

## The Relationship Between Digital Literacy and The Competency of Prospective Teacher Students in The Society 5.0 Era

Muhammad Rifqi Mahmud<sup>1</sup>, Dian Ekawati<sup>2</sup>

<sup>1</sup>State Islamic University Sunan Gunung Djati Bandung, Indonesia

<sup>2</sup>State Islamic University Sunan Gunung Djati Bandung, Indonesia

<sup>1</sup>[m.rifqi.mahmud@uinsgd.ac.id](mailto:m.rifqi.mahmud@uinsgd.ac.id), <sup>2</sup>[dian\\_ekawati@uinsgd.ac.id](mailto:dian_ekawati@uinsgd.ac.id)

### Abstract

The emergence of society 5.0 promotes balance in all fields, especially education, and can provide a role in the progress of the learning process. The importance of students having digital literacy skills and competencies of prospective teachers is to have a critical and creative mindset for learning innovation in the classroom and be able to process information wise. The purpose of this study is to see the ability of digital literacy and the competence of prospective teacher students and find out the influence of digital literacy on the competence of prospective teacher students in the era of society 5.0. The research uses a quantitative approach with a correlation method. The research population was all students of the Faculty of Tarbiyah and Teacher Training UIN Sunan Gunung Djati, with a sample of 1.132 students. The sampling technique uses random sampling. Data is collected through filling out questionnaires. The results of this study show that students are ready to face the era of society 5.0, marked by students being good at operating the internet to find information and balanced by understanding the competence of the prospective teacher. There was a significant positive relationship between digital literacy and the competence of prospective teacher students and obtained an r count of 0.645 in the high category. It is shown that 41.6% of the competencies of prospective teachers are influenced by digital literacy and other unrelated factors with this study influence the remaining 58.4%.

**Keywords:** Digital Literacy, Competencies of Prospective Teachers, Society 5.0

### INTRODUCTION

Technological progress has experienced rapid development marked by the emergence of the era of society 5.0 which can facilitate human work and life (Rahayu, 2021). Society 5.0 was first introduced by Japan in 2019 and had a human-centered technological sophistication concept with Artificial Intelligence (AI) and is based on big data and robotics to create innovations and improve the industrial revolution 4.0 (Usmaedi, 2021)(Usmaedi, 2021). The purpose of society 5.0 is to realize a society facing social challenges to solve various problems in life and enjoy an active and comfortable quality of life (Fukuyama, 2018). In addition, the emergence of society 5.0 technology will provide values for various unlimited needs of society regardless of social, ethnic and racial, age, gender, and language by providing goods and services needed by individuals and many people who have a positive impact (Rahayu, 2021). Society 5.0 services can provide balance in the industry, business and economic, social, and even educational areas.

Students in era of society 5.0 ideally must have three components of digital literacy regarding (i) digital consumption; (ii) digital competencies; and (iii) digital security. Digital competencies are related to effective use of digital technology, while digital security is the skill related to internet security at the technical and socio-economic levels. Digital consumption refers to students' abilities to use online services for life, educational, and professional activities (Yashalova et al., 2019). Education in the era of society 5.0 also has a role for the advancement of the learning process. Some of the ways used to improve education in the era of society 5.0 in Indonesia are first by improving and leveling the quality of the internet better in all regions, then the second is that prospective teachers must have the ability to use digital media and the internet to be able to think more creatively to facilitate learning in the classroom and school needs (Ariastika, 2022). Third, the government must be able to balance and connect educational opportunities and economic opportunities to reduce unemployment in Indonesia, and the fourth is to get used to implementing technology as teaching materials and learning activities in the classroom (Megayanti et al., 2022). Therefore, the availability of society 5.0 technology can allow prospective teacher students to carry out learning and learning with robots or those that have been specially made to facilitate the process with an electronic learning system provided through the platform so that it is expected to provide fun learning activities (Teknowijoyo & Marpelina, 2021). The task of teachers in the era of society 5.0 is not only to be fixated on providing knowledge to students, but prospective teachers must have competencies that are in accordance with educational goals. In addition, competence becomes an essential factor in specific supervisory systems used as standard rules of the profession.

