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## THE EFFECT OF DIGITAL LEARNING ON SELF-REGULATED LEARNING IN PAI SUBJECTS AT PENGGERAK HIGH SCHOOL

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**ABSTRACTS**

**Background:** The rapid integration of technology in education has transformed the way student's access and process learning materials, including in Islamic Religious Education (PAI). Digital learning is expected to foster greater autonomy, where students are encouraged to take control of their own learning processes. However, the extent to which digital platforms enhance self-regulated learning in PAI subjects still requires empirical evidence. **Purpose:** This study aimed to determine the effect of digital learning on self-regulated learning in Islamic Religious Education (PAI) subjects for students at Penggerak High School. **Method:** The researchers used quantitative methods. Data were obtained through a series of observation, documentation, and questionnaire distribution processes. Furthermore, the data were processed by conducting statistical tests through a series of validity, reliability, normality, and simple regression tests. **Result:** The results of the study indicate that digital learning has a significant effect on self-regulated learning. **Conclusion:** The study concludes that digital learning significantly enhances students' self-regulated learning in PAI subjects. This implies that integrating digital platforms can effectively support independent and responsible learning behavior.

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## A. INTRODUCTION

Learning in the modern era is completely dependent on advanced technology. Students use learning media that have been integrated since their birth and throughout their lives. The digital age holds significant sway over all aspects of modern human life, including education. The massive integration of digital learning, particularly in Indonesia, occurred during the COVID-19 pandemic from 2020 to 2022, requiring online teaching and learning activities. Consequently, learning materials delivered to students were digitally packaged in various formats, such as PowerPoint presentations, animations, recorded videos, and so on. This necessitated the transformation of all teaching content into digital form to facilitate the creation of an online learning ecosystem. Although the COVID-19 pandemic has been declared over both nationally and globally, the adoption of online teaching and learning activities, including the use of gadgets/technological devices by teachers and students, remains effective at all levels of education, particularly in major cities in Indonesia.

Digital transformation itself can be understood as the process of utilizing readily available digital technology. Such as Cloud integrated with virtualization technology, mobile computers, and other media (Loonam et al; 2018) Furthermore, digital transformation is "a process that aims to improve entities by bringing about significant changes in their characteristics through a combination of information technology, computing, communication, and connectivity" (Vial; 2021). In essence, digital learning is a government program in this context included in the policy of the Ministry of Education and Culture of the Republic of Indonesia which collaborates with the Ministry of Communication and Informatics in implementing the school digitalization program in the era of the industrial revolution 4.0. According to the statement of the Minister of Education and Culture in 2019, "the role of teachers in the era of the industrial revolution 4.0 is increasingly important and vital. "Teachers not only teach, but now teachers must master the sources where children can learn. Children can learn from anywhere, and teachers guide," said Muhamad Effendy. In other words, teachers function as learning resource connectors or resource linkers.

The combination of the government's enthusiasm for implementing school digitalization programs in the Industrial Revolution 4.0 era and the subsequent COVID-19 pandemic has become a catalyst for accelerating the transition from traditional to digital learning. As a result, teachers have been encouraged to adapt to using ICT (Information and Communication Technology) tools and motivated to learn digital-based educational applications, software, and platforms, such as those designed to facilitate online learning, such as Zoom and Google Meet. Applications that facilitate online classes include Google Classroom and Edmodo. Applications for creating graphic and animated content, such as Canva, Powtoon, Camtasia, and others, are also available. Applications that facilitate learning resources or digital references include Google Scholar, Academia.edu, Scribd, and others. Thus, from this situation, teachers, lecturers, and students are increasingly becoming accustomed to implementing digitalized or digitally integrated learning processes.

In this regard, several factors must be considered from the student's perspective, one of which is the factor of learning independence within each student, also known as self-regulation. According to Schunk, self-regulation is the ability to control oneself. Self-regulation is the use of a process that continuously activates thoughts, behaviors, and feelings in an effort to achieve predetermined goals (Schunk; 2012). From the same

source, "Individuals self-regulate by observing, considering, rewarding, or punishing themselves. This self-regulation system consists of standards for one's behavior and observing one's own abilities, assessing oneself, and responding to oneself." (Schunk; 2012)

The explanation regarding self-regulation above can be understood as understanding that in carrying out the digital learning process, students need to regulate self-discipline. This is because the digital learning transformation process in Indonesia has been gradual in recent years. Therefore, in its application, students are required to adapt to the use of hardware such as gadgets to access applications containing learning materials. Of course, students use gadgets not only to access learning but also for communication or even entertainment, such as playing online games. The existence of these contradictory facilities can backfire on students if the theory or understanding of self-regulation is not applied to them.

