Enhancing Digital Literacy through Differentiated Learning in Islamic Religious Education at SMAN 1 Rogojampi

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Abstract: Digital developments can change the way information and knowledge are disseminated, including in learning Islamic religious education. The application of differentiated learning can increase the effectiveness of the educational process, especially in improving digital literacy. Learning differentiation focuses on adjusting the learning process. Therefore, in general, the purpose of this study is to find out how PAI teachers use effective differentiation strategies to improve students' digital literacy, challenges in implementing differentiated learning in improving digital literacy and religious literacy in the school environment, and strategies in dealing with digital literacy obstacles among students. This study uses a qualitative descriptive approach to gain in-depth insight into the strategies applied by PAI teachers in improving digital literacy at SMAN 1 Rogojampi. The results of this study are (1) content differentiation; students' understanding of Islamic Civilization material is increased, especially in the presentation of language that is more contextual and easy to understand, (2) process differentiation; Collaboration in groups can help ISWA exchange Islamic information using digital media, (3) product differentiation; Provide practical exercises directly, such as creating simple digital da'wah content or digital-based projects. In general, this research produces information about improving the ability to access, evaluate, manage information, and strengthen digital literacy based on Islamic values, especially material (Islamic Civilization. Teachers' strategies in overcoming obstacles are (1) making individual assessments as a basis for determining basic learning needs in the context of differentiating content, processes, and products. (2) Provide alternative teaching materials in various formats (online and offline), and (3) provide hands-on practical exercises using digital-based projects.

Abstrak: *Perkembangan digital dapat megubah cara informasi dan pengetahuan disebarluaskan, termasuk dalam pembelajaran pendidikan agama islam. Penerapan pembelajaran diferensiasi dapat meningkatkan efektivitas proses pendidikan, khususnya dalam meningkatkan literasi digital. Diferensiasi pembelajaran berfokus untuk menyesuaikan proses pembelajaran. Oleh karena itu secara umum tujuan dari penelitian ini adalah untuk megetahui bagaimana guru PAI dalam menggunakan strategi diferensiasi yag efektif untuk meningkatkan literasi digital siswa, tantangan dalam mengimplementasi pembelajaran diferensiasi dalam meningkatkan literasi digital dan literasi agama dilingkungan sekolah, dan strategi dalam menghadapi hambatan literasi digital dikalangan siswa. Penelitian ini menggunakan*

pendekatan deskriptif kualitatif dengan tujuan mendapatkan wawasan mendalam mengenai strategi yang diterapkan oleh guru PAI dalam meningkatkan literasi digital di SMAN 1 Rogojampi. Hasil dari penelitian ini yakni (1) diferensiasi konten; pemahaman siswa terhadap materi Peradaban Islam lebih meningkat, terutama dalam penyajian bahasa yang lebih kontekstual dan mudah dipahami, (2) diferensiasi proses; kolaborasi dalam kelompok dapat membantu iswa saling bertukar informasi keislaman dengan menggunakan media digital, (3) diferensiasi produk; memberikan latihan prkatik secara langusung, seperti membuat konten dakwah digital sederhana atau proyek yang berbasis digital. Secara umum peelitian ini menghasilkan informasi mengenai peningkatan kemampuan mengakses, mengevaluasi, mengelola informasi, dan memperkuat literasi digital yang berbasis nilai-nili keislaman khususnya materi (Peradaban Islam. Strategi guru dalam mengatasi hambatan yakni (1) membuat asesmen individual sebagai dasar untuk mengetahui kebutuhan pembelajaran dasar dalam konteks diferensiasi konten, proses, dan produk. (2) Menyediakan alternatif bahan ajar dalam berbagai format (daring dan luring), dan (3) memberikan latihan praktik langsung dengan menggunakan proyek berbasis digital.

INTRODUCTION

Differentiated learning strategies are one of the learning models often used by teachers to improve the learning process according to the needs of students, especially in Islamic Religious Education learning. Teachers have a crucial role in determining the success of the education process (Dilfa, A.H. 2023). The use of media as digital literacy in the education sector has grown rapidly in recent decades to produce learning towards a more interactive, collaborative, and technology-based model. Islamic Religious Education (PAI) subjects, as an integral part of the formal education system, are also affected by these developments. Differentiated learning strategies need to be implemented in order to improve the learning process using digital media. The presence of digital media in PAI learning is becoming increasingly important, especially in the context of distance education, e-learning systems, and the use of multimedia media that can present religious material more attractively and efficiently (Fitriyani, Puspitasari, and Hairil 2024).

