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## USE EDUCATION MANAGEMENT INFORMATION SYSTEM (SIMDIK) IN MADRASAH

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### Article Info

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### ABSTRACT

The study aims to describe SIMDIK at MAN Palopo. This research is a qualitative research using a Managerial approach. The data source is primary data sourced from the Principal and Islamic Religious Education Teachers, Students. While secondary data is taken from documents related to the research. The instrument used in collecting data is the researcher himself who functions to determine and select informants as data sources, data analysis, data interpretation, and instruments in collecting data are observation, interviews, and documentation. The results of the study show that the Education Management Information System (SIMDIK) of the Palopo City State Islamic Senior High School consists of services for educators and education personnel by empowering the SIMPATIKA application (Educator and Education Personnel Information System of the Ministry of Religion), e-learning applications, both for teachers and students and web-based applications in accepting new students. Implementation of digital-based madrasah management. The State Senior High School of Palopo City focuses on students with the implementation of digital-based learning. It has a lot of applications and requires seriousness from teachers to be able to develop various applications for learning in accordance. The digital-based learning evaluation system can be implemented or applied through the Digital RDM (Digital Madrasah Report) application. In the implementation of the use of the Education Management Information System (SIMDIK) there are driving factors and inhibiting factors. The driving factors include the existence of the SIMPATIKA information system which carries out data collection both for students as well as educators, education personnel (PTK) and e-learning.

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### Introduction

The Ministry of Education and Culture is currently actively promoting the plan to develop digital-based education in Indonesia. This program is strongly encouraged to be realized immediately considering the increasingly rapid development of information technology in the current global era. Globalization is at least caused by the three T revolution (Transportation, Telecommunication, and Tourism). This can be proven by the development of transportation technology that gave birth to the era of the end of geography, with the development of communication technology will give birth to the era of the end of timelines relatively, and the tourist revolution can result in an increase in the flow of human exchange which can allow the erosion of social, political, cultural barriers. So that the digitalization of education is an issue that has received quite a lot of public attention in the last few months. This is a response to education services that have changed drastically. Both the system in terms of learning and culture.

The digital era can be interpreted as a condition in which the use of digital-based communication and information devices (internet). The development of technology has accelerated cultural exchange between nations. In addition, the ability to produce technological tools has become a variable for measuring the progress of civilization in the millennial era, and is even one of the causes of changes in the paradigm of human thinking and cultural shifts and the increasingly dimensional

managerial system of a country's management system. Demands Instant life, millennial lifestyle and the advancement of world civilization can be easily accessed through technology in various parts of the world. (Yahya, 2015).

The character of the school's vision and mission to demonstrate international "class" quality and performance. By continuing to improve the quality of educational services, student achievement development strategies and learning models will produce opportunities, competitiveness and not impossible future financial support for the school concerned. For this reason, schools must be able to design a school vision for the best interests of the future of students. Improving the quality of service means forming quality graduates who have academic reliability, competitiveness and student character. The courage of the school to continue to focus on excellent service will give an impression and superior value about the school concerned. Therefore, when the school has "digitized" itself, it is expected to continue to follow developments so that it can empower good human resources and student quality. Given that information technology and digitalization have a major impact on changes in the economy, behavior, organizational structure and strategies currently implemented. Therefore, schools must improve the quality of their services.

Madrasah is an educational institution that functions to carry out teaching and learning activities. (Iskandar, 2020; Kuswandi et al., 2022). The development of information technology is indeed recognized as very rapid, almost every two years or even once a year there are changes or additions to information systems and technologies. The goal of effective and efficient education is a goal that is clear, uses operational languages so that it is easy to understand, the preparation of programs must be comprehensive and synergize with other programs so that they provide positive benefits to each other. (Sun Astini, 2020; Wahid, 2008; Yunus, 2020).

Facing the era of globalization and entering the era 4.0 as it is today, the role of human resources greatly influences the level of success of a nation, especially in relation to the world of education (Damanhuri et al., 2013). The quality of human resources must be of superior quality that can improve the quality of education in Indonesia. Especially in the field of increasingly sophisticated technology like today. Management information systems are integrated human or machine systems to provide information to support operations, management, and decision-making functions in an organization (Diana, 2012; FARIDA, 2014; Vasarhelyi, 2017).

Management information systems in their implementation use several components, namely computer hardware and software. Files or collections of data that are stored properly, procedures or guidelines in operating information systems, humans or (brainware) or humans involved in operating information systems.