There is potential for problems or indiscipline in digital-based learning processes. These problems include students being lazy to study, being late in submitting assignments, being less active during the learning process, having difficulty understanding the material, experiencing internet connection problems, and so on (Nisa; 2021). These problems are often found in digital-based learning. Essentially, implementing digital-based learning is not easy; it requires discipline and maturity, as students must identify their priority learning needs, select learning resources, and manage their time. According to Hoskins (2013), distance learning is challenging for college students. However, this learning is easier for adult students. Furthermore, this learning must be supported by appropriate classroom design and delivery methods so that online learning can encourage students to reflect on their beliefs and provide a safe environment for discussing diverse perspectives, guiding them to explore, validate, and expand new perspectives; and supporting them in developing new roles.

From a teacher perspective, implementing digital-based learning processes requires considerations such as supervision, the use of new methods, mastery of technological instruments, and responsiveness to students' learning needs. Taimur et al. (2021) conducted a phenomenological study aimed to explore the successes and challenges of implementing virtual education and gather suggestions for improving digital-based virtual teaching practices. Data collection was conducted through purposive sampling through social media using an open-ended survey method.

The results indicate that teachers made significant efforts to adapt from face-to-face to online learning and were generally successful in making the transition. This transition process involved the addition of additional learning strategies and the use of various platforms to suit the teaching and needs of the students.

Learning media is one way to make learning more effective and efficient. Numerous learning resources are available, especially as digital learning becomes increasingly popular in educational settings from elementary to higher education. Numerous terms are used to describe digital education, such as technology-based education or virtual education. Indonesia is one of many countries that has supported technology-based learning during the Industrial Revolution 4.0. However, the COVID-19 pandemic since early 2020 has forced many countries to adopt specific education policies. Countries that were unprepared to adopt these policies have decided to replace

face-to-face learning with online learning. Digital learning media is increasingly important, and they help students understand the material (Khairunnisa & Ilmi, 2020).

The digitalization process continues to evolve due to rapid technological developments. The development of Society 5.0 and the Industrial Revolution 4.0 demonstrate that digitalization is sweeping all areas of life, including education (Suryadi, Darmawan, Rahadian, Wahyudin, & Riyana, 2022). Various fields, such as IT and education in particular, will be enhanced by the adoption of technology in the digital era. New skills will be required for the new digital era (Susyanto, 2022). Education sectors across the country must be prepared for the major changes that will occur in the face of current technological developments. Consequently, building innovative and sustainable production systems requires new approaches and skills (Zahro et al., 2020). In the educational context, digitalization is defined as the effort to transform various aspects and processes of education into various types of digital forms to achieve educational goals. Aspects that need to be considered to achieve educational goals include management and teaching and learning activities (Anita & Astuti, 2022).

Self-regulation, also known as self-regulation, is the act of self-awareness that directs an individual to achieve specific goals. Self-regulation, according to Riyanti, Hersusini, and Hidayati (2022: 74), refers to students tracking their actions and thoughts through language. By using self-regulation, students can act as their own teachers. Students take responsibility for their own learning and actively participate in the learning process. Students who practice self-regulation will be aware of the behaviors they monitor as they relate to their own behavior.

Self-regulation, or self-regulation, according to Panca and Setyawati (2021: 56-57), is a fundamental cognitive capability possessed by humans that enables them to develop internal standards used to evaluate their own behavior and continuously influence subsequent behavior. Discipline or orderliness indicates a form of behavior or a way of exercising control over something. Self-regulation refers to how individuals exert control over emotions, thoughts, impulses, performance, time management, and other behaviors to achieve goals that align with standards such as ideals, norms, behavioral targets, and the expectations of others. Senko and Harackiewicz (2005) stated that self-regulation is crucial for students because it influences how they face academic tasks, and high-achieving students self-regulate their learning activities.

