Teacher Readiness in Using Digital-Based Learning Media Through Smart Game Applications

Rr. Deni Widjayatri[1], Aulia Nurhasanah[2]*

aulnrhsnaa@upi.edu[2]*

Abstract: Teachers face challenges and have demands to innovate in integrating digital technology into learning activities in accordance with current technological developments. This research, thus, aims to determine teachers' readiness to use digital-based learning media through the "smart game" application. This research method used a qualitative method with a descriptive approach model through observation, interviews, and assessment instruments, with analysis techniques including triangulation data in assessing teacher readiness to use the "smart game" application as a digital learning medium. Based on this research, the results obtained revealed that teachers possessed sufficient knowledge in using and accessing technology and digital as simple learning media such as YouTube videos. However, in utilizing digital applications such as "smart games," teachers need to hone their skills again by exploring and developing learning materials to be delivered to students through "smart game" applications.

Keywords: Digital, Technology, Teacher, Smart Game

Abstrak: *Guru menghadapi tantangan dan memiliki tuntutan untuk dapat berinovasi mengintegrasikan teknologi digital dalam kegiatan pembelajaran sesuai dengan perkembangan teknologi saat ini. Penelitian ini bertujuan untuk mengetahui kesiapan guru dalam menggunakan media pembelajaran berbasis digital melalui aplikasi "smart game". Metode penelitian ini menggunakan metode kualitatif dengan model pendekatan deskriptif melalui observasi, wawancara, dan instrumen penilaian dengan teknik analisis data triangulasi dalam menilai kesiapan guru menggunakan aplikasi "smart game" sebagai media pembelajaran digital. Berdasarkan penelitian ini, didapatkan hasil yang menunjukkan bahwa guru cukup memiliki pengetahuan dalam menggunakan dan mengakses teknologi dan digital sebagai media pembelajaran sederhana seperti pemanfaatan video youtube. Namun, dalam memanfaatkan aplikasi digital seperti "smart game" guru perlu mengasah keterampilannya kembali dengan mengeksplorasi dan mengembangkan materi pembelajaran untuk disampaikan kepada peserta didik melalui aplikasi "smart game".*

Kata Kunci: *Digital, Teknologi, Guru, Smart Game*

---

[1]*Universitas Pendidikan Indonesia, Early Childhood Teacher Education*

[2]*Universitas Pendidikan Indonesia, Early Childhood Teacher Education*

INTRODUCTION

The growth and development of technology are increasingly felt today, marked by the era of revolution 4.0, which emphasizes collaboration between cyber technology and automation technology by orienting human activities in tandem with technology. In this case, Indonesia continues to strive to adapt and follow revolutionary developments in various fields of life. The rapid pace of technological development is certainly a new challenge in various sectors, especially in the field of education.

The world of education demands that it continue to innovate following technological developments and integrate this technology into learning. Prajana and Astuti (2019) expressed their hope that the use of this technology can change learning patterns to be student-oriented (student-centered). Thus, the aim of implementing education revolution 4.0 is, of course, to prepare the next generation to innovate, think creatively, and keep up with world developments that are faced with a digital-based industrial revolution (Efendi, 2018).

The current era of technological revolution is related to the pedagogical competence of educators in the 21st century who can utilize information technology to support learning activities in the classroom (Anshori, 2019). There are five competencies that today's teachers need to at least master: Educational competency or internet-based learning as a basic skill; competence of technological commercialization or support for students for innovative work; competence in globalization or having the ability to solve culture-based problems; competence in future strategies or being able to predict strategies for the future; and counselor competence or the ability to guide problems in students (Irjus Indrawan, 2019). The challenges and demands of mastering digital technology to ideal standards are not solely for educators to understand. However, mastery of this technology plays a role in creating the quality of educators and will have an impact on developing the quality of students (Nuryani & Handayani, 2020).

Based on 2020 population census data, generation Z is the dominant generation in Indonesia, with a percentage of 27.94%. Apart from that, the Alpha Generation or post Gen Z, is the youngest generation with a percentage of 10.88%. Suppose Generation Z has the characteristics of being proficient and passionate about information technology and various digital applications. In that case, the alpha generation or post-gen Z has had a life that has been in close contact with various sophisticated technological devices from an early age, or what is currently called the Digital Native generation or digital generation. Unfortunately, this digital media technology will boomerang for the alpha generation if guidance is not given on proper usage functions. Therefore, teachers' needs for digital aspects are required as a basis for precise and accurate information according to actual conditions to support the process (Silvana et al., 2019). According to Novi Kurnia (2019), in using digital media wisely and positively, there are three important values, namely creativity, collaboration, and thinking.