School management is an important factor in implementing education and teaching in schools by measuring the success of student achievement. Schools as organizations in developing and achieving goals must refer to the guidelines and direction of educational development. In the world of education in schools today, the implementation of computerization and digitalization systems plays a role in school management with ever-growing business competition. It is undeniable that the role of technology in

providing information services is an important factor for various institutions and individuals (Hidayat, 2012; Su'ainah, 2017; Yahya, 2015).

Digital-based school management that can be accessed by everyone via smart phone or tablet provides an idea about the management information system of the nation's pillar school, which can provide information about school activity programs for teachers, and parents of students, which in the end the management information system can increase the effectiveness and efficiency of the nation's pillar school. School management is the most important factor in organizing education and teaching in schools, success is measured by the achievements obtained. (Aji, 2016; Sutera Aru Persada, 2020), therefore, in carrying out leadership, a system must be used, which means that in organizing education in schools, there are related components such as teachers, administrative staff, parents of students, the community, government, students and others, which must function optimally which is influenced by the policies and performance of the leadership.

The government always strives to improve the quality of education through various policies, including teacher and lecturer certification policies, school operational assistance, block grants and setting national standards as outlined in PP No. 19 of 2005 concerning National Education Standards. Education standards include standards for content, process, manpower, facilities and infrastructure, management, evaluation, financing and graduate competencies.

Based on this background, an application is needed that functions to help provide academic information through mobile services, namely smartphones with an Android platform, in order to increase the effectiveness of administrative information in the school environment, in processing grades, payments and registration at school, the management used still uses manual documents. The current problem is that many schools have not optimized technological developments, such as many registration systems that are still done manually; providing continuous student development reports manually; ineffective counseling services due to the condition of parents who cannot participate.

Based on the researcher's observation, Madrasah Aliyah Negeri Kota Palopo has several obstacles, including: 1) During the pandemic, schools experienced obstacles because they had not been able to access a good information system. 2) The school management information system that can be accessed by everyone via smartphone provides an idea to create a school management information system application that can provide information about school activity programs for teachers, students and parents of students, which in the end the management information system can increase the effectiveness and efficiency of school management. 3) The unavailability of a site is expected to help parents of students get academic information and their children's psychological development.

Digital system used by parents to monitor children in both online/offline learning. Digital can be designed as simple as possible to facilitate users and in real time, meaning it can be accessed at any time and there are notifications that can be directly known by the school has a role to support the running of educational activities in schools by contributing ideas related to solutions to problems that develop in madrasah management. Therefore, with integrated digitalization that uses a direct message system, it will limit the spread of student data, both positive and negative. With a private data

management system, student violation data will be limited to access only within the reach of the parents of the students concerned, and will not spread to other students or parents.

Madrasahs are spoiled with sophisticated technology that is practical, rational, empirical, and material. On the one hand, it brings a lot of goodness to humans, but on the other hand, it has a negative impact on the personality of students. Call it an individualistic attitude, materialism, to ignoring the spiritual aspect in their lives.

### **Research Method**

The research that will be used is qualitative. Theoretically, qualitative research is research that is limited to efforts to reveal a problem and in the actual conditions so that is merely a disclosure of facts. The approach used approach managerial, namely an approach that has a high commitment/ loyalty/ dedication/ work ethic in carrying out every main task and function. Primary data sources from the principal, teachers, students

### **Research Finding**

#### **1. System Of Digital-Based Madrasah Management In Madrasahs**

Madrasah as an educational institution, because management, quality is based on universal values, namely religion, of course, will contribute greatly to quality management in madrasah. Madrasah as an educational institution certainly has the same value with an equal position with other educational institutions in producing Indonesian human resources, cannot be underestimated as a second-class institution in this country. Madrasah is a classy educational institution and has characteristics that allow it to produce quality humans through quality services. The quality of education includes 5 main things, namely:

1. Quality learners (healthy and ready-to-learn children), namely students have met the minimum level of needs to be ready to learn at school. Students' basic needs can include aspects of basic health and school transportation.
2. Quality learning environments (conducive classrooms), namely schools have buildings and/or classrooms that support the teaching and learning process so that they meet minimum building standards.
3. Quality contents (appropriate curriculum relevant to children's lives), namely a curriculum that is in accordance with children's future needs so that they can be independent and become a responsible part of society in the future.
4. Quality processes (child-centred pedagogy and active learning of children), namely teaching processes that are pedagogically appropriate and have an active learning nature, thus providing high learning motivation to children.
5. Quality outcomes (pupils meet established learning standards), namely the quality of education outcomes meet previously established quality standards.