Teacher competence is the knowledge, ability, skills, and behavior that the teacher must possess in the learning process, both in the classroom and not to carry out their duties to show their values and capacities (Nur & Fatonah, 2022). A teacher must have pedagogical, personal, professional, and social competencies (Regulation of the Minister of National Education, 2007). As time goes by and is required to keep up with the times, additional competency indicators of student readiness of prospective teachers are needed in the face of society 5.0 according to former Japanese Minister of Education Yoshimasa Hayashi (Japan, n.d.) It is communication, leadership and endurance, curiosity, and comprehension and reading skills to adapt to a better education.

Communication competence is the ability to listen, obtain information, and convey opinions or ideas to solve problems so as not to cause misinterpretation in general and through digital media (Partono et al., 2021). Communication competence is essential for prospective

teacher students because it is a tool for interaction and discussion both individually and in groups. Leadership and endurance competencies for prospective teachers are used to manage classes so that students can actively participate and provide facilities well in the learning process in the classroom (Sukraini, 2020). The existence of curiosity competence in prospective teachers is useful for developing broad skills and insights so that learning in the classroom becomes more creative (Ekasari & Rohman, 2020). Prospective teachers must have comprehension and reading skills to make it easier to apply and improve the knowledge gained both from digital media and books starting from teaching students to actively participate in class so that students can ask questions, make conclusions, and be able to illustrate them (Sukraini, 2020). Digital literacy skills must also accompany prospective teachers' readiness to face society 5.0.

Digital literacy is a person's ability and skill in owning or mastering internet technology to distinguish and process credible information and use it effectively for daily activities, work, and learning in the classroom (Lankshear & Knobel, 2016). Meanwhile, Bawden (2001) stated that digital literacy began with computer literacy and information literacy because computer literacy first developed in 1980 when macro computers were used by the public for economic needs then accompanied by the arrival of literacy Information in 1990 that was disseminated when information was already easily accessible using information technology. According to Kurnianingsih, Rosini, & Ismayati (2017), digital literacy is a method of understanding and reading information provided by technology to find new knowledge and have characteristics that are not only fixated on the skills of operating the technology but can process information well.

Achievement in realizing digital literacy in prospective teachers is one of the goal factors in the field of education. The importance of prospective teachers having digital literacy skills is to have a critical and creative mindset for learning innovation in the classroom, so that they are not easily exposed to false information that is incitement, and are not easily exposed to digital fraud that is on the rise (Ministry of Education and Culture, 2017). In addition, prospective teachers who have digital literacy skills can also help students to improve their internet skills to be able to think critically from the information they have obtained and help students to be more creative and support students to add insights to become more competent internet users (Hague & Payton, 2010) The indicator of digital literacy, according to the European Commission (2009) on the criteria for use skills for students of suitable teacher candidates in this study is computer and internet skills including computer skills and internet

skills, then balanced and active use of Media includes internet use, mass media intensity, watching movies, reading books, and subscribing to mobile phones, and advanced internet use includes buying over the internet and reading news over the internet.

Computer and internet skills are very important for prospective teachers because technology will continue to run with the times. In addition, operating technology becomes the main capital in everyday life and can be a tool for finding sources of information even related to learning resources (Commission, 2009). The development of digital media, skills in the use of the internet that are active and balanced (active use media) can help prospective teachers limit the use of less useful technology and use digital media according to their functions and needs (Lismanda & Anggraheni, 2020). (Lismanda & Anggraheni, 2020) Then in the use of the advanced internet (advance internet use) can be shown by the habit of buying goods in digital media and the ability to understand and read information increases (Commission, 2009).

Almost similar research on digital literacy with the competence of prospective teacher students has been conducted by Ariastika (2022) the results show that the application of digital literacy by teachers can develop the character values of students and be able to face education with technology in the era of society 5.0 in a balanced manner. In addition, the results of research conducted by Pratama, Pratiwi, Lestari, and Saputra (2022) think that prospective teachers are not ready to face the challenges that will be faced in the era of society 5.0 because of the lack of curiosity of students to improve their abilities.