According to Thian (2021: 192), self-regulation refers to a person's orderliness, sincerity, and self-confidence. A person with a high level of self-regulation tends to multitask, making them more disciplined and responsible, meticulous, careful, systematic, and self-disciplined. Conversely, a person with a low level of self-regulation tends to multitask, making them more disciplined. Performance that can achieve optimal learning outcomes is essential during the learning process. Having rules helps achieve learning objectives. These rules refer to the behavior of others and oneself, and influence the process of achieving predetermined goals. When someone practices self-regulation, they will behave positively. This means that they can identify their own shortcomings and know how to improve them by using appropriate learning methods according to the plan. To achieve optimal learning outcomes in school, individuals need self-regulation to understand themselves and manage their learning process..

According to Zimmerman, as cited by Ghufron and Rismawita (2016), self-regulation encompasses three aspects applied in learning: metacognition, motivation, and behavior.

a. Metacognition: Matlin explains that metacognition is the understanding and awareness of cognitive processes or thoughts about thinking. She states that metacognition is an important process. This is because a person's knowledge of their cognition can guide them in managing potential future events and selecting appropriate strategies to improve their cognitive performance. Metacognition refers to a person's knowledge of their cognition and the regulation of that cognition. Zimmerman and Pons add that the key to metacognition for an individual who engages in self-regulation is planning, organizing, assessing, and directing themselves as needed during their performance, for example, during learning activities.

b. Motivation: According to Devi and Ryan, motivation is a function of the fundamental need for control and is also related to the abilities possessed by each individual. Zimmerman and Pons also added that the benefits of this motivation are that individuals have intrinsic motivation, autonomy, and high self-confidence in their abilities to perform certain tasks.

c. Behavior: According to Zimmerman and Schunk, behavior is a person's effort to regulate themselves, make choices, utilize, and create a comfortable environment for them to carry out their activities. According to Zimmerman and Pons, an individual must choose, organize, and create a balanced social and physical environment to optimize the achievement of their work. When used correctly by individuals according to their needs and situations, these three components will enhance self-regulation skills.

The School Mover Program is a program to improve the quality of student learning. It consists of five types of interventions to accelerate schools to move forward one to two stages within three academic years. The Ministry of Education and Culture is opening registration for school principals in provinces and districts/cities selected to implement the School Mover Program. Registered principals will be selected and then appointed by a panel. The School Mover Program focuses on developing holistic student learning outcomes, encompassing competencies (literacy and numeracy) and character, starting with superior human resources (principals and teachers). The School Mover Program is a refinement of previous school transformation programs. The School Mover Program will accelerate public and private schools across all school levels to move one or two stages forward. The program is implemented in stages and integrated with the ecosystem until all schools in Indonesia are part of the School Mover Program. The School Mover Program is an effort to realize the vision of Indonesian Education: a sovereign, independent, and character-based Indonesia through the creation of Pancasila Students.

The School Mover Program is a refinement of previous school transformation programs. At the launch of the School Mover Program, Minister of Education and Culture (Mendikbud), Nadiem Anwar Makarim, explained that collaboration across the education ecosystem is key to the success of this policy. This program will accelerate educational transformation in the regions. It is crucial to have a forum for mutual consultation, drawing on the local wisdom of each region, so that schools are more inspired to make changes. School Mover Schools can mentor neighboring schools, and these schools will be provided with supporting resources. Regions will learn from each other, as the spirit of this program is not competition but collaboration.

"Moving Schools" are catalysts aimed at realizing Indonesia's educational vision: schools that focus on developing holistic student learning outcomes by embodying the Pancasila Student profile, starting with superior human resources (principals and

teachers). The "Moving Schools" program is implemented through strengthening the capacity of principals and teachers, who are key to educational restructuring and reform.

The "Moving Schools" program begins with collaboration between the Ministry of Education and Culture and local governments. This collaboration will establish strategic partnerships to build a shared educational vision and mission. Once a school has successfully transformed, the "Moving Schools" will become agents of change for other schools in the surrounding area. They will act as initiators, bridging neighboring schools to share solutions and innovations to improve the quality of education..