In general, quality is a comprehensive description and characteristics of goods or services that show their ability to satisfy expected or implied needs. In the context of education, the definition of

quality includes input, process, and output of education. The principles of educational quality are as follows:

1. Focus on learners

In the world of education, the focus on students is a focus on students, because students are the main and first object in the education process, which is more emphasized on the education process than the results of education, therefore the focus on students in the teaching and learning process is very urgent in achieving quality. Students here are not focused on internal students only but also on external students, both of which are very important in building the quality and quality of our education, then those included in external students are also parents, government, private institutions (NGOs), and other institutions that support the realization of superior education quality.

2. Process Improvement

The concept of continuous improvement is based on the premise of a series (sequence) of steps of activities related to producing output such as products in the form of goods and services. Continuous attention to each step in the work process is essential to reduce variability in output and improve reliability. The first goal of continuous improvement is a reliable process, while the goal of process improvement is to redesign the process for output that better meets the needs of learners.

3. Total involvement

This approach begins with active senior management leadership and includes efforts to leverage the talents of all employees in an organization to achieve a competitive advantage in the markets entered.

Teachers and staff at all levels are empowered to improve output through collaboration within new flexible work structures to solve problems, improve processes and satisfy learners. Suppliers are also involved and over time become partners through collaboration with staff who have been empowered to their advantage.

Given the large number of problems faced in the development of madrasahs nationally that are clear and have a high commitment to aspirations that continue to develop and change very quickly. Therefore, in addition to the clarity of the design, the development plan must also be flexible to possible changes in situations and conditions. In this regard, engineering wisdom for targeted activities is a requirement for personnel involved in management at both the national and regional levels. For this purpose, several things are put forward as the basis for the madrasah development strategy:

- 1) Making Islamic teachings as the basic references for all educational development activities in madrasahs. Islamic teachings are the foundation of all activities of Muslim human life, therefore it is proportional when every educational activity in madrasah uses the main reference of the Qur'an, both at the literal and conceptual levels. This is important because it is the result of developing an Islamic community life. At a more macro level, education in madrasahs must produce graduates who have a central position in giving color to the lives of the surrounding community.

Based on this perspective, the development of madrasahs in Indonesia must refer to Islamic teachings in various aspects and activities. At the national level of madrasah management, this begins with development planning in line with the preparation of basic philosophies to the last in the form of detailed development plans for each component of madrasah development. While at the local level, the color of the entire implementation lies from curriculum planning, student and teacher recruitment, teaching and learning processes to the release of students and the withdrawal of educational resources from educational activities.

## **2. Implementation Of Digital-Based Madrasah Management At Palopo City State Islamic Senior High School. So That The Concept And Implementation Of Madrasah Management Is Understood.**

The use of management information systems in the field of education is usually called SIMDIK which is very necessary in the management/services of education, namely teaching services, administration, school facilities, and student services. In addition, the management information system in educational institutions is a supporter of management function activities which include: planning, organizing, staffing, directing, evaluating, coordinating, and budgeting.

The development of management information systems in educational institutions is very necessary, in order to face global competition, educational institutions are required to provide faster, more accurate, and more convenient information which is part of the quality of service, so that it will become a competitive advantage in educational institutions. Competitive advantages can be achieved if the institution can provide services or services that are in accordance with the needs of students, so that they are satisfied with the services provided. In addition, users of educational services are also satisfied with the results/outputs obtained and competitive outcomes. Educational services through the Management Information System (MIS) in order to respond to all changes and developments, especially in the field of education, both in the teaching and learning process, or in personnel administration services, facilities and infrastructure, libraries, finances, etc. (Maharani, 2017; Sudarmaji, 2016).

The management information system in the field of education was developed to meet the needs of educational institutions. State Islamic High School in Palopo City, Where State Islamic High School in Palopo City requires computerized management of academic activities as a contribution to improving the quality of service State Islamic High School in Palopo City and in order to facilitate and expedite the school teaching and learning process and services State Islamic High School in Palopo City.

As an institution under the Ministry of Religion, State Islamic High School in Palopo City has implemented madrasah management using the Management Information System in accordance with current technological developments. To realize the foundation of Religion, Morals, and Science, one of them is by implementing a management information system to achieve educational quality. As conveyed by the head of the Palopo City State Madrasah Aliyah, the Ministry of Religion's Educator and Education Personnel Information System currently uses an application known as SIMPATIKA. Simpatika is a web-based management information system used by madrasahs in Indonesia to manage their educators and education personnel.