Based on the explanation above, education must keep up with the times and strive so that prospective teachers can compete in the era of society 5.0. The purpose of this study is to determine digital literacy with the competence of prospective teacher students and the influence between digital literacy on the competence of prospective teacher students in the era of society 5.0.

## **METHOD**

This research uses a quantitative approach with a correlation method to examine the relationship between digital literacy skills and the competence of prospective teacher students in facing the era of society 5.0. Correlation research is a study that involves the act of collecting data to determine whether there is a relationship and the degree of relationship between two or more variables. The research population is all students of the Faculty of Tarbiyah and Teacher Training UIN Sunan Gunung Djati Bandung. The research sample was 1132 students. Sample selection is determined by random sampling technique. Data were collected using

questionnaires distributed to students of the Faculty of Tarbiyah and Teacher Training UIN Sunan Gunung Djati Bandung. Before conducting a correlation test, the researcher first tested the normality of the data from both variables. The test results showed that the data from both variables were normally distributed. Furthermore, a correlation test was carried out using the product moment test.

## RESULTS AND DISCUSSION

### Results

This study aims to determine digital literacy skills on the competencies of prospective teachers in facing the society 5.0 era. The data in this study was obtained from the distribution of digital literacy questionnaires and the competence of prospective teachers to UIN Sunan Gunung Djati Bandung students through a google form. The results have each data description as follows.

Table 1. Description of Research Variable Data

Variable	N	Minimum (min)	Maximum (max)	Mean	Standard Deviation (SD)
Digital Literacy	1132	49	100	80	6.076
Competence of Teacher Candidates	1132	53	105	76	7.356

In Table 1, it is shown from the digital literacy variable obtained a minimum value of 49 and a maximum of 100 with an average of 80 (scale 0-108). This means that the average student prospective teacher already has good digital literacy in the era of society 5.0. Meanwhile, the results shown from the competency variables of prospective teachers were obtained on average by 76 (scale 0-112) with a minimum score of 53 and a maximum of 105. This value means that students already have good teacher candidate competencies as well.

Data on the digital literacy variable received 1132 respondents. The questionnaire is distributed with 27 statements and has four categories: excellent, good, good enough, and not good. So that it can be obtained in the table as follows.

Table 2. Answer Distribution of Digital Literacy Variables

Score	Category	Frequency	Percentage
88 – 108	Excellent	60	5.3%
67.75-87.75	Good	1031	91.1%
47.50-67.50	Good Enough	40	3.5%
27-47.25	Not Good Enough	1	0.1%
Sum		1132	100%

Table 2 shows that the digital literacy variables obtained from prospective teacher students were 5.3% in the excellent category, the good category was 91.1% of students, 3.5% of students in the sufficient category good, and the poor category only gained 0.1% of students. The percentage result is very dominated in the good category of 91.1%, which means that prospective teacher students already have good digital literacy in facing the readiness of the society 5.0 era.

Meanwhile, the data on the competency variables of prospective teachers are spread with 28 statements and have four categories: excellent, good, good enough, and not good enough. The following is the result of a description of research data based on the competency variables of prospective teachers.

Table 3. Distribution of Answers to Competency Variables for Prospective Teachers

Score	Category	Frequency	Percentage
91-112	Excellent	37	3.3%
70-90	Good	895	79.1%
49-69	Good Enough	200	17.7%
28-48	Not Good Enough	0	0%
Sum		1132	100%

Table 3 above is the distribution of answers on the competency variables of prospective teachers. In Table 3, it was also found that 3.3% of students were in the excellent category, 79.1% of students had a good category, 17.7% of students in the Good Enough category, while in the Not good Enough category it has no percentage or result. This means that students are good at mastering the competence of prospective teachers in preparing and facing the era of society 5.0.

Then calculate the relationship between digital literacy and the competence of prospective teachers using the product moment correlation test. The correlation test uses scores from the questionnaire of each variable. In the correlation test, r count of 0.645 was obtained

and entered the high correlation category because it was at an interval of 0.60 -0.79. The magnitude of the coefficient of determination that influenced the study was 41.6% and the remaining 58.4% was influenced by other factors unrelated to this study. The conclusion is that there is a correlation between digital literacy and the competence of prospective teacher students in the era of society 5.0 is in the high correlation category.