The expected learning outcomes are above average. This driving school environment will be a comfortable and enjoyable environment for students. If students don't enjoy being in school, learning will not be optimal. Because the Driving School is centered on the needs and abilities of its students, self-reflection and planning by teachers and principals are the foundation for change. Teachers can collaborate with other teachers or principals as a team to find new innovations through classroom assessments. The Driving School differs from previous programs in that several elements are integrated. However, this is a comprehensive package program, encompassing human resources, the learning process, lesson planning, and even the technology used during the learning process. Strengthening school human resources involves strengthening the principal, school supervisor, school committee, and teachers through training programs provided directly by expert trainers provided directly by the Ministry of Education and Culture. This mentoring is carried out in stages throughout the implementation of the Driving School program.

During the implementation of the School Mover program, the school will experience numerous benefits, including improved student learning outcomes over a period of time and enhanced competency for principals and teachers. The learning process within the School Mover Program aims to produce competent graduates and prioritize the development of student learning outcomes. The School Mover Program aims to improve the quality of education in Indonesia. The School Mover program focuses on overall student learning outcomes, incorporating self-evaluation and evidence-based planning.

The School Mover program will provide data on student learning outcomes. These School Mover programs are also driven by a drive to make positive changes, as they are required to create a school concept that incorporates a proper teaching and learning process. Through the use of this program, changes are evident in schools, such as teachers becoming more flexible in sharing their ideas and maximizing the teaching process.

The digital Islamic Religious Education (PAI) learning conducted in several of the schools mentioned above demonstrates that these schools have implemented a digital learning system. For example, blended learning, or a blend of offline and online learning, has been implemented since the COVID-19 transition period. Furthermore, school assignments in several subjects, including Islamic Religious Education (PAI), have been conducted using Google Classroom. This practice has been implemented in daily learning since COVID-19 began in 2020.

The use of PowerPoint presentations (PPT) as a teaching and learning tool has been implemented comprehensively in almost all subjects. Students are accustomed to presenting their discussion results using PPT. Furthermore, students at the high school

are accustomed to seeking credible sources, both national and international journals, for learning, especially Islamic Religious Education (PAI). This is expected to ensure effective and modern learning.

The results indicate that teachers made significant efforts to adapt from face-to-face to online learning and were generally successful in making the transition. This transition process involved the addition of additional learning strategies and the use of various platforms to suit the teaching and student needs. From the results of the study, it can be seen that the transition process from conventional learning to digital-based learning is successful if teachers prepare special strategies/methods that are appropriate for digital-based learning and then utilize the use of various information technology platforms, both software and hardware.

According to Douglas A.J. Belshaw, as quoted by Devri Suherdi, digital literacy is a crucial element in enhancing and developing digital literacy. These elements include cultural competence, which requires an understanding of various digital uses. Second, cognitive competence, which requires thinking skills to master content. Third, constructive, communicative, trusting, creative, critical, and other elements. According to Belshaw, digital literacy is the knowledge and skills of an individual in utilizing and utilizing digital media, starting with the use of networks, communication tools, and how to find and evaluate information (Vidia, 2023).

Furthermore, according to Bawden, as quoted by Devri Suherdi, digital literacy is the technical skills for accessing, understanding, organizing, and disseminating information in this millennial era, where information has become a necessity of daily life. Therefore, digital literacy is the knowledge and practical ability of educators or teachers to use and utilize technology to process, obtain, evaluate, produce, and communicate information through existing digital technology and media. The ability to utilize various digital technologies, such as computers, communication devices, and computer networks (hardware and software), facilitates the creation, storage, and evaluation of information.

Furthermore, the ability to understand and utilize information (originating from various sources) into file formats for display and representation through computers and other technological devices. This ability enables individuals to perform all tasks effectively (in a digital environment based on computers and other technologies), generate data, process data into information, and acquire knowledge from the technology used, as well as actively participate in the development of the latest technology (Vidia, 2023).

Self-regulated learning is a learning approach used to influence the development of children's emotional intelligence, thereby fostering positive character in daily life and during learning activities. Research data obtained from digital learning indicates that self-regulated learning can be influenced through quantitative data collection using a questionnaire instrument, with evidence analysis using SPSS. Self-regulated learning, on the other hand, refers to learning obtained through systematically regulating thoughts and behaviors to achieve learning goals. Teachers with high motivation will be more committed to organizing learning, achieving learning objectives, and maintaining their learning outcomes (Azhary et al., 2021). The research data obtained were scores for the implementation of digital literacy-based self-regulated learning within the group. This study was conducted with 45 students, a sample of 200 students at one of

the pilot schools, focusing on Islamic Religious Education (PAI). This study examined the impact of digital learning on self-regulated learning.