Through this online simpatika service, it can help and manage data related to educators including, related to the digitalization of PTK portfolios, PTK assistance/scholarships, PTK allowances, PTK training, PTK quality mapping, teacher professional allowances, teacher performance assessments, professional development to teacher certification. In addition, simpatika will be integrated with EMIS (Education Management Information System) and DAPODIK (Basic Education Data) at the Directorate General of Teachers and Education Personnel, Ministry of Education and Culture in the implementation of the teacher certification program and the issuance of NRG (Teacher Registration Number).

The data transaction process on the online SIMPATIKA service of the Ministry of Religion will involve in stages from individual PTK, madrasah leaders, district/city offices of the Ministry of Religion, provincial offices of the Ministry of Religion, to central work units of the Ministry of Religion in an integrated manner. With the existence of the online SIMPATIKA service, it is hoped that it can improve the quality of PTK in madrasahs by utilizing Information Technology (IT) that is faster, easier, more accurate, accountable, and sustainable. As the results of interviews with educational staff managing Simpatika.

*Feel helped in providing academic and administrative services for educators, education personnel, and services to students. Which before this application, Madrasah Aliyah Negeri Kota Palopo still used a manual system.*

Palopo City State Islamic Senior High School requires information or data from various school components to support the smooth implementation of education and the achievement of school goals effectively and efficiently in the context of data management until the output produced is in the form of information.

In the learning process, the State Senior High School of Palopo City uses an information system in the form of e-learning. E-learning is the use of information technology (IT) to transform the learning process between educators and students. E-learning as a medium in learning is applied with online/internet technology that has the principle of being simple, personal, and fast. E-learning learning media will force students to play a more active role in the teaching and learning process. They will make their own designs and search for materials with their own efforts and initiatives. In this learning application, the State Senior High School of Palopo City uses web-based learning, where all learning materials can be uploaded to the web server by students.

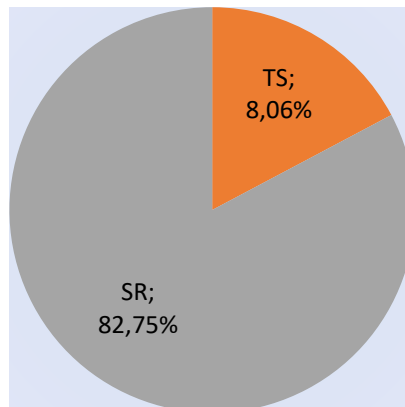
Researchers distributed questionnaires to determine the importance of digital in students' lives. Based on the results of the data analysis, it can be seen that out of 29 respondents, 5 respondents stated that they only occasionally (sometimes) update on their digital media accounts or the percentage is around 17.24%. Respondents who stated often were 24 people or 82.75%. For more details, see the description of the tabulated data below.

**Table 1**  
**Question 1 (Are you always updated on digital media?)**

Respondents' answers	Score/Total	Percentage (%)
Never (TP)	-	
Sometimes (KD)	5	17,241
Often (SR)	24	82,759
Always (SL)	-	
Amount	29	100

Source: primary data, processed 2022

Based on the table above, it can be seen that the respondents (students) State Islamic High School in Palopo City) states that most students often update on digital media. This can be seen through the percentage achievement, namely 82.75% of students who stated that students often update on digital media. Based on the results of the analysis above, the concrete achievement of the percentage of each item can be described in the following graph:



**Figure 1: Question 1 Results Graph**

Referring to the results of the analysis above, it can be concluded that most students often update on various digital media, namely 24 people or the percentage reaches 82.75. This should be a concern for schools and parents to supervise their students more so that they are not addicted to using existing digital media. Because their time will be used more for things that are not useful than time to study or to socialize with their friends or other people. Thus, it is hoped that the learning process will produce achievements as desired.

**Question 2:** Have you ever used digital media in learning?

Based on the results of data analysis, it can be seen that out of 29 respondents, there was one respondent who stated that he never did not use digital media in a day or the percentage was 3.44%. Respondents who stated sometimes were 9 people or 31.03%, often as many as 12 people or 41.38%. While the answer was always stated by 7 people or 24.14%. For further details, please see the tabulated data description below.