Specifically, young children have a relatively high sense of curiosity. The existence of technology causes children to be enthusiastic about exploring this technology. Without boundaries, children will look for all information without thinking about the good and the bad (Pitriyani & Widjayatri, 2022). Furthermore, in facing the era of the demographic bonus and shaping the character of today's alpha generation, planning and preparation are needed for children's education at an early age. Based on Article 3 of Minister of Education and Culture Regulation Number 146 of 2014, educators at the early childhood education level must have an understanding and be able to apply learning guidelines, where the scope of learning is focused on religious and moral values, motoric, cognitive, language, social-emotional, and artistic. With these, early childhood educators must meet the demands of being able to implement character education in the 21st century, which focuses on achieving good character or good

36

character/attitudes through the process of empowering, humanizing or potential, and civilizing with the aim of achieving the development of early childhood education (Hibana & Surahman, 2021).

In the early childhood education learning process, young children want interesting, innovative, and fun learning (Pangestu et al., 2022). Fauziddin and Mufarizuddin (2018) explained that early childhood learning, which is based on aspects of play, can achieve cognitive development with a success rate of 85%. Under current conditions, the playing process will lead to the use of technology as a learning medium with information that is wide open and flexible and has an impact on society's perspective (Hibana & Surahman, 2021). Further, the challenge in fast-paced global development is the need for digitally competent education to maintain education so that it is not left behind (Fuaddudin, 2020). However, in reality, quite a few educators think that using technology will be an obstacle because they are required to always be able to update knowledge from various sources, with so many educators still maintaining traditional ways of learning (Ermi Wahyuni, 2022). Hence, the urgency of this research is to find out the extent of readiness of early childhood teachers as facilitators to deliver learning in schools by utilizing digital learning technology to design and prepare more modern learning activities (Ermi Wahyuni, 2022).

Ermi Wahyuni, Dian Hidayati, and Romanto (2022), in their research entitled "Teachers' Readiness for Technology-Based Learning," obtained information that many teachers were still stuttering in using this technology. Therefore, various efforts are needed to improve teacher competency so that they are prepared to implement technology-based learning; thus, students can recognize and understand the use of digital media from an early age. For that reason, this research aims to determine teachers' readiness to use digital-based learning media through smart game applications.

Smart games are digital learning media in the form of educational game applications intended for children aged 3-6 years to stimulate cognitive and numeracy literacy with displays and audio that attract children's interest in playing while learning. Through this smart game application, it is expected that it can be an option for solutions and efforts for teachers to increase competency in readiness to implement fun digital technology-based learning in the classroom.

Furthermore, the use of digital learning media in the early childhood education unit environment requires the existence of supporting school potentials, such as the competence of students who can receive learning through digital media and the competence of teachers who are proficient in delivering learning through digital media. Meanwhile, the potential for infrastructure in the form of the availability of facilities, including rooms with adjustable lighting, stable internet network conditions, cellphones, laptops, and projectors that support the system, needs to be fulfilled to implement digital-based learning media.

Therefore, this has become urgent for researchers based on several supporting factors that have not been properly fulfilled in Kindergarten Kartika Siliwangi 39, Serang City. Conventional learning media tended to be used more often than digital-based learning media. Many factors influenced this, two of which were teachers who had met standards but still needed training and media choices that were not yet varied. Usually, teachers use the YouTube media platform as a learning medium for developing art (singing and dancing) by implementing pause and play to interact with children by asking questions and asking about video content or only to watch and enjoy. In fact, the use of digital learning media can be a breakthrough as a medium for playing with concepts. One way is by utilizing digital media through smart game applications as a learning medium that is interactive and innovative and provides a new experience for young children.

RESEARCH METHODS

This research used qualitative methods with a descriptive approach to achieve the researchers' objectives. This was to describe the readiness of teachers at Kindergarten Kartika Siliwangi 39, Serang City, to utilize smart game applications as digital media in learning. It was observed in the field specifically, transparently, and in more depth. Next, data collection was carried out using observation techniques and filling in an instrument with 15 indicators that assessed teacher readiness in material and knowledge, with an assessment weight of 1-4. The data collection technique began with the activity of observing the situation and conditions of the school environment to obtain an overview and information to proceed to the next activity, namely filling out assessment instruments and interviews by two teachers with criteria, 1 Kindergarten A teacher and 1 Kindergarten B teacher.