The results showed that the self-regulation model in the school the researchers tested had three stages: planning, implementation, and evaluation. These three stages are similar to those of self-regulated learning. These three stages were carried out by the students. This answers the researchers' hypothesis about how digital learning influences students' self-regulated learning at the school.

## **B. METHODE**

This research is field research, using a quantitative descriptive approach. In this study, the researcher attempts to measure the level of influence between the independent and dependent variables. Digital Learning is the independent variable in this study, and Self-Regulated Learning is the dependent variable. The research location is focused on high school (SMA) 124 Jakarta, a leading school in Jakarta, with a population of 200 students. The sample size is 45 students.

Data collection was conducted through a series of activities, including observation, interviews, and questionnaires, to measure the influence between the research variables. Interviews and observations were used to obtain qualitative data related to the implementation of digital media use in the leading schools and to obtain information from informants involved in the program. Questionnaires were used to measure the achievement of each research variable. The research instruments used in this study included interview questionnaires, observation questionnaires, and questionnaires.

Data were analyzed through a series of data triangulation processes to ensure the information presented in the field aligns with existing theories and concepts. Triangulation is used to produce objective qualitative analysis, thus producing truly reliable information. Quantitative data were analyzed through a series of data tabulation, data calculation, and data description processes. Data analysis included analysis prerequisite tests and hypothesis tests. Analysis prerequisite tests included data validity, reliability, normality, and homogeneity tests. Hypothesis testing was performed using correlation tests or R tests. The testing used statistical applications such as SPS.

## C. RESULTS and DISCUSSION

### Quantitative Research Results

#### 1. Validity Test

The following are the results of the validity test of the questionnaire for variable X (Digital Learning) and variable Y (Self Regulated Learning).

Tabel. 1. Validity X Variable and Y Variable

Indicator	r Count	r Table	Information
X.1	0.576	0.316	Valid
X.2	0.687	0.316	Valid
X.3	0.555	0.316	Valid
X.4	0.652	0.316	Valid
X.5	0.568	0.316	Valid
X.6	0.761	0.316	Valid
X.7	0.77	0.316	Valid
X.8	0.643	0.316	Valid
X.9	0.652	0.316	Valid
X.10	0.644	0.316	Valid
X.11	0.603	0.316	Valid
X.12	0.594	0.316	Valid
X.13	0.662	0.316	Valid
X.14	0.714	0.316	Valid
X.15	0.371	0.316	Valid
X.16	0.679	0.316	Valid
Y.1	0.579	0.316	Valid
Y.2	0.631	0.316	Valid
Y.3	0.66	0.316	Valid
Y.4	0.608	0.316	Valid
Y.5	0.693	0.316	Valid
Y.6	0.687	0.316	Valid
Y.7	0.652	0.316	Valid
Y.8	0.598	0.316	Valid
Y.9	0.684	0.316	Valid
Y.10	0.579	0.316	Valid
Y.11	0.579	0.316	Valid
Y.12	0.621	0.316	Valid
Y.13	0.705	0.316	Valid
Y.14	0.489	0.316	Valid
Y.15	0.598	0.316	Valid
Y.16	0.7	0.316	Valid
Y.17	0.466	0.316	Valid
Y.18	0.564	0.316	Valid
Y.19	0.730	0.316	Valid
Y.20	0.683	0.316	Valid
Y.21	0.782	0.316	Valid
Y.22	0.68	0.316	Valid
Y.23	0.752	0.316	Valid

Y.24	0.563	0.316	Valid
Y.25	0.593	0.316	Valid
Y.26	0.616	0.316	Valid
Y.27	0.592	0.316	Valid

Data Source: SPSS management results

From the validity test results in Table 4.48, it can be concluded that overall, all statement items used to measure variables X and Y are valid. This can be seen from the calculated r value which is greater than the table r value (0.316 at a significance level of 5%).

## 2. Uji Reliabilitas

### Reliability Test of Variable X

#### Reliability Statistics (Pembelajaran Digital)

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.907	0.913	16

Based on the results in table 4.49, the variable X, namely digital learning, has a Cronbach alpha value ( $0.907 > 0.6$ ), meaning that all statements in the variable X are reliable (can be controlled).