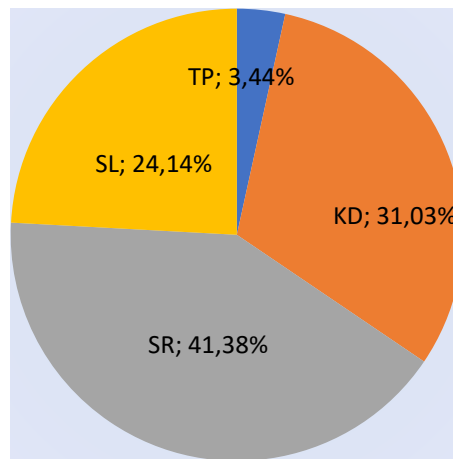


**Table 2**  
**Question 2**(Have you ever gone a day without using digital media?)

Respondents' answers	Score/Total	Percentage (%)
Never (TP)	1	3.44
Sometimes (KD)	9	31.03
Often (SR)	12	41.38
Always (SL)	7	24.14
Amount	29	100

Source: primary data, processed 2022

Based on the results of the analysis above, the concrete achievement of the percentage of each item can be described in the following graph:



**Figure 2: Question 2 Results Graph**

Referring to the results of the analysis above, it can be concluded that most (12 and 7 people) students stated that they always use digital media every day. This shows that the use of digital media is one of the activities that cannot be separated from the daily lives of students at the State Islamic Senior High School in Palopo City or the percentage has reached 65%.

**Question 3:** Do you always use digital media as a place to share your feelings?

Based on the results of the data analysis, it can be seen that of the 29 respondents, there were 4 respondents (13.79%) who stated that they sometimes use digital media as a place to share their feelings. Respondents who stated often were 15 people or 51.72%, the answer always was chosen by 10 people or 34.48%. For more details, see the description of the tabulated data below.

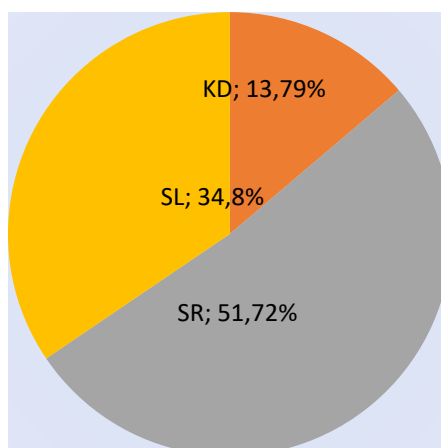
**Table 3**  
**Question 3**(Do you always use digital media as a place to share your feelings?)

Respondents' answers	Score/Total	Percentage (%)
Never (TP)		
Sometimes (KD)	4	13.79

Often (SR)	15	51.72
Always (SL)	10	34.48
Amount	29	100%

Source: primary data, processed 2022

Based on the results of the analysis above, the concrete achievement of the percentage of each item can be described in the following graph:



**Figure 3: Question 3 Results Graph**

Referring to the results of the analysis above, it can be concluded that most students prefer to use digital media as a place to share their feelings. Out of 29 respondents, only 4 students or the percentage is around 13.79% who sometimes use digital media as a place to vent. While the rest, namely 15 people or 51.72% often and 10 people or 34.48% always use digital media as a place to vent.

**Statement 4:** I opened my digital media accounts while I was at school.

Based on the results of the data analysis, it can be seen that out of 29 respondents, there were 4 respondents who stated that they sometimes opened their digital media accounts while at school or the percentage was around 10.34%. Respondents who stated often were 16 people or 55.17%. While the answer always was stated by 10 people or 34.8%.

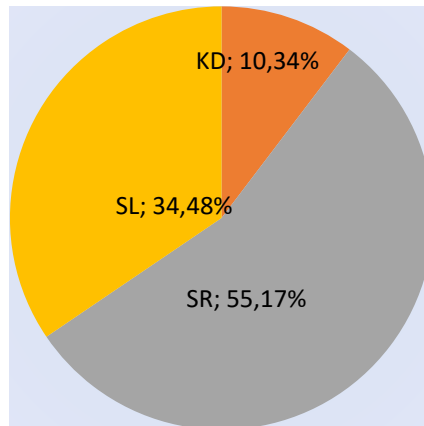
For further details, please see the tabulated data description below.

**Table 4**  
**Statement 4 (I open my digital media accounts while at school.)**

Respondents' answers	Score/Total	Percentage (%)
Never (TP)		
Sometimes (KD)	3	10.34
Often (SR)	16	55.17
Always (SL)	10	34.8
Amount	29	100%

Source: primary data, processed 2022

Based on the results of the analysis above, the concrete percentage achievement of each item can be described in the following graph:



**Figure 4: Statement 4 Results Graph**

**Question 5:** Do you always use digital media when you study?

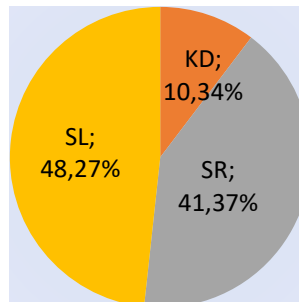
Based on the results of the data analysis, it can be seen that out of 29 respondents, there were 3 respondents who stated that they sometimes opened their digital media accounts while they were studying or the percentage was around 10.34%. Respondents who stated often were 11 people or 34.375%, sometimes 13 people or 40.625%. While the answer rarely was stated by 6 people or 18.75%. For more details, it can be seen through the description of the tabulated data below.