Meanwhile, the data analysis and processing technique employed was a reference to previous research (Purnasari et al., 2022) with the title *Developing an Instrument for Measuring Readiness Levels for Digitalization of Primary School Learning Seen from the Perspective of Border Area Educators and Students,* which used source triangulation techniques from Miles & Huberman (2002). Through references to previous research, the development of an instrument for measuring the level of readiness for digitalization of elementary school learning was reviewed from the perspective of educators and students in border areas, with the following flow:
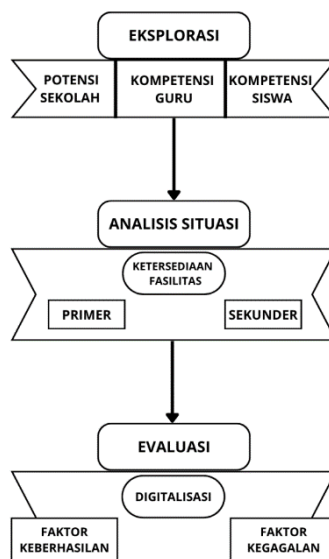

Figure 1. Research Flow

The following is a descriptive explanation of the research flow and data processing techniques:

1. The exploration stage was carried out to determine the potential of the school environment at Kindergarten Kartika Siliwangi 39, Serang City, in implementing digital-based learning processes through observation and interview techniques. Meanwhile, assessing the readiness of educators and knowing the capabilities of students as research subjects was conducted using observation techniques and filling out instruments by educators.

38

2. The situation analysis stage was carried out by looking at the availability of facilities that would support the digital-based learning process by educators as facilitators who deliver learning and are accepted by students. Hence, the influence of success in implementing digitalization of learning could be found out.

3. The evaluation stage was carried out after implementing the smart game educational application as a digital-based learning medium in the classroom. Thus, the extent to which teachers were prepared to use digital-based learning media through success and failure factors could be known.

In this research, data collection in the form of observations aimed to provide information to determine the availability of facilities and an environment that supports implementing digitalization learning. Apart from that, in assessing and reviewing teacher readiness in digital learning through smart game educational applications, the researchers used an assessment instrument of 15 checklist indicators with assessment weights of 1-4, as in Table 1, with data reinforcement through teacher interviews. The subjects of this instrument were two teachers from Kindergarten A and Kindergarten B at Kindergarten Kartika Siliwangi 39, Serang City.

Table 1. Assessment Instrument

No.	Dimension	Indicator	Score			
			1	2	3	4
1	Availability of teacher digital devices	1.1 Have a smartphone that is in good condition and supports internet access 1.2 Have a laptop or other supporting device that is in good condition and supports internet access				
2	Teacher knowledge in the use of digital technology	2.1. Teachers have knowledge of using smartphones.				
		2.2. Teachers know the importance of implementing a combined education system that prioritizes technology and applications in learning.				
		2.3. Teachers have knowledge of the code of ethics for using digital technology in learning.				
		2.4. Teachers know the steps to prepare before using digital technology in learning.				
		2.5. Teachers have the knowledge to use smart game applications that can be integrated into learning materials.				
		2.6. Teachers have the knowledge to design learning strategies using smart game applications.				
		2.7. Teachers have the knowledge to develop learning activities using smart game applications.				

3	Teacher skills in using digital technology	3.1.	Teachers have the skills to make preparations before using smart game applications.
		3.2.	Teachers have skills in accessing and using smart game applications.
		3.3.	Teachers have pedagogical skills to design learning strategies through smart game applications.
		3.4.	Teachers have the skills to deliver learning material through smart game applications.
		3.5.	Teachers have the skills to develop fun learning activities through smart game applications.
		3.6.	Teachers have the skills to evaluate students' level of understanding before and after using smart game applications as digital learning media.
	Total Score		

RESULTS AND DISCUSSION

Digitalization of the learning process is an effort to change and keep up with developments that are moving so fast in all aspects of life, including the learning aspect. Digitalization efforts in learning media are effectively used to support the implementation of maximum learning processes. In responding to significant changes in the world of education, various aspects of education need to be equipped to support these changes. Examples are environmental aspects with adequate facilities, aspects of qualified human resources, and support from schools in supporting the implementation of learning activities through digital learning media. However, not all these aspects can be easily fulfilled, so this becomes a challenge in the implementation process at Kindergarten Kartika Siliwangi 39, Serang City.