## Discussion

Based on the results of the study shows that digital literacy has a good category. The digital literacy aspect is still at the critical use stage with several indicators such as computer and internet skills including computer skills and internet skills. Then there is the balanced and active use of media, including internet use, mass media intensity, watching movies, reading books, and subscribing to mobile phones. Furthermore, advanced internet use includes buying over the internet and reading news over the internet. The abilities in digital literacy indicators are already possessed by prospective teacher students in facing society 5.0. The existence of digital literacy applied to students is used to take advantage of digital technology in supporting learning both in the classroom and outside the classroom. In addition, the existence of the internet in the era of society 5.0 serves to find out information about education and policies related to teachers. That is, in this era of society 5.0, it makes it easier for prospective teacher students to meet the needs of various things, such as completing tasks more efficiently, looking for information, buying and selling through the internet so that it can save time, even watching movies to take moral messages so that students can easily process Information that circulates and is not easily exposed to hoax information and trains to think critically. According to Ririen & Daryanes (2022) that students who have good digital literacy such as being able to communicate online, have the ability to think critically, and wise in using technology. In line with what was stated by Susanto (2021), students can take advantage of digital literacy for everyday such as looking for information on the internet to complete their assignments and find learning materials and master and understand existing digital technology to support learning.

Then on the competency variable, prospective teachers obtained results in the good category. Indicators related to the competence of prospective teachers are communication, leadership and endurance, curiosity, and comprehension and reading skills. Student readiness to face society 5.0 requires good communication skills to interact with students, friends, and lecturers effectively and efficiently. The existence of communication owned by students can

also make it easier to convey their ideas in front of the forum. In addition, communication and leadership skills can make it easier for students to understand the development of the students they will teach so that they can manage the class well. The rapid development of technology requires prospective teacher students to adjust to explore things related to the internet to add learning materials to create curiosity in order to develop innovative learning. Prospective teacher students must also be accustomed to practicing reading skills such as reading books and electronic journals to have broad insights. In line with the research conducted by Rahmawati and Nartani (2018) the learning and teaching process in the classroom can run well and effectively if teachers have communication skills, so that teachers are able to understand the needs and characteristics of students and learning can be conveyed ideally. Sukraini (2020) explained that prospective teacher students in the era of society 5.0 must have and develop competencies such as leadership, reading skills and understanding, communication, and curiosity to form a professional teacher.

The importance of prospective teacher students having digital literacy skills is useful for searching, thinking critically about information, and being wise in responding to information obtained from the internet. In addition, in the era of society 5.0 the use of digital literacy for prospective teacher students is necessary to support the teaching and learning process and facilitate classroom learning. Therefore, the demands in the teaching and learning process in the era of society 5.0 must be accompanied by mastering the competencies of prospective teachers to develop the quality of students to find its potential and achieve educational goals (Yamin & Fakhrunnisaa, 2022).

According to UNICEF (2021), digital literacy skills are very important because they are one of the ways to find sources of information on the internet and communicate with the surrounding environment such as friends, teachers, and Lecturers and in the implementation of digital literacy students need awareness and effort to become competent. The existence of society 5.0 prospective teacher students is required to analyze and solve real-life problems and make it easier for students to use technology to explore tasks and learning materials for free. In addition, having the competence of prospective teachers for students serves to interact directly with the community and look for opportunities to be more innovative in the world of education (Gupta et al., 2022).

The results of this study are also in line with the research conducted by Ariastika (2022) entitled "Application of Digital Literacy in Science Learning in Facing Educational Readiness in the Era of Society 5.0". The results of his research show that digital literacy in society 5.0



era education can be applied to science learning by utilizing digital media to find sources of information that are Links to online learning. According to Nasriani (2022) that digital literacy can be implemented as a learning medium for teachers for the learning process in the classroom and can increase understanding of the use of digital media and the internet so that the teaching and learning process becomes innovative.

