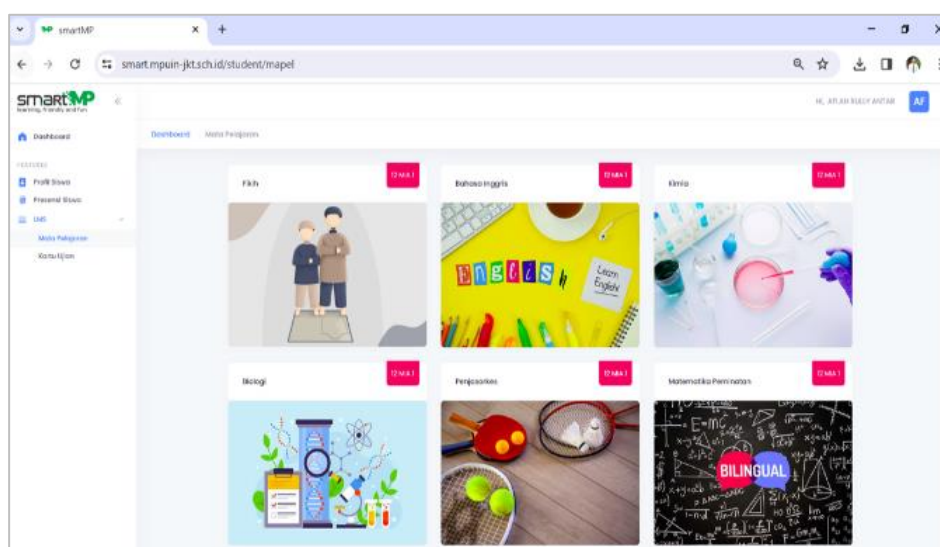


Figure 3. LMS Smart MP homepage view

The existence of the Smart MP LMS is very helpful in developing materials prepared by teachers. The existence of LMS can be referred to as a forum for interaction used by teacher-students. At the same time, the development of the teaching materials policy of the Foundation requires all to be able to develop teaching materials independently according to the needs and provisions applicable to the curriculum policy rules. This is as revealed by the Head of MI Pembangunan.

Through the availability of SmartMP services, the learning process is easier and unlimited, and students and teachers can be more open to interacting openly. One of the teachers acknowledged this condition and the openness of learning that occurred at MI Pembangunan today.

Learning at MP previously still used conventional methods, where materials and exercises were mostly taken from package books. However, digital-based learning has now been implemented by utilizing tablets as the main tool. E-

modules and exercises are already available on tablets, so teachers are making more use of apps like Quizziz, Kahoot, and Google Forms. In addition, visual-based learning, such as videos from YouTube and other media, is also used to make it easier for students to learn independently. With this method, students can learn at any time without being limited by time, allowing for more flexible and effective learning. (Results of the FR MI Pembangunan Teacher Interview on February 10, 2023)

The use of digital technology in learning has further clarified the new direction of learning in the MI Pembangunan environment, which has implications for students' learning motivation.

The main difference between offline and digital learning lies in flexibility and creativity. When using physical books, students tend to be limited to the materials available, so there is less room for development. However, with digital learning, teachers can create and update materials at any time. Changes can be made directly, and students become more creative and motivated because the learning design is interactive. Additionally, by using the app, students can instantly see the results of their practice, making the learning process faster and more engaging. (Results of the Interview with the Head of MI Pembangunan on March 23, 2023)

The use of smartphone gadgets in learning further emphasizes the importance of other supporting digital devices. Through digital devices, students can surf anywhere with unlimited time conditions. There is a side of weakness that can be learned from the use of digital technology.

Conventional learning emphasizes the use of non-technological media such as whiteboards, paper, and printed books and is often dominated by less student-centered lecture methods. On the contrary, digital learning in Madrasah already involves technological tools such as laptops, projectors, and the internet. Students are also equipped with smartphones or tablets as a learning medium, making the learning process more interactive and centered on the use of technology. (PAI teacher, interview on January 04, 2024)

There are advantages and disadvantages to the implementation of digital learning. This is as expressed from the results of an interview conducted by the Head of MI Pembangunan:

Digital learning makes it easier for students to understand the material because the design is contextual-based and relevant to their world, making the learning process more enjoyable. The use of tablets and laptops that have become part of their daily lives is transformed into learning media, which increases interest in learning. However, the weakness can be seen in the decline in students' writing skills, especially since the pandemic. To overcome this, we continue to encourage writing exercises, such as composing assignments in Indonesian lessons. However, students are now more creative and quick to understand information, although they still need supervision in using technology. (Interview Results of the Head of MI Pembangunan, interview on March 23, 2024)

In line with the opinion above, the Principal of the SDI Pembangunan also emphasized the same thing.

The advantage of digital learning is that students can access learning resources quickly, and teachers can assess them more easily because the application already provides answer keys, so the correction process becomes more efficient. However, the challenge is the discipline of students because, without strict rules, they can be distracted by other things, such as games. In addition, there are health risks, especially to the eyes, due to excessive use of gadgets. Therefore, there needs to be a rotation of tablet use to maintain a balance between learning and student health. (Interview Results January 03, 2023)

Another advantage of digital learning implemented at MI Pembangunan and SD Islam Pembangunan can be seen in the openness of access to the learning resources used. However, for HM herself, the use of digital technology in learning requires rules or rules of activity that must be agreed upon by students and teachers.