Islamic Religious Education (PAI) is very important to shape students' character and moral values. However, the difficulties faced by teachers often relate to the various backgrounds, interests, and abilities of the students. Differentiated learning strategies are very important in this situation. Differentiated learning is a method that recognizes that each student has specific needs and requires a different approach to learning to reach their maximum potential. In Islamic Religious Education, this method can help students better understand and internalize religious teachings, as well as increase their involvement in the learning process (Kosim 2020).

Digital literacy in the context of differentiated learning in Islamic Religious Education (PAI) refers to the use of digital technology to adapt the learning process to the needs and learning styles of each student. This includes the use of various types of digital media, such as videos, e-books, and applications, to deliver subject matter, increase interactivity, and evaluate students' level of understanding (Gaitas and Alves Martins 2017). In PAI lessons, digital literacy plays an important role in making it easier for students to access teaching materials, contribute to online discussions, and produce digital content that is by the

subject matter. Complex PAI material can be explained through animated videos or brief explanations from the teacher, while students who are more comfortable learning through text can take advantage *of e-books* or online articles. PAI-themed applications can also be used for practice questions, interactive quizzes, and educational games that support student understanding.

The application of differentiated learning certainly has several challenges and obstacles that must be faced. Nevertheless, teachers need to maintain a positive attitude to keep up with these challenges. The application of differentiated learning strategies is now increasingly used by teachers from various subjects, along with the increasing awareness of the importance of meeting students' learning needs (Bujuri, 2018). The fulfillment process requires the identification of learning needs systematically by teachers (Bayumi et al. 2021). Teachers facilitate students according to their needs, as each student has different characteristics. In addition, teachers must plan steps that can be implemented in the classroom, because differentiated learning does not mean learning through different treatments or activities for each student and learning that separates intelligent and less intelligent students (Septyana et al. 2023).

The process of identifying students' learning needs can be carried out during learning activities, but before that, teachers need to design a comprehensive learning plan (Lubis, Anwar, and Sakinah 2023). One example is by evaluating students' learning styles, then associating them with appropriate learning strategies and instruments (Cooper 1988). In addition, the application of variation in learning is also important so that every student gets an equal opportunity to develop their potential.

As an approach that is in line with the latest educational curriculum, differentiated

learning makes a positive contribution to the teaching and learning process. Several studies show that the application of this strategy helps teachers in designing learning activities because they have a clear understanding of student profiles. Teachers also gain flexibility in designing content, processes, products, and learning environments that are adaptive and flexible (Atikah, Fauzi, and Firmansyah 2023). For students, this strategy has been proven to be able to improve computational thinking skills, create a more natural learning atmosphere, and hone critical thinking skills

However, the subject of Islamic Religious Education (PAI) is one of the challenges in implementing differentiated learning strategies (Agung, Ratna Dewi, and Arfiah Ainun Salsabila 2024). This is because the approach is still dominated by traditional learning methods, and the evaluation process tends to be limited only to cognitive aspects. In addition, the lack of use of collaborative methods and problem-solving by teachers also makes students less enthusiastic about participating in PAI lessons. When compared to today's learning demands, there is a discrepancy between the strategies designed and the teaching methods applied, making it difficult to achieve learning goals.

Seeing various problems in the learning of Islamic Religious Education (PAI), it is necessary to integrate learning strategies with modern contextual-based learning models. This approach aims to include the development of cognitive, psychomotor, and affective aspects, so that students can apply the values of Islamic teachings in daily life. The ultimate goal of this approach is in line with the essence of Islamic education, which is to form Muslim personalities with character and develop potential both physically and spiritually (Diantoro, Purwati, and Lisdiawati 2021). In

this case, the learning model serves as a guideline or standard in the teaching process, which allows students to be directed to achieve the expected behaviors and conditions in PAI learning (Agustina, Hamengkubuwono, and Syahindra 2020).