The research from Pratama, et all (2022) which measured the readiness of the community to face the 5.0 challenges of Society, showed that it produced a low score in the curios indicator by 66.84 , which means that prospective teacher students have not ready in face era society 5.0. In line with Hermawan, Supiana, and Zakiah (2020) explained that the low readiness in the era of society 5.0 comes from the competence of teachers who are still experiencing some obstacles both in external as well as internal such as lack of instilling curiosity to develop insights and a lack of learning to understand learning strategies.

## CONCLUSION

The research results showed that students already have digital literacy and the competence of prospective teachers well and are ready to face the era of society 5.0. The percentage difference between digital literacy and the competence of prospective teachers in the good category shows that students must learn more and understand more deeply about the competencies of prospective teachers in order to can compete in the world of education and become a provision in teaching students to be more optimal.

## ACKNOWLEDGMENTS

Thank you to the Dean of the Faculty of Tarbiyah and Teacher Training as well as to In memorial Dr. H. Dindin Jamaluddin, M.Ag., CEPP., Deputy Dean I of the Faculty of Tarbiyah and Teacher Training and to all the members of the Faculty of tarbiyah and teacher training for the kindness in the preparation of this research article.

## REFERENCES

- Ariastika, D. (2022). Penerapan Literasi Digital pada Pembelajaran IPA dalam Menghadapi Kesiapan Pendidikan di Era Society 5.0. FORDETAK: Seminar Nasional Pendidikan: Inovasi Pendidikan Di Era Society 5.0, 132–142.
- Bawden, D. (2001). Information and digital literacies: A review of concepts. *Journal of Documentation*, 57(2), 218–259. <https://doi.org/10.1108/EUM0000000007083>.

- Commission, E. (2009). Study on Assessment Criteria for Media Literacy Levels: A comprehensive view of the concept of media literacy and an understanding of how media literacy levels in Europe should be assessed. *European Association for Viewers' Interests*, October, 1–92.
- Ekasari, P. A., & Rohman, T. (2020). Kompetensi Profesional Guru dalam Mengembangkan Curiosity dan Kreatifitas Siswa Madrasah Ibtidaiyah Kota Salatiga. *Jurnal Ilmiah Wahana Pendidikan*, 6(4), 670–686. <https://doi.org/10.5281/zenodo.4298424>.
- Fukuyama, M. (2018). *Society 5.0: Aiming for a New Human-centered Society*. Japan SPOTLIGHT, August, 8–13.
- Hague, C., & Payton, S. (2010). *Digital literacy across the curriculum: a Futurelab handbook*. Futurelab.
- Hermawan, I., Supiana, & Zakiah, Q. yulianti. (2020). Kebijakan Pengembangan Guru di Era Society 5.0. *JIEMAN: Journal of Islamic Educational Management*, 2(2), 117–136.
- Japan, G. (n.d.). *How Japan is Preparing its Students for Society 5.0*. Foreign Policy.
- Kemendikbud. (2017). *Materi Pendukung Literasi Digital: Gerakan Literasi Nasional*. In Kementerian Pendidikan dan Kebudayaan.
- Kurnianingsih, I., Rosini, & Ismayati, N. (2017). Upaya Peningkatan Kemampuan Literasi Digital bagi Tenaga Perpustakaan Sekolah dan Guru di Wilayah Jakarta Pusat Melalui Pelatihan Literasi Informasi. *Jurnal Pengabdian Kepada Masyarakat*, 3(1), 61–76. <https://doi.org/http://doi.org/10.22146/jpkm.25370>.
- Lankshear, C., & Knobel, M. (2016). *Digital Literacy and Digital Legacy: Policy, Pedagogy and Research Considerations for Education*. *Nordic Journal of Digital Literacy*, 8–20.
- Lismanda, Y. F., & Anggraheni, I. (2020). Use-Technical Skills Mahasiswa PIAUD Unisma Dalam Literasi Media Digital. *Widyagogik : Jurnal Pendidikan Dan Pembelajaran Sekolah Dasar*, 7(2), 139–147. <https://doi.org/10.21107/widyagogik.v7i2.7090>.
- Megayanti, W., Rosadi, N., & Robbani, H. (2022). Edukasi Peluang dan Tantangan Pemuda di Era Society 5.0 bagi Mahasiswa Sekolah Tinggi Ekonomi Islam Tiara, Yayasan Napala Indonesia, Bogor, Jawa Barat. *Publikasi Kegiatan Abdimas*, 63–69.
- Nasriani. (2022). Analisis Penggunaan Literasi Digital Sebagai Media Pembelajaran Guru di SD Negeri 2 Tambun. *Formosa Journal of Social Sciences (FJSS)*, 1(2), 151–166.
- Nur, H. M., & Fatonah, N. (2022). Paradigma Kompetensi Guru. *Jurnal PGSD UNIGA*, 1(1), 12–16.
- Partono, Wardhani, H. N., Setyowati, N. I., Tsalitsa, A., & Putri, S. N. (2021). Strategi Meningkatkan Kompetensi 4C (Critical Thinking, Creativity, Communication, & Collaborative). *Jurnal Penelitian Ilmu Pendidikan*, 14(1), 41–52.
- Peraturan Menteri Pendidikan Nasional. (2007). *Peraturan Menteri Pendidikan Nasional tentang Standar Kualifikasi dan Kompetensi Guru*.

