Learning in The Digital Era: Perception of the Physical Education, Health, and Recreation Students (*Penjaskesrek*)

Yulinar[1,2*], Amung Ma'mun[3], Yunyun Yudiana[4], Nuryadi[5], Putri Dini Meutia[6]

[1,2,3,4] Universitas Pendidikan Indonesia, Bandung, Indonesia

[1,6] Universitas Abulyatama, Aceh Besar, Indonesia

*yulinar.por@upi.edu

ABSTRACT

The development of education in the digital era continues to be balanced according to the needs in the world of education as well as in learning physical education, sports and health. Awareness of the need for change following trends, this study examines the responses of physical education students to physical education learning in the digital era. The purpose of this study was to determine the perceptions of physical education students towards physical education learning in the digital era. Qualitative research methods using online questionnaires or google forms, subjects were physical education students of the FKIP Abulyatama University. The results of the study conducted by students generally already use sophisticated cellphones so that they already understand a lot about digital and often access various references for lectures. According to students, as a professional teacher, they must follow trends so that the teacher's obligations in educating students in the intellectual, social, and emotional fields can be carried out effectively. Teachers who improve themselves in digital resources make it easier for students to understand various things in the outside world. The digital era is an era of change in the 4.0 and 5.0 eras. In the digital era, there are also many innovations found in the field of education, especially in the fields of teaching and learning. In the learning process, there are many applications that can be downloaded as supporting materials. Professional teachers are also able to bring students to be valuable with innovations put forward by students through the guidance of their teachers. There needs to be further research or a community service activity in improving competence in the learning process in the digital era.

Keywords: *Physical education, health, and recreation, learning, digital era*

1.   INTRODUCTION

The era or era always changes according to the needs of every human being. Changes occur in human life in various fields such as industry, economy, social, even in the world of education also changes in the process (Nur et al., n.d.., Tan et al., 2025). These changes are accompanied by the need to move towards a new era that is more advanced and easier to do various things. The needs of this era are towards a change towards digital. In the industrial world such as transportation and logistics, digital competence is characterized by the use of GPS technology for routing, digital inventory systems are used as stock control, or automated software in optimizing routine supply operations (Ramstedt Stadin et al., 2024). The impact of changes towards digital can be studied from changes in academic views, the impact of these changes can be seen in changes in learning methods and evaluation systems used (Kulal et al., 2024). In addition to education, Ramstedt Stadin et al., (2024) in the world of work, changes are also made to the process and way of working using digital, making it easier to do various things in the work process in the office. In the leadership process, digital is also very important for the success of every digital transformation initiative (Elia et al., 2024). Leadership in the world of education is also being renewed with the use of digital in building an effective education system that is directly related to academic leadership, a multifaceted concept that differs from one environment to another (Anwar & Saraih, 2024