Several previous studies relevant to this research can be used as references. *First,* a development research entitled "Development of Differentiated Learning to Improve the Numeracy Skills of SDN Bulukerto 01 Batu Students" by Asiyah (2023) explained that differentiated learning is an effective strategy in improving literacy skills, especially numeracy literacy. The difference with the research conducted by the researcher lies in literacy ability measured by using numeracy literacy, while this study uses digital literacy ability in combining differentiation approaches with strengthening religious values and digital ethics, and provides a contextual approach to how students can access and filter religious information in the digital era. *Second,* qualitative research with a descriptive method entitled "Differentiated Learning Strategies to Improve Students' Reading Comprehension Literacy Skills," conducted by Suratimah (2023), explained that the implementation of differentiated learning strategies begins with mapping students' reading ability and selecting reading books that suit their abilities. The difference with the research conducted by the researcher lies in the ability of reading comprehension literacy by applying differentiation strategies, while this study uses differentiation strategies to improve students' digital literacy in carrying out the PAI learning process with interactive digital media and digital Islamic content according to students' abilities and needs.

Differentiation strategy is considered a potential solution to answer the challenges of Islamic Religious Education learning, because it can accommodate the needs and uniqueness of each student more optimally. Based on this background, it is necessary to conduct initial research that can show the application of differentiation learning strategies in improving digital literacy in Islamic Religious Education subjects. This research can have a positive influence on student learning outcomes. Therefore, a creative and innovative learning approach is needed to create a more interesting and enjoyable learning atmosphere. This research is expected to contribute to the development of more inclusive and effective learning methods in the context of Islamic Religious Education, especially from a psychological perspective, as well as being a reference for teachers in determining the right approach in the learning process. Therefore, this study aims to analyze and describe the learning process through the application of differentiated learning in improving students' digital literacy in the subject of Islamic Religious Education for class XI IPS 1 dan 2 SMAN 1 Rogojampi.

METHOD

This study uses a qualitative descriptive approach with a case study method at SMAN 1 Rogojampi. Data collection was carried out through three main techniques, namely observation, interviews, and documentation. Observations were made by the researcher to directly monitor the application of differentiated learning strategies in Islamic Religious Education subjects carried out by one of the PAI subject teachers. Meanwhile, the interview was aimed at one of the PAI teachers as the main source of data to know in depth this research. A total of 37 students in grade XI Social Studies 1 and 2 participated in differentiated learning to analyze the improvement of digital literacy of each student.

Documentation techniques are used to collect secondary data in the form of online learning platforms (Google Classroom or e-learning, et all), and social media for education, and digital technology used

during learning. (Fadhil et al. 2025). The researcher tracked and reviewed several school documents such as PAI learning modules, curriculum guidelines, and other necessary data.

The data obtained was analyzed using the Miles and Huberman analysis model, which includes three stages, namely data reduction, data presentation, and conclusion or verification (Miles, M. B., Huberman, A. M., & Saldaña, 2014). Data is reduced related to the application of differentiation strategies in improving digital literacy in Islamic Religious Education learning, which will be filtered and grouped so that researchers can obtain data that suits their needs. Data and information that do not match the research theme will be removed. The researcher had to reduce the data several times to minimize errors. The researchers presented the data in the form of narrative descriptions. Validity and Reliability are used by researchers to obtain a high level of credibility by involving researchers to confirm and clarify the data obtained by examining participants/members to conduct discussions after data analysis to re-analyze the data obtained (peer checking).

RESULTS AND DISCUSSION

Differentiated Learning Strategies in Islamic Religious Education

Differentiated learning is an approach designed to tailor the learning process to the individual needs of each student. The term "differentiation" comes from English, which means "difference," and in the context of education, it refers to a strategy that provides equal opportunities for all students to learn according to their respective potentials, interests, and needs (Susansi F.S. 2023). This approach is carried out through the provision of a varied learning experience, adjusted to the level of development, learning style,

speed of understanding the material, and personal interests of students. Differentiated learning strategies allow students to choose the material and learning methods that suit their preferences, which can ultimately increase their intrinsic motivation in learning PAI. For example, students who have an interest in Islamic Civilization material can be given the task of researching important figures in Modern Islamic Civilization.

Learning differentiation strategy is a pedagogical approach that allows teachers to adjust content, processes, products, and learning environments based on individual student needs. With this strategy, Islamic Religious Education learning can be more meaningful, allowing students to understand Islamic material in depth and relevant to their daily lives. **Content Differentiation** used by Islamic Religious Education Teachers provides materials in various formats, such as text, video, and images, to accommodate visual, auditory, and kinesthetic learning styles. For example, in the application of content differentiation strategies, visual students are given infographics about Islamic Civilization, while auditory students listen to short lectures about religion. Content differentiation allows students to access information in a way that suits their abilities (Lisnawati et al., 2023). In line with this opinion, content differentiation applied by Islamic Religious Education teachers has a good impact on students in how to find information about Islamic Civilization material by being literate in digital literacy. Students with a higher level of understanding can be given more complex material, while students who need more support can be given simpler material, but still contain the same learning essence. Differentiated learning is an important element in the Independent Curriculum because it provides space for students to learn in an adapted

manner, both in terms of ability, material, method, and learning style (Alfaiz 2024).