- Pratama, R. A., Pratiwi, I. M., Lestari, N. I., & Saputra, M. A. (2022). Student Teachers' Readiness to Face Society 5.0 Challenges: Are They Ready to Teach with Competencies Needed? *Universitas Lampung International Conference on Sosial Sciences (ULICoSS 2021)*, 628, 470–476.
- Rahayu, K. N. S. (2021). Sinergi Pendidikan Menyongsong Masa Depan Indonesia di Era Society 5.0. *Edukasi: Jurnal Pendidikan Dasar*, 2(1), 87–100.
- Rahmawati, A., & Nartani, C. I. (2018). Kompetensi Sosial Guru dalam Berkomunikasi Secara Efektif dengan Siswa Melalui Kegiatan Pembelajaran Bahasa Indonesia Di SD Negeri Rejowinangun 3 Kotagede Yogyakarta. *Trihayu: Jurnal Pendidikan Ke-SD-An*, 4(3), 388–392.
- Ririen, D., & Daryanes, F. (2022). Analisis literasi digital mahasiswa. *Research and Development Journal of Education*, 8(1), 210–219.
- Sukraini, N. W. (2020). Developing Students' Essential Skills in Preparation for Society 5.0. *Prosiding Webinar Nasional IAHN-TP Palangka Raya 2020*, 0, 1–14.
- Susanto, S. N. (2021). Analisis Kemampuan Literasi Digital Mahasiswa FKIP Dalam Pembelajaran Daring Berbasis Virtual Di Era Kenormalan Baru. *Transformasi Pembelajaran Nasional 2021*, 1, 339–346.
- Teknowijoyo, F., & Marpelina, L. (2021). Relevansi Industri 4.0 dan Society 5.0 Terhadap Pendidikan Di Indonesia. *Educatio: Jurnal Ilmu Kependidikan*, 16(2), 173–184. <https://doi.org/10.29408/edc.v16i2.4492>.
- UNICEF. (2021). *Digital Literacy in Education Systems Across ASEAN*.
- Usmaedi. (2021). Education Curriculum for Society 5.0 in The Next Decade. *Jurnal Pendidikan Dasar Setiabudhi*, 4(2), 63–79.
- Yamin, M., & Fakhrunnisaa, N. (2022). Persepsi Literasi Digital Mahasiswa Calon Guru IAIN Palopo. *SAP (Susunan Artikel Pendidikan)*, 7(1), 1–9. <https://doi.org/10.30998/sap.v7i1.13294>.
- Yashalova, N. N., Shreider, N. V., & Yakovleva, E. N. (2019). Digital Literacy in Society: The Situation, Problems, and Prospects at the Current Stage of Scientific and Technical Progress. *Scientific and Technical Information Processing*, 46(4), 213–218. <https://doi.org/10.3103/S014768821904004X>.