### Reliability Test of Variable Y

#### Reliability Statistics (Self Regulated Learning)

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.942	0.944	27

Based on the results in table 4.50, the Y variable, namely self-regulated learning, has a Cronbach alpha value ( $0.942$ ), meaning that all statements in the Y variable are reliable (can be controlled).

### 3. Normality Test

The Kolmogorov-Smirnov Normality Test is part of the classical assumption test. The normality test aims to determine whether the residual values are normally distributed or not. A good regression model has normally distributed residual values. The basis for decision-making: if the significance value is  $> 0.05$ , then the residual values are normally distributed. If the significance value is  $< 0.05$ , then the residual values are not normally distributed.

Normalitas Data

One-Sample Kolmogorov-Smirnov Test		
<b>UnstandardizedResidual</b>		
N		39
Normal Parameters <sup>a,b</sup>	Mean	0.000000
	Std. Deviation	2.58084741
Most Extreme Differences	Absolute	0.091
	Positive	0.091
	Negative	-0.060
Test Statistic		0.091
Asymp. Sig. (2-tailed)		.200 <sup>c,d</sup>

Based on the results in table 4.51, the normality of the One-Sample Kolmogorov-Smirnov data is 0.0091 and the significance value is greater than the value of a (0.05), namely  $0.200 > 0.05$ , so it can be concluded that the residual value is normally distributed.

### 4. Simple Linear Regression Test

After conducting validity, reliability, and normality tests, the researcher will then conduct a simple linear regression test to determine the effect of the independent variable on the dependent variable. The basis for decision-making in a simple linear regression test can refer to two things: comparing the significance value with a probability value of 0.05. If the significance value is  $< 0.05$ , it means that variable X has an effect on variable Y. If the significance value is  $> 0.05$ , it means that variable X has no effect on variable Y.

## Linearity Simple Test

ANOVA<sup>a</sup>

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	2413.737	1	2413.737	909.816	.000 <sup>b</sup>
Residual	98.161	37	2.653		
Total	2511.897	38			

From the output, it is known that the calculated F value = 2511.879 with a significance level of 0.000 < 0.05, meaning there is an influence of digital learning (X) on self-regulated learning (Y). To find out how strong the influence of variable X on variable Y is, see the table below.

Uji Regresi Linear – Model Summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.980 <sup>a</sup>	0.961	0.960	1.62880

From the table in table 4.53 the simple linear regression test summary model above can explain the value of (R) which is 0.961. From the output, the coefficient of determination (R Square) is 0.960, which means that the influence of the independent variable (digital learning) on the dependent variable (self-regulated learning) is 96%.

The hypothesis test above indicates a significant influence of digital learning on the self-regulated learning of students at SMAN 124 Jakarta, a leading school in South Jakarta. Hypothesis one was proven to be accepted. Based on the data obtained by the researcher, there is a significant influence of digital learning on self-regulated learning. This is demonstrated by the results of the data analysis, which obtained a calculated F-value of 909.816 with a significance level of 0.000 < 0.05.

The results of the research conducted by the researcher on the influence of digital learning on self-regulated learning explain the results and discussion of this study. Both data are in the form of research results, which are the results of scale calculations conducted at leading high schools. In this study, at SMAN 124, the digital learning implemented at several high schools mentioned above shows that these schools have implemented a digital learning system, such as blended learning, or a

blend of offline and online learning, since the COVID-19 transition period. Furthermore, school assignments in several subjects, including Islamic Religious Education (PAI), have been conducted using Google Classroom. This practice has been in place in everyday learning since the COVID-19 pandemic in 2020. The results show that teachers made significant efforts to adapt from face-to-face to online teaching and were generally successful in making the transition. This transition process involved the addition of additional learning strategies and the use of various platforms to suit the teaching and student needs.