In addition, differentiated learning strategies can also be applied through *process differentiation*, where teaching methods are adjusted to students' learning styles. Some students may find it easier to understand concepts through visual learning with the help of pictures and diagrams, while others learn more effectively through an auditory approach with discussions and lectures. Some students prefer a kinesthetic approach, which prioritizes physical activity in the learning process, such as simulations or direct practice. Thus, teachers must be able to provide a variety of teaching methods to reach all types of learners (Purnasari & Nugraha, 2024). Differentiation of the process applied by Islamic Religious Education Teachers who prioritize physical activity, prefer direct practice, such as implementing Islamic Civilization material by giving speeches/lectures about Islamic civilization. This process makes students more creative and brave in practicing public speaking skills. Thus, teachers can provide learning according to students' needs. In line with the application of differentiation strategies in the context of Islamic Religious Education, increasing motivation through various learning methods can have a positive influence on the understanding and application of religious values in everyday life. (Panjaitan dan Eliasa, 2024).

Product differentiation is also an important part of this strategy, where students are given the freedom to demonstrate their understanding of a material in a way that suits their preferences. Some students may be more comfortable conveying their understanding through writing, while others prefer oral presentations, creative videos, or research-based projects. The implementation of this strategy provides Islamic Religious Education teachers with the freedom, according to their abilities, to work on several tasks to produce a project that can assess student creativity. Providing this choice allows students to express their understanding in the way that is most effective for them, thereby increasing motivation and involvement in the learning process. This learning strategy is designed to facilitate the implementation of the teaching and learning process in classes that have many students with diverse learning abilities. Therefore, differentiated learning must focus on meeting students' learning needs, which must be actively responded to by teachers. By understanding the characteristics and needs of students, teachers can design effective learning strategies to achieve the expected goals (Ratri, 2023).

Differentiation of the environment is also an important aspect in the differentiation learning strategy. A conducive learning atmosphere that suits students' needs can help them feel more comfortable and focused on learning. Some students may be more comfortable learning in a quiet atmosphere with minimal distractions, while others learn more effectively in a more dynamic and collaborative environment. Teachers must be able to create a flexible learning environment, both in seating arrangements, the use of technology, and interaction between students. The differentiation learning strategy of Islamic Religious Education teachers uses Modern Islamic Civilization material with an independent learning curriculum. Islamic Religious Education teachers apply this strategy to see the abilities of each student. Teachers adjust the learning process to the abilities of students, so that students do not feel burdened with tasks that exceed their level of understanding (Wahyuningsari et al. 2022). This encourages the creation of a supportive learning atmosphere, so that students can develop their learning potential optimally.
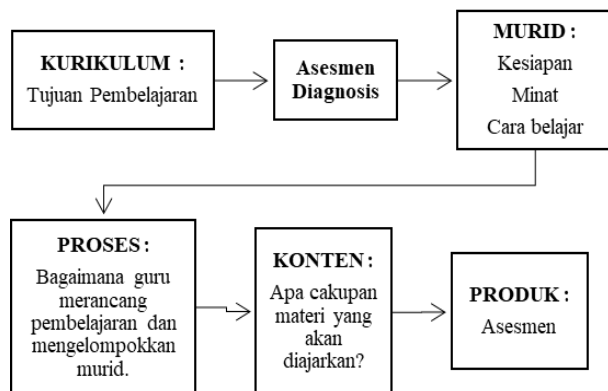
Figure 1. Differentiated Learning Cycle

Each step in implementing differentiated learning needs to be carried out systematically and gradually. When teachers have understood students' learning needs, the strategies implemented will be an effective means of support in the teaching and learning process. Teachers must also pay attention to each student, ensure that they can follow the learning process, and encourage active participation and critical thinking skills in understanding each material presented. With this approach, students will be more enthusiastic and motivated in each meeting and encouraged to prepare the material to be discussed in the next session more creatively. The application of differentiated learning strategies so that teachers to have creative and innovative ideas in choosing and implementing learning methods and models. This is important so that students are more motivated to follow the learning process thoroughly. Therefore, the role of teachers is vital in improving the quality of learning in the classroom (Ilyas dan Maknun 2023).