“Advantages: Digital learning can access all learning resources quickly, students can adjust their learning needs, and teachers can provide various kinds of media that increase students’ motivation to learn. In addition, digital learning also balances the game world of students to be transferred to learning. Disadvantages: Teachers must be able to control students so that they stay focused on being on the learning path. In Madrasah Pembangunan Tab, the tabs held by students have actually been knocked from various applications that cannot be downloaded. However, teachers must still be in control because various ways to access the application can be obtained on the internet. Sometimes nature affects the condition of the internet in MP”. (PAI teacher, interview on January 04, 2024)

Based on the results of the interviews described above, the advantages of digital learning allow students to access learning resources quickly so that the learning process is more flexible and not limited by time. Teachers are also easier to assess because apps like Quizziz and Google Forms provide automatic answer keys, speeding up the correction process. In addition, the use of tablets and interactive apps makes students more creative and motivated because the learning materials are relevant to their world.

However, the main challenge lies in the discipline of students who are easily distracted if there are no strict rules. For example, students may be tempted to access other games or apps on their tablets. Excessive use of gadgets also poses health risks, especially to the eyes, so rotation and supervision are needed in their use. In addition, since the pandemic, students’ writing skills have decreased, so writing practice still needs to be encouraged.

Digital learning at MI Pembangunan and SD Islam Pembangunan offers flexibility, creativity, and ease of access, but it also requires close supervision to

address disciplinary challenges and maintain a balance between the use of technology and student health.

2. Curriculum differences

The differences in the curriculum developed by SD Islam Pembangunan and MI Pembangunan can be seen in the table below.

Tabel 1 Curriculum of SD Islam Pembangunan and MI Pembangunan of the Syarif Hidayatullah Foundation Jakarta

Aspect	SD Islam Pembangunan	MI Pembangunan
Policy	Ministry of Education and Culture regulations	Ministry of Religion regulations
Graduate Profile	Character, creativity, digital skills	Emphasis on Islamic values and digital literacy
Vision	Developing potential with character and digital skills	Strengthening Islamic and Indonesian values with digitalisation
Learning Approach	Various teaching methods with digital integration	Emphasizing Islamic curriculum integration

Source: Curriculum Directorate of Education Syarif Hidayatullah Foundation Jakarta

From the results of the study of two aspects between SD Islam Pembangunan and MI Pembangunan, it can be concluded that there are differences in policies and graduate profiles. SD Islam Pembangunan refers to the policy of the Ministry of Education and Culture, while MI Pembangunan follows the policy of the Ministry of Religion and implements the Pancasila Student Profile. In addition, another difference can be seen in the goals, vision, and mission, where SD Islam Pembangunan focuses more on creativity and digital skills, while MI Pembangunan emphasizes noble morals and digital literacy based on Islamic values.

DISCUSSION

The character-based digital learning at MI Pembangunan and SD Islam Pembangunan represent a significant transformation in educational methods since 2020. This research illustrates the shift from conventional methods to a digital approach aligned with advancements in information technology. This change is driven by the need for educational institutions to adapt to remain relevant and effective. (Rogers, 1983). Rogers' diffusion of innovations theory supports the idea that adopting new technology in education involves stages of knowledge, persuasion, decision, implementation, and confirmation.

The use of Learning Management Systems (LMS) such as Smart MP is central to the digital learning process at both schools. Explains that LMS functions to automate administration, organize learning content, and provide interactive tools

for students and teachers (Ellis, 2009). An LMS like Smart MP facilitates both synchronous and asynchronous teaching and integrates digital assessments. This platform enables continuous access to learning materials, fostering student flexibility and creativity. (Almarashdeh & Alsmadi, 2016).

The approaches used include contextual teaching and learning (CTL), cooperative learning, and scientific approaches designed to enhance student motivation and participation. Gagne emphasizes the importance of varied methods and media to capture students' attention and improve comprehension. (Warsita, 2018). Teachers at SD Islam Pembangunan have adopted strategies such as pretests and post-tests using Quizziz to increase student focus and engagement. This aligns with Keller's ARCS motivational theory, which emphasizes that attention, relevance, confidence, and satisfaction should be integrated into instructional design. (Keller, 1987).

One of the main advantages of digital learning is the flexibility in developing and updating materials. With digital media such as tablets and apps, students can access various learning resources, making the process more interactive. This supports the constructivist approach, which asserts that learning is an active process where students build knowledge through experience. (Vygotsky, 1978). The use of applications like Canva, Quizziz, and Google Forms enhances student engagement and allows teachers to present materials relevant to students' world, fostering their creativity.

Despite its benefits, digital learning poses challenges, such as a decline in students' writing skills due to reduced use of print media and difficulties in maintaining student discipline. Interview results highlight that students can be distracted by accessing other applications on their tablets. Self-regulation theory explains that students need guidance and self-control strategies to stay focused and motivated in digital learning. (Zimmerman, 2002). Additionally, health risks such as eye strain are a concern, necessitating rotation and supervision of digital device use.

This study also highlights curriculum differences between MI Pembangunan and SD Islam Pembangunan. MI Pembangunan follows the Ministry of Religious Affairs' policy, integrating Islamic values into its curriculum, while SD Islam Pembangunan adheres to the Ministry of Education and Culture's policy, focusing on creativity and digital skills. The graduate profile of MI Pembangunan emphasizes digital literacy based on Islamic values, whereas SD Islam Pembangunan focuses more on character development and digital competencies.

CONCLUSION

The implementation of character-based digital learning at MI Pembangunan and SD Islam Pembangunan has yielded several significant benefits, including enhanced flexibility, increased student motivation, and greater creativity. However, it is essential to address challenges that have emerged, such as a decline in writing

skills and the potential for distractions. To mitigate these issues, we recommend close supervision and the development of self-regulation strategies for students. By integrating both digital and traditional learning elements, we can achieve a balanced and effective educational approach.

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