Based on the research flow in this writing method, the researchers carried out the initial stage, namely exploring the potential of the Kindergarten Kartika Siliwangi 39 to support digital media in learning. The results obtained revealed that the classroom was quite comfortable to use, with a room large enough to accommodate 30 students who could move actively and lighting that could be adjusted if using a projector in learning. Unfortunately, the room could not reduce sound from outside the room well. Apart from that, the use of digital media was not as frequent as using conventional media, so the children responded enthusiastically each time when teachers taught through digital media. Children also tended to be easy to direct and focus on because they were interested in seeing it. Thus, in this exploration stage, the potential at Kartika Siliwangi 39 Kindergarten was proven to satisfy the standards to support the use of digital-based learning media, namely smart games.

The second stage was a situation analysis, where the availability of facilities owned by the Kindergarten Kartika Siliwangi 39 institution was in the form of technological devices, such as a projector that could operate well and a whiteboard in suitable condition to be used as a flat projector medium and a stable internet network. Apart from that, personal technology devices, such as cell

phones and laptops, that function well could be utilized by teachers to use digital technology for learning. With this, Kindergarten Kartika Siliwangi 39 Serang City also had quite good facilities.

The supporting potential of schools is the presence of interested and competent students and the availability of adequate facilities. It should also be supported by the teacher's ability to use it. This could be seen from the results of the instruments completed by two teachers at Kartika Siliwangi 39 Kindergarten, Serang City.

Table 2. Results of Teacher Responses in Kindergarten A

No.	Aspect	Number of Indicators Score			
		1	2	3	4
1	Availability of teacher digital devices				2
2	Teacher knowledge in the use of digital technology				7
3	Teacher skills in using digital technology			3	3

Table 3. Results of Teacher Responses in Kindergarten B

No.	Aspect	Number of Indicators Score			
		1	2	3	4
1	Availability of teacher digital devices			2	
2	Teacher knowledge in the use of digital technology			7	
3	Teacher skills in using digital technology			3	3

In aspect (1), the availability of digital devices for teaching staff, there are two indicators: 1) having a smartphone that is in good condition and supports internet access and 2) having a laptop or other supporting device that is in good condition and supports internet access. Both indicators were checked at a score of 3, namely "satisfied" by two teachers.

In aspect (2), the knowledge of teaching staff in using digital technology, there are seven indicators: 1) teachers have knowledge of using smartphones; 2) teachers know the importance of implementing a combined education system that prioritizes technology and applications in learning; 3) teachers have knowledge of the code of ethics before using digital technology in learning; 4) teachers know the preparation steps before using digital technology in learning; 5) teachers have the knowledge to use digital media that can be integrated into learning materials; 6) teachers have the knowledge to

41

design learning strategies using digital media; 7) teachers have the knowledge to develop learning activities using digital media. The seven indicators were checked with a score of 3, namely "satisfied" by one teacher and checked with a score of 4, "very satisfied" by one other teacher.

Furthermore, in aspect (3), the skills of teaching staff in using digital technology, there are six indicators. 1) teachers have the skills to make preparations before using smart game applications; 2) teachers have skills in accessing and using smart game applications; 3) teachers have pedagogical skills to design learning strategies through smart game applications; 4) teachers have the skills to deliver learning material through smart game applications; 5) teachers have the skills to develop fun learning activities through smart game applications; 6) teachers have the skills to evaluate students' level of understanding before and after using smart game applications as digital learning media. The assessment by both teachers on indicators 1-3 was checked with a score of 4, namely "very satisfied." Meanwhile, indicators 4-6 were checked with a score of 3, namely "satisfied."

Based on the results of research carried out, it was revealed that teachers' knowledge of digital technology at Kindergarten Kartika Siliwangi 39, Serang City, has satisfied the standards for the ability to use digital technology. Meanwhile, in terms of skills in using smart game applications as a choice of digital-based learning media to stimulate cognitive and numeracy literacy in early childhood, teachers still need skilled and proficient abilities. The teacher believed that as a facilitator who only receives information personally, they had very satisfied abilities. However, as facilitators who must deliver learning and evaluate learning outcomes, they still need help. This could be seen from the score given, which was only satisfied.