**Table 5**  
**Question 5 (Do you always use digital media when you study?)**

Respondents' answers	Score/Total	Percentage (%)
Never (TP)		
Sometimes (KD)	3	10.34
Often (SR)	12	41.37
Always (SL)	14	48.27
Amount	29	100%

Source: primary data, processed 2022

Based on the results of the analysis above, the concrete achievement of the percentage of each item can be described in the following graph:



**Figure 5: Graph of Question 5 Results**

Referring to the results of the analysis above, it can be concluded that most students stated that they always open their digital media accounts during class hours. This can certainly disrupt students' concentration in learning.

**Question 6:** Have you ever thought about taking care of your digital media rather than your studies?

Based on the results of the data analysis, it can be seen that out of 29 respondents, there was 1 respondent who stated that he never thought about taking care of their digital media accounts more than his studies or the percentage is around 3.44%. Respondents who stated that they sometimes think so are 1 person or 3.44%, often 10 people or 34.48%. While the answer rarely was stated by 17 people or 58.62%. For more details, it can be seen through the following tabulation data description:

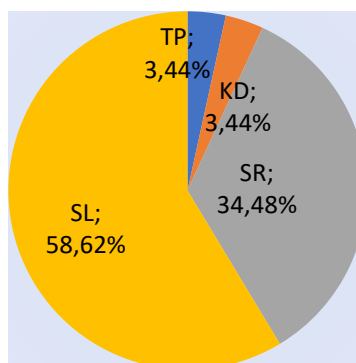
**Table 6**

**Question 6** (Have you ever thought about choosing to take care of your digital media rather than your studies?)

Respondents' answers	Score/Total	Percentage (%)
Never (TP)	1	3.44
Sometimes (KD)	1	3.44
Often (SR)	10	34.48
Always (SL)	17	58.62
Amount	29	100%

Source: primary data, processed 2022

Based on the results of the analysis above, the concrete achievement of the percentage of each item can be described in the graph below.



**Figure 6: Graph of Question 6 Results**

Referring to the results of the analysis above, it can be concluded that most students stated that they always open/access their digital media accounts during the learning process.

**Question 7:** Are you always ignored by your friends because you prefer digital media over your friends?

Based on the results of data analysis, it can be seen that out of 29 respondents, there were 13 respondents or a percentage reaching 44.38% who stated that they were ignored by their friends when they preferred to play on media rather than socialize directly with their friends. Respondents who stated sometimes were 6 people or 20.69%, the option often was chosen by 8 people or 27.59%. While the answer always was

stated by 2 people or 6.87%. For more details, it can be seen through the description of the tabulated data below.

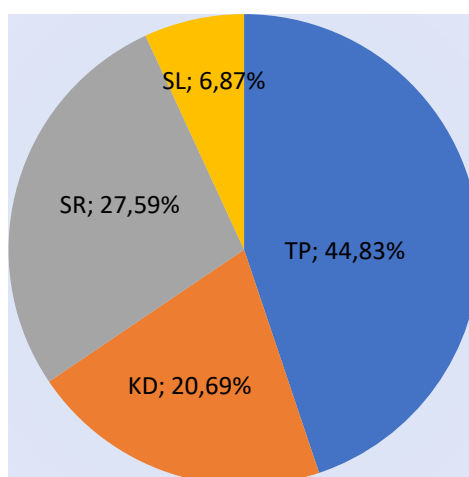
**Table 10**

**Question 7**(Are you always ignored by your friends because you prefer digital media over your friends?)

Respondents' answers	Score/Total	Percentage (%)
Never (TP)	13	44.83
Sometimes (KD)	6	20.69
Often (SR)	8	27.59
Always (SL)	2	6.87
Amount	29	100%

Source: primary data, processed 2022

Based on the results of the analysis above, the concrete achievement of the percentage of each item can be described in the graph below.



**Figure 7: Graph of Question 7 Results**

Referring to the results of the analysis above, it can be concluded that students who prefer to play/hang out with friends on digital media will be ignored by their friends in the environment around them.

After the learning process is carried out and still in a series of activities for implementing the Madrasah e-learning application, teachers can evaluate their learning to students. Learning evaluation is a process of determining the level of achievement of goals previously determined learning. Learning evaluation aims to collect information which is the basis for measuring the level of progress, development, and student learning, as well as the effectiveness of teachers in the learning process. Evaluation can provide motivation for teachers and students who can improve their creative thinking process. This is in line with the definition of evaluation (evaluating) is a process for compiling consideration materials as a basis for compiling planning.