The research findings indicate that the transition from conventional to digital-based learning is successful if teachers develop specific strategies/methods appropriate for digital learning and utilize a variety of information technology platforms, both software and hardware. According to Douglas A.J. Belshaw, as quoted by Devri Suherdi, digital literacy is a crucial element in improving and developing digital literacy. These elements include cultural competence, which requires an understanding of various digital uses. Second, cognitive competence, which requires thinking skills in mastering content. Third, constructiveness, communication, trust, creativity, and critical thinking are elements. According to Belshaw, digital literacy is the knowledge and skills of a person or individual in utilizing and using digital media, starting from the use of networks, communication tools, and how to find evaluations (Vidia, 2023). Furthermore, according to Bawden, as quoted by Devri Suherdi, digital literacy is the technical skills to access, understand, organize, and disseminate information in this millennial era where information has become a necessity of everyday life. So, digital literacy is the knowledge and practical ability of educators or teachers to use and utilize technology in processing, obtaining, evaluating information, producing, and communicating information through existing digital technology and media..

The ability to utilize various digital technologies, such as computers, communication devices, and computer networks (hardware and software), facilitates the creation, storage, and evaluation of information. Furthermore, the ability to understand and utilize information (originating from various sources) into file formats for display and representation through computers and other technological devices allows individuals to perform all tasks effectively (in a digital environment based on computers and other technologies), generate data, process data into information, and acquire knowledge from the technology used, as well as actively participate in the development of the latest technology (Vidia, 2023). Self-regulated learning is a learning approach used to influence the development of children's emotional intelligence, thereby fostering positive character in daily life and during learning activities.

The research data obtained indicates that digital learning, particularly self-regulated learning, can influence students' emotional intelligence through quantitative data collection using a Likert scale, with analytical evidence using SPSS. Self-regulated learning, on the other hand, refers to learning gained through systematically organizing thoughts and behaviors to achieve learning objectives. Teachers with high motivation are more committed to organizing, learning, completing learning objectives, and retaining what they have learned. (Azhary et al., 2021).

This research has implications for teachers' awareness of providing digital learning modules that are more engaging for students, enabling them to organize their own learning plans. The implementation of engaging digital learning will stimulate students' motivation to design and organize their creativity in learning, thereby

improving their understanding of the learning material. Students' tendency to learn actively, creatively, and enjoyably through digital platforms also has implications for competition to become the leader in technological mastery. This encourages students to try new things, ultimately enabling them to develop self-regulation to lead themselves in a more progressive direction..

#### **D. CONCLUSION**

The results of this study demonstrate the influence of digital learning on self-regulated learning in Islamic Religious Education (PAI) subjects for students at SMAN 124, a leading school. The implications of this study are twofold: theoretical and practical. The theoretical implications relate to the development of educational theory on the proven effectiveness of digital literacy and self-regulated learning. Meanwhile, the practical implications relate to the contribution to the quality of learning in leading schools. Theoretical implications serve as a comparative overview of this research with previous research that serves as a reference. Furthermore, they also serve to reinforce previous research, developing indicators for measuring digital literacy, self-regulated learning, and learning quality. The results of this study indicate that digital learning has an impact on students' self-regulated learning, particularly in Islamic Religious Education (PAI). This research complements and strengthens previous research. This research is crucial because it demonstrates a positive influence between digital literacy and improving learning quality. With these results, leaders must strive to maintain and, if necessary, continue to improve teachers' digital literacy so that the quality of learning can be further enhanced in the future, meeting the expectations of many parties. Practical Implications for Islamic Religious Education Subjects: Based on the results of the researcher's analysis, it can be concluded that digital learning has a positive and significant impact on self-regulated learning, both partially and simultaneously, in terms of learning quality. Therefore, it would be beneficial for Islamic Religious Education teachers to pay greater attention to understanding, both in the form of developing digital literacy and self-regulated learning for their students.

Furthermore, educational institutions must strive to provide a supportive and comfortable working environment and conditions for teachers to perform optimally. They should also continue to retain and maximize their ability to provide education and teaching to students. Educational institutions should also pay attention to the psychological factors of teachers by providing a sense of joy, comfort, peace, and happiness while carrying out their duties. The most visible aspect of learning quality is related to student academic achievement or school progress.

## E. SUGGESTIONS AND THANKS

Based on the conclusions, the following are suggestions that can be considered for improving various aspects of this research, including:

For future researchers, it is recommended to include other variables in researching self-regulated learning, in addition to digital learning. The same applies vice versa. In adapting to current conditions and times, where daily life uses digital media, learning should also shift to digital learning. In implementing digital learning, students should continue to be supervised by teachers and parents.

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