Suppose the school's potential is good enough, the facilities support it, and the competence of students and teachers is also in a period of improvement to support this. In that case another thing that needs to be given and paid attention to in this case is the percentage of time using digital media in learning, which can be further increased when readiness teachers are increasing, starting from the media introduction stage, learning stage, and evaluation stage. Apart from improving teacher competency through special training, teachers can take advantage of the time and opportunity to practice readiness in the classroom with students directly. In this way, both teachers and students have real experience and evaluation material for implementing digital-based learning in subsequent meetings.

The teacher at Kindergarten B explained that digital media has certainly become part of all aspects of life, especially as a learning medium that attracts children's interest and achieves learning success. Digital-based learning activities at Kindergarten Kartika Siliwangi 39 were not fully implemented. However, they were an option when children needed interesting and fun media, considering that alpha generation students have been born surrounded by digital technology, so they need guidance and direction from teachers at school and parents at home. Thus, as facilitators, teachers need to have the knowledge and skills to implement digital media in schools. In this case, the teachers at Kindergarten Kartika Siliwangi 39 have satisfied capable standards. However, they continue to strive to improve their readiness to use digital technology. Aside from that, the presence of smart game applications is an interesting innovation and is considered quite effective for use in the classroom. Therefore, children can learn numeracy concepts while playing.

According to Sutarman et al. (2019), it has become an obligation for teachers to increase their competence in using digital technology. Nevertheless, the important thing that needs to be considered is how a teacher can adapt to the impact and rapid development of technology today. Adequate teacher competency, supporting school potential, and availability of facilities are several factors that influence success in using digital technology in learning. In addition to several factors that can influence success,

other challenges can become factors of failure (Rahman Taraju et al., n.d.). In Feliks Rejeki Sotani Zebu, there are several challenges faced by teachers in the digital era, three of which are:

1. Digital literacy
   In this case, teachers are required to master the knowledge, skills, and behavior used in accessing various digital devices, such as smartphones, tablets, laptops and desktop PCs, which are useful as a medium for finding information to solve problems or looking for fun and interesting teaching materials.
2. Development of science and technology
   The rapid pace of development of science and technology encourages teachers to adapt responsively so that they can master well the use of science and technology that is integrated with the world of education, such as digital-based learning.
3. Digital technology-based learning media.
   The use of digital technology-based learning media requires teachers to be innovative in teaching activities and have many digital technology-based learning media options.

CONCLUSIONS AND RECOMMENDATIONS

It can be concluded that the use of digital technology in learning requires teachers who have self-readiness competencies to access and integrate it into teaching and learning activities. Currently, many teachers have innovated and have the knowledge and skills to access digital technology for learning activities. However, quite a few teachers still need support from schools in the form of training and supporting facilities.

This research answers the researchers' goal of knowing the extent to which teachers are ready to use digital-based learning media through smart game applications. It has obtained significant results, namely that teachers have satisfied their abilities in using digital technology. However, they still need help in implementing it in the classroom. Apart from that, the school infrastructure also needs to be the attention of the relevant parties for better results.

In this case, the researchers provide advice to the main facilitator in the class, namely the teacher, to hone better skills in applying digital learning media, one of which is through smart game applications. In addition, it is expected that schools, foundations, and related institutions can provide support in supporting infrastructure to achieve optimal results in learning.

REFERENCES

Anshori, S. (2018). Pemanfaatan teknologi informasi dan komunikasi sebagai media pembelajaran. *Civic-Culture: Jurnal Ilmu Pendidikan PKn Dan Sosial Budaya*, *2*(1).

Efendi, N. M. (2018). Revolusi pembelajaran berbasis digital (Penggunaan animasi digital pada start up sebagai metode pembelajaran siswa belajar aktif). *Habitus: Jurnal Pendidikan, Sosiologi, & Antropologi*, *2*(2), 173-182. DOI: https://doi.org/10.20961/habitus.v2i2.28788

Effendi, D., & Wahidy, A. (2019, July). Pemanfaatan teknologi dalam proses pembelajaran menuju pembelajaran abad 21. In *Prosiding Seminar Nasional Program Pascasarjana Universitas PGRI Palembang*. DOI: https://doi.org/10.20961/habitus.v2i2.28788

Fauziddin, M., & Mufarizuddin, M. (2018). Useful of clap hand games for optimize cognitive aspects in early childhood education. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, *2*(2), 162-169. DOI:10.31004/obsesi.v2i2.76