This process includes: setting goals, collecting evidence of growth toward the goals, and drawing conclusions. With evaluation, teachers can see and measure the learning methods applied and

the results obtained by students. As for students, the results of the evaluation can be a motivation to be more active in their studies.

This evaluation is carried out to see the results of the process carried out related to the objectives to be achieved, whether it can be absorbed by students or not according to the competencies applied in the learning plan. Evaluation in Madrasah eLearning uses the Computer Based Test (CBT) menu, Knowledge Assessment and Skills Assessment. In the CBT menu, teachers can create exams in this menu, either daily or End of Semester exams with multiple choice, true/false, matching and essay types. This Knowledge Assessment is based on the Basic Competencies stated in the learning plan. Teachers can make it with an assessment scheme in the form of written, oral or assignment tests.

Evaluation of the learning process using Madrasah e-Learning has been integrated between questions, assessments and results automatically which can be seen from the Value Recap. This is easy and simple for teachers, who usually do it manually, so with Madrasah e-Learning, the system automatically processes the results of their scores. In order to evaluate distance learning, madrasahs carry out academic supervision, supervision is the provision of direction and critical assessment of teaching activities. The task of supervision as a process of continuous assessment of teachers. Academic supervision can measure the extent to which learning objectives have been achieved and can analyze the shortcomings of learning activities to find strategies to improve the quality of learning.

The use of information technology begins with the readiness of human resources, namely teachers and students. Teachers and students are expected to be literate in information technology. The most basic thing is whether all teachers and students have compatible laptops and cellphones and are able to operate them. These two things (having and operating facilities) are the main foundations for the sustainability of the learning process using madrasah e-learning. If one of these two things does not complement each other, it will be an obstacle in achieving online-based learning goals. In addition to human resources, Madrasah e-learning is learning using infrastructure in the form of an internet network. It is undeniable that the readiness of internet access is very much needed. The general reality is that the quality of internet access coverage in Indonesia is still uneven and the high cost is an obstacle to Madrasah e-learning learning. The Madrasah e-learning application system can be accessed directly to the central server or the madrasah can create its own madrasah server.

There are a lot of users of Madrasah e-learning application access. This will be an obstacle, especially if they use it simultaneously at one time throughout Indonesia. Access to the application becomes slow (down), the process of uploading teaching materials or student assignments is also slow because of limited storage capacity. When the Madrasah e-Learning learning process takes place, it is possible that the process will be slow to be accessed by teachers and students, resulting in less than optimal achievement of learning objectives. Not to mention, the latest version of Madrasah e-Learning updates. So teachers and students must always download the update system so that it can be used optimally. Things like this are some of the obstacles that must be overcome to achieve learning objectives.

The educational challenges regarding teacher readiness to face technological developments should be accompanied by solutions to overcome existing problems. One of the things that must be prepared in facing technology-based education is the preparation of responsive, adaptive and reliable human resources. Therefore, in this discussion, the solution to the educational challenges is to prepare teachers in utilizing current technology and maximize the abilities of teachers in using the latest technological equipment. The ability in question is the ability to use technology so that they are able to accompany and teach students by utilizing technology. Having technological skills must also be accompanied by an understanding that technology is to be utilized in obtaining positive learning outcomes.

The learning modification referred to in this case is a change in the learning system to adjust to the conditions of the Covid-19 pandemic. Modification does not mean a total change, but a change in one part or several parts only. This is intended to adjust to the conditions of the outbreak that is currently spreading which cannot make learning carried out face-to-face. Here are some of the learning modifications referred to as follows:

a. Online discussion learning

Online discussion learning is done using applications such as WhatsApp. Online discussion learning is done as a form of interaction between teachers and students during the Covid-19 pandemic, and this online discussion learning is a substitute for learning that has been done face to face.

Online discussions are conducted in groups or also conducted on a large scale between several students or even conducted as a whole in one class. Online discussion learning is not always conducted every day but is conducted on certain materials that do require students to conduct discussions to further sharpen their analysis and prioritize students in problem solving.

Online discussions often color learning during the Covid-19 pandemic, but in practice, there are still obstacles even though they have been done often, such as the inability of students to respond to problems presented by teachers or the inability of students to convey arguments against problems raised by teachers in learning. This condition certainly disrupts learning which ultimately leads to less than optimal learning achievement.