The aims of implementing differentiated learning at secondary school level include: (1) supporting all students in their learning process and encouraging teachers to better understand students' abilities so that they can achieve learning objectives, (2) increasing students' motivation and learning achievement through approaches that are appropriate to their respective capacities and needs, (3) building positive emotional relationships between teachers and students, (4) encouraging students to become independent learners, and (5) increasing teachers' creativity and teaching abilities through challenges in designing more innovative and adaptive learning (Sri Yanti, Montessori, dan Nora 2022).

Implementation of Differentiation Strategy in Improving Digital Literacy in Islamic Religious Education

Differentiated learning is an approach designed to accommodate the diversity of learning needs of each student in the classroom and is one of the most relevant teaching strategies in the context of modern education. In order to be implemented effectively, teachers need to be aware that each student has differences in terms of skills, interests, learning styles, and speed in absorbing material. Islamic Religious Education aims to provide students with a deep understanding of Modern Islamic Civilization, so that they can recognize, understand, and practice it. The instillation of faith values is carried out through teaching, guidance, training, and direct experience by students. Differentiated learning strategies provide positive contributions in improving student learning outcomes and encouraging their active involvement in Islamic Religious Education (PAI) learning. The application of this strategy allows students to understand the material more interestingly and meaningfully because the learning approach is adjusted to each person's learning style preferences. Many students stated that this method increased their motivation to learn, understand Islamic values, and carry out their responsibilities and rights as citizens and members of society in everyday life (Aimah, 2023).

Differentiation strategies in learning are particularly relevant when associated

with digital literacy theory, as both emphasize the importance of adjusting approaches to individual needs in accessing, understanding, and utilizing information technology critically and productively. Digital literacy, according to Bawden (2008) and Gilster (1997), is not only about technical ability to use digital devices, but also includes the ability to think critically, communicate, evaluate information, and actively participate in the digital space. In this context, the differentiation strategy provides space for teachers to adjust digital learning materials, methods, and media to suit the level of digital literacy skills of each student.

For example, students with high digital abilities can be given the task of creating da'wah videos or interactive digital presentations, while students with basic abilities can be guided using infographics or simple digital modules. This is in line with the principles of fair access, personalization of learning, and digital empowerment, which are at the core of digital literacy theory. Overall, the integration of differentiation strategies and digital literacy theory enables the creation of relevant, inclusive, and transformative learning in the digital age.

Differentiated learning has proven to be effective in improving students' digital literacy skills amidst today's technological advances. By adapting the learning process based on each person's needs and capacities, this approach can create a more efficient and meaningful learning experience. However, the use of digital media in teaching Islamic Religious Education still faces several challenges, including limited digital literacy for teachers and students, as well as the potential for misuse of technology that can distance them from the main objectives of Islamic Religious Education (Syafrin et al. 2023). In this case, teachers have a strategic role in recognizing students' potential through initial assessments, designing targeted approaches, and guiding students to be able to use technology critically and productively (Alfaiz, 2024). The implementation of a consistent digital literacy program from year to year will produce long-term positive impacts, namely increasing students' ability to access, understand, assess, create, and communicate through various digital technologies. This makes them more ready to compete in an increasingly technology-based and competitive world of work. This progress can be seen from the results of the evaluation of increasing digital literacy in class XI IPS 1 dan 2 students at SMAN 1 Rogojampi.

Table 1. PAI Digital Literacy Percentage Data

Year	Total of Respondents	Digital Literacy Average Score	Literacy Category	Percentage Increase of the Previous Year
2021	69 students	58	Enough	-
2022	71 students	67	Good	**+15.5%**
2023	70 students	74	Good	**+10.4%**
2024	73 students	81	Excellent	**+9.5%**

Source: Results of Interviews with Informants

Based on the table above, it is explained that the number of respondents of

SMAN 1 Rogojampi students in grades XI IPS 1 and 2 who took part in the digital

literacy survey or assessment in learning the differentiation of Islamic Religious Education has a difference every year, because it follows the number of students. Along with the development of technology and the enactment of the Independent Curriculum, digital literacy skills are an important aspect in the learning process, including in the subject of Islamic Religious Education. Based on quantitative data obtained from the results of the digital literacy assessment using a differentiation strategy for high school students in grade XI IPS 1 and 2 from 2021 to 2024, there was a consistent increase in the average score of digital literacy after the implementation of the differentiation strategy in learning. In 2021, before the differentiation strategy was implemented comprehensively, students' average digital literacy scores were at 58 on a scale of 0–100, with the category "*adequate*". This year, learning is still dominated by conventional methods, and the use of digital media such as PowerPoint or PDF is only complementary, not the main part of the learning process.

In 2022, after the differentiation strategy began to be implemented, the digital literacy score increased to 67, or an increase of 15.5% from the previous year. The differentiation strategy used includes the presentation of material in the form of learning videos, interactive e-modules, and the provision of digital-based assignments tailored to students' interests and learning styles. Students are also beginning to be introduced to digital platforms such as Google Classroom, Quizizz, and YouTube to support the learning process of Islam more interactively. As a result, students' digital literacy has risen into the "*good*" category.

In 2023, the digital literacy score increased again to 74, or an increase of 10.4% from 2022. Differentiation strategies are increasingly maturing, not only in content and media, but also in the differentiation of learning processes and products. Students are given the freedom to choose how to learn (e.g., online discussions, interactive quizzes, or self-reflection) as well as how to convey learning outcomes, such as making infographics, da'wah videos, or Islamic podcasts. This approach makes students more active, creative, and independent in utilizing technology for religious learning. This increase shows that an approach that accommodates the diversity of students' learning styles has a real impact on improving their digital literacy.

In 2024, it recorded the highest score, which was 81, in the "*very good*" category. An increase of 9.5% from the previous year indicates that differentiation strategies have been successfully integrated thoroughly into the learning process. At this stage, schools have leveraged Learning Management Systems (LMS) to manage digital-based teaching and learning activities, and some teachers have started to integrate simple artificial intelligence (such as chatbots for Islamic questions and answers). Students are also given digital project-based assignments that match their interests, such as creating vlogs, designing visual da'wah, or Islamic opinion articles based on digital data.

Overall, these data show that differentiation strategies not only increase student engagement but also significantly improve their digital literacy skills in the context of Islamic learning. This strategy is effective because it is able to adapt the materials, processes, and learning outcomes to the individual needs of students. Based on

the quantitative data presented, it can be concluded that the ***differentiation strategy has a positive and significant impact on increasing digital literacy in Islamic religious learning at the Senior High School (SMA) level*** during the period 2021 to 2024. There has been an increase in the average digital literacy score of students from ***58 in 2021*** *to* ***81 in 2024***, which represents ***an increase of 39.6% over four years***. The student literacy category also grew from "adequate" to "very good". The implementation of differentiation strategies that include customizing learning content, processes, and products according to students' interests, needs, and learning styles has proven effective in improving students' digital skills. In addition, the integration of technology through various digital platforms and interactive media also encourages active involvement and creativity of students in religious learning. Thus, it can be concluded that ***the differentiation strategy not only improves learning outcomes but also plays an important role in forming a generation of students who are digitally literate, active, and adaptive in understanding Islamic values in the digital era.*** This strategy is worth maintaining and developing further in the context of 21st-century learning.

The implementation of differentiated learning in schools also makes a major contribution to improving students' digital literacy by adjusting learning methods based on individual needs and abilities in accessing and using technology. Every year, the digital literacy program continues to be refined by using innovative learning media, training for educators, and developing technological facilities, such as increasing internet access and providing digital devices. This study is expected to provide a more comprehensive picture of optimizing the use of digital media

to strengthen religious teachings in the digital era (Hakim, 2020).

Collaborative support between schools, teachers, and parents plays an important role in the success of this program. Teachers act as mentors in the wise use of technology, while parents help by providing facilities and supervising the home environment. The high digital literacy score in 2024 shows that students have a strong foundation to face various challenges in the digital era, although there is still room for further development, such as mastery of high-level digital skills and instilling digital ethical values. This success can be an example for other educational institutions in developing optimal digital literacy strategies in the modern technological era. Digital media not only accelerates access to information but is also able to increases students' enthusiasm for learning and deepen their understanding of religious materials through a more attractive visual and interactive approach. (Jennah et al. 2024).

The strategies implemented by educators in Islamic Religious Education subjects play an important role in creating a relevant, efficient, and interesting learning process, as well as forming the character of students who can understand, use, and develop technology wisely in line with Islamic teachings. These efforts are not only aimed at increasing the level of digital literacy of students but also at preparing them to become adaptive and competent individuals to face future challenges. The use of digital media in Islamic Religious Education learning is becoming increasingly important, especially in the context of distance learning, e-learning, and multimedia-based methods that can deliver religious material more interestingly and effectively (Nastiti, 2023). However, if the Islamic Religious Education learning process is unable to keep up with technological

developments, it is feared that the role of teachers will be replaced by technology, and students will lose the opportunity to learn interactively according to the demands of the times.

In its application, differentiated learning is divided into three main forms, namely: (1) Content differentiation, namely the provision of teaching materials that are adjusted to the abilities of each student; (2) Process differentiation, namely the adjustment of teaching methods. For example, students at an advanced level work on projects that are done independently, while other students attend tutoring sessions in small groups; and (3) Product differentiation, namely giving students the freedom to demonstrate their understanding in various forms such as videos, presentations, or simple reports, according to their level. Through this approach, each student is allowed to develop and learn optimally according to their respective learning styles and speeds.

Research on differentiation strategies in improving digital literacy in Islamic Religious Education learning has strong implications for modern teaching theories, especially in the context of student-centered learning. The differentiation strategy is in line with the theory of Constructivism, which emphasizes that students build their knowledge through meaningful learning experiences and according to their respective zones of proximal development. In addition, this strategy also corroborates Howard Gardner's theory of Multiple Intelligences, which states that each student has a different intelligence and learning style. By implementing differentiated learning, PAI teachers are able to adjust teaching methods and media to reach various types of student intelligence, such as verbal-linguistic, visual-spatial, and interpersonal.

From the point of view of Humanistic Theory (such as Carl Rogers' theory), this strategy is also relevant because it humanizes the learning process and pays attention to the emotional needs of students, thereby increasing their intrinsic motivation in learning religious values through digital media (Malisi et al. 2023). Thus, the results of this study imply that differentiation strategies are not only practically effective but also reinforce the foundations of progressive teaching theories that emphasize active learning, personalization, and holistic development of individual potential.

To achieve the goal of implementing differentiated learning, a routine evaluation process is also needed. Teachers need to conduct formative evaluations periodically, such as by giving quizzes, assignments, or discussion sessions, to measure the extent to which students understand the material. The results of this evaluation are useful for adjusting the learning approach so that it remains relevant to students' needs. Thus, the implementation of differentiated learning in Islamic Religious Education requires careful planning, a deep understanding of students, and ongoing evaluation. This approach can create a more inclusive, adaptive learning atmosphere and contribute to improving students' understanding and practice of religious values.

Challenges and How to Overcome Obstacles in Implementing Differentiation Strategies in Improving Digital Literacy

The application of teacher differentiated learning strategies has an important role in creating a learning experience that focuses on the needs of each student, as well as encouraging the development of their potential and way of thinking to the maximum. These obstacles are often an obstacle to maximizing the use of digital media in the learning process in the

classroom. (Nusroh and Luthfi 2020). Without active action from teachers, it is unlikely that students will experience significant changes, which will ultimately affect their overall learning outcomes. Although it has many benefits, the use of digital media in learning Islamic Religious Education also faces several challenges. One of the main challenges is digital literacy, both from the side of teachers and students.

Although different learning strategies bring many benefits, their implementation in the context of Islamic Religious Education still faces various obstacles. One of the main obstacles is the lack of understanding by teachers of implementing this approach effectively. Many educators are not yet ready to integrate different learning models into classroom learning practices. This unpreparedness can reduce the effectiveness of the strategy, so that students cannot get optimal learning benefits. Although proven effective, the implementation of this strategy still faces several challenges, including (a) uncertain weather conditions, especially when learning activities are carried out outdoors, can be an inhibiting factor, (b) limited learning facilities and tools, which cause the implementation of different learning in the field to be less optimal, and (c) complexity in classroom management, because the diversity of student learning styles requires teachers to have the skills to manage it effectively (Herwina, 2021).

In implementing differentiation strategies to improve digital literacy in Islamic religious learning at the high school (SMA) level, various obstacles can arise, both in terms of teachers, students, and infrastructure. One of the main obstacles is the **limited understanding and skills of teachers** in designing and implementing digital-based differentiation strategies. Many Islamic Religious Education teachers are not used to using technology or find it difficult to compile teaching materials that vary according to the needs and learning styles of students. To overcome these obstacles, it is necessary to carry out **intensive training and mentoring** for teachers, especially in the use of digital media, technology-based classroom management, and differentiated learning designs that are contextual and relevant to Islamic values.

In addition, obstacles also come from the **inequality of access to technology** among students. Not all students have adequate devices or internet connections, so the implementation of digital-based differentiation strategies is uneven. To address this, schools can work with the education office or third parties to provide **supporting facilities**, such as computer labs, school hotspots, or device loans for students in need. Learning strategies must also be flexible, by providing **offline alternatives** for students who have limited access, so that all students still get fair opportunities.

Another obstacle is the **lack of motivation or discipline of students** in participating in digital learning, especially if they are not directly supervised. Students tend to be distracted when learning to use digital devices. Therefore, teachers need to apply an **interactive, meaningful, and contextual** approach, **make individual student assessments as the basis for adjusting content, processes, and products in learning,** as well as apply learning such as Islamic digital projects that involve real life, such as making da'wah videos, making hadith infographics, writing digital religious reflections, watching videos, listening to podcasts, or reading Islamic articles. Parental involvement and character development are also important to instill Islamic digital ethics as part of digital literacy. Overall,

overcoming obstacles in the implementation of differentiation strategies requires **synergy between teacher training, infrastructure provision, school management support, and innovation in teaching methods and media.** With a systematic and sustainable approach, differentiation strategies can be effective and have a direct impact on improving digital literacy in Islamic learning in high school.

By applying different learning approaches, teachers can manage the classroom more effectively according to the needs of each student. By understanding students' readiness, interests, and learning styles, teachers can design learning that is varied, focused, and fun. However, limited resources are still one of the main obstacles to implementing different learning methods. Many schools, especially those in remote areas, do not have facilities that support the use of various learning strategies. The excessive use of technology without proper control has the potential to disrupt the learning process and can even be misused to access content that is contrary to religious values (Faiz et al. 2022). Therefore, structured guidelines and regulations are needed to regulate the use of digital media in learning activities, especially to ensure its suitability with the teaching goals of Islamic Religious Education.

The difference in students' abilities in one class is a challenge in the learning process. Differences in backgrounds also make students' understanding of Islamic teachings diverse. This causes teachers to have difficulties in designing learning activities that can reach all students. Students who have the ability are more likely to feel less challenged by material that is too easy, while students who are still lagging behind can feel burdened with material that is difficult to understand. In order for this strategy to be implemented optimally and provide maximum results, support is needed in the form of teacher training and the provision of adequate facilities and infrastructure (Aimah, 2020).

Overall, overcoming obstacles in the implementation of differentiation strategies requires **synergy between teacher training, infrastructure provision, school management support, and innovation in teaching methods and media.** With a systematic and sustainable approach, differentiation strategies can be effective and have a direct impact on improving digital literacy in Islamic learning in high school.

CONCLUSION

Based on quantitative data showing an increase in students' digital literacy scores from 58 in 2021 to 81 in 2024, it can be concluded that differentiation strategies have proven effective in increasing digital literacy in Islamic Religious Education learning at the high school level. This strategy allows teachers to tailor approaches, media, and learning methods according to students' needs, learning styles, and interests, thereby creating a more inclusive, adaptive, and meaningful learning process. The 39.6% increase in scores over four years shows that the integration of digital technologies designed differently for each group of students is able to increase understanding, digital skills, and active participation in religious learning. The application of audiovisual media, digital project-based assignments, and online collaborative learning is a form of differentiation that has succeeded in increasing student involvement and learning quality. Thus, the differentiation strategy not only answers the diversity of student characteristics but also becomes a concrete solution in forming a generation that is not only religious but also digitally literate and ready to face the challenges of

the 21st century. This strategy needs to continue to be developed through teacher training, infrastructure provision, and continuous evaluation so that the results achieved are more optimal.

From the exposure of the strategies developed, it can be concluded that strengthening teacher competence through continuous training, the provision of equitable digital infrastructure, and the preparation of flexible and attractive learning models are the main solutions in overcoming these obstacles. In addition, support from various parties, such as school management, parents, and the government, is needed to create a learning ecosystem that supports differentiation. By consistently overcoming these barriers, differentiation strategies can not only be implemented effectively but will also have a positive impact on improving the quality of Islamic religious learning that is inclusive, adaptive, and by the demands of the digital age. Therefore, this approach deserves to be continuously developed and made part of a long-term learning policy. Suggestions for future researchers are expected to expand the scope and depth of the study so that the results are more comprehensive and have a real impact on improving the quality of PAI learning in the digital transformation era.

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