Fuaddudin, F. (2020). PERUBAHAN PARADIGMA MENGAJAR GURU DALAM MENYONGSONG PENYELENGGARAAN PENDIDIKAN DI ERA REVOLUSI INDUSTRI 4.0. *eL-Muhbib: Jurnal Pemikiran dan Penelitian Pendidikan Dasar*, *4*(1), 68-81. DOI: https://doi.org/10.52266/el-muhbib.v4i1.478

Hibana, H., & Surahman, S. (2021). Kompetensi Digital Guru Dalam Upaya Meningkatkan Capaian Pendidikan Anak Usia Dini. *Jurnal Studi Guru Dan Pembelajaran*, *4*(3), 607-615.DOI: https://doi.org/10.30605/jsgp.4.3.2021.1392

Indrawan, I. (2019). Profesionalisme Guru Di Era Revolusi Industri 4.0. *Al-Afkar: Jurnal Keislaman & Peradaban*, 7(2), 57-80. DOI: https://doi.org/10.32520/afkar.v7i2.255

Kurnia, N., Wendratama, E., Adiputra, W. M., & Poerwaningtias, I. (2019). *Literasi digital keluarga: Teori dan praktik pendampingan orangtua terhadap anak dalam berinternet*. UGM PRESS.

Nuryani, D., & Handayani, I. (2020, April). Kompetensi guru di era 4.0 dalam meningkatkan mutu pendidikan. In *Prosiding Seminar Nasional Program Pascasarjana Universitas PGRI Palembang*

Pangestu, F. G., Suri, G. E., Fitri, M., Dewi, P. A., & Widjayatri, R. D. (2022). Strategi Pembelajaran Fun Learning di biMBA AIUEO Di Kota Cilegon. *Jurnal Anak Usia Dini Holistik Integratif (AUDHI)*, *5*(1), 8-14. DOI: http://dx.doi.org/10.36722/jaudhi.v5i1.991

Pitriyani, A., & Widjayatri, R. D. (2022). PERAN ORANG TUA MILENIAL DALAM MENDIDIK GENERASI ALPHA DI ERA DIGITAL. *QURROTI: Jurnal Pendidikan Islam Anak Usia Dini*, *4*(1), 20-32. DOI: http://doi.org/10.36768/qurroti.v4i1.235

Prajana, A., & Astuti, Y. (2019). Persepsi dosen terhadap layanan aplikasi e-lkd uin ar-raniry dengan menggunakan technology acceptence model (tam). *EDUKATIF: JURNAL ILMU PENDIDIKAN*, *1*(3), 294-302. DOI: https://doi.org/10.31004/edukatif.v1i3.58

2.1. Purnasari, P. D., Silvester, S., Manulang, R., Wulandari, D., & Dimmera, B. G. (2022). PENGEMBANGAN INSTRUMEN PENGUKURAN TINGKAT KESIAPAN DIGITALISASI PEMBELAJARAN SEKOLAH DASAR DITINJAU DARI PERSPEKTIF PENDIDIK DAN PESERTA DIDIK WILAYAH PERBATASAN. *Sebatik*, *26*(2), 725-731. DOI: https://doi.org/10.46984/sebatik.v26i2.1977

Rahman Taraju, A., Nurdin, N., & Pettalongi, A. (2022). Tantangan dan Strategi Guru Menghadapi Era Revolusi Industri 4.0. Prosiding Kajian Islam Dan Integrasi Ilmu Di Era Society 5.0 (KIIIES 5.0) PascasarjanaUniversitas Islam Negeri Datokarama Palu 2022, 1, 311–316

Silvana, H., Rullyana, G., & Hadiapurwa, A. (2019). Kebutuhan Informasi Guru Di Era Digital: Studi Kasus Di Sekolah Dasar Labschool Universitas Pendidikan Indonesia. *Baca: jurnal dokumentasi dan informasi*, *40*(2), 147-158. DOI: https://doi.org/10.14203/j.baca.v40i2.454

Sutarman, A., Wardipa, I. G. P., & Mahri, M. (2019). Penguatan Peran Guru di Era Digital Melalui Program Pembelajaran Inspiratif. *Tarbawi: Jurnal Keilmuan Manajemen Pendidikan*, *5*(02), 229-238. DOI: https://doi.org/10.32678/tarbawi.v5i02.2097

Wahyuni, E., Hidayati, D., & Romanto, R. (2022). Kesiapan Guru terhadap Pembelajaran Berbasis Teknologi. *Jurnal Pendidikan dan Konseling (JPDK)*, *4*(6), 11238-11247. DOI: https://doi.org/10.31004/jpdk.v4i6.10231