Online discussion learning is indeed unavoidable because the atmosphere of the Covid-19 outbreak does not allow students to do face-to-face learning, and it is also impossible for students to always have to do assignment-based learning, considering the need for students to interact. So the choice of online discussions is inevitable.

b. Learning through online assignments

Learning with the assignment model is also an alternative learning during the Covid-19 pandemic. The assignment model is carried out online, starting from instructions for giving assignments, completing assignments, to collecting and evaluating assignments. Online assignments are carried out as a form of anticipation of the spread of the Covid-19 virus. In addition, assignments are also carried out as a form of modification of learning that does not allow teachers and students to meet face to face. Learning assignments are given to students in several forms such as multiple choice, essay tests, or

Project class-based assignments. Unlike online discussion learning, online assignments are carried out almost every time a meeting is held, even if online discussion learning is not possible, learning is diverted to online assignment-based learning.

c. Learning with parental guidance

Learning during the Covid-19 period does require parental guidance, without parental guidance it is difficult to carry out learning. Face-to-face learning does not require parental guidance, but in online learning parents have a very important role in assisting students. Online learning is also called distance learning because learning is carried out without face-to-face, and teachers are not close to students, so parental guidance is a must. Parental guidance is carried out in various ways such as accompanying children in discussions with teachers, accompanying children in doing assignments given by teachers, accompanying children's psychology during online learning, controlling children's emotions during online learning.

The task of parents is indeed during the division of being heavier than during face-to-face learning. Although basically this is not the main task for parents, but with the conditions of the spread of Covid-19, of course, learning modifications like this will choose one alternative to prevent the spread of the Covid-19 virus. But of course in this assistance, parents certainly work together with teachers, in this case providing input or direction to parents regarding what they should do while accompanying their children studying at home.

Related to online learning has an impact on the quality of student learning. Parents with good perceptions or who consider online learning effective certainly have an impact on the quality of learning. Likewise, the perception of parents who consider learning from ineffective certainly has an impact on the poor quality of learning. Parents who consider online learning to be effective during the Covid-19 pandemic certainly immediately support the learning implemented by educational institutions.

In response to this, the State Islamic Senior High School of Palopo City provides an alternative to parents of students regarding the learning process. The school invites parents of students before learning at the beginning of the semester begins to discuss the learning system that will be implemented for the next semester, in this case the school asks parents to make a statement letter and sign it regarding the parents' willingness to participate in online learning.

Regarding the online learning system, it is not uncommon for parents to often criticize or protest the learning system implemented by the Palopo City State Islamic Senior High School. This condition certainly disrupts the learning process because the school must provide two learning models, parents who agree with face-to-face learning with health protocols then carry out learning according to health protocols, but for parents who do not agree, they must carry out learning online, of course this condition has an impact on the increasingly difficult work of teachers. Even the learning outcomes will be different between students who do face-to-face learning and students who do online learning.

Other solutions to answer the challenges of technology-based education can be concluded as several solutions in terms of human resource readiness in the world of education in Indonesia, as follows: 1) Providing understanding or knowledge to all educators to be able to utilize technology in



learning, guide students in using technology and facilitate the implementation of education throughout Indonesia. 2) Providing continuous training, mentoring, and evaluation to educators to create responsive, reliable, and adaptive educators. 3) Preparing educators to be able to create innovative learning, so that they can provide opportunities for children to be creative, solve problems, optimize literacy skills, collaboration, and critical thinking

### **Conclusion**

The Education Management Information System (SIMDIK) of Palopo City State Islamic Senior High School consists of services for educators and education personnel by empowering the SIMPATIKA application (Educator and Education Personnel Information System of the Ministry of Religion), e-learning learning applications, both for teachers and students and web-based applications in accepting new students. Implementation of digital-based madrasah management Palopo City State Islamic Senior High School focuses on students with pThe application of digital-based learning has many applications and requires seriousness from teachers to be able to develop various applications for learning in accordance.

The digital-based learning evaluation system can be implemented or applied through the Digital RDM (Digital Madrasah Report) application. In the implementation of the utilization of the Education Management Information System (SIMDIK) there are driving factors and inhibiting factors. The driving factors include the existence of the SIMPATIKA information system which carries out data collection both for students as well as educators, education personnel (PTK) and e-learning (Fitryanisa, 2019; Idris, 2018; Rukimin & Students, 2015). In addition, in supporting the Palopo City State Islamic Senior High School as a school that implements a digitalization system. The obstacles that cause the less than optimal implementation of SIM at the Palopo City State Islamic Senior High School include elderly teachers who have difficulty in following or implementing SIM, in addition, errors often occur in SIM technology, and in learning students have difficulty in following the deadlines that have been determined in documenting the coverage of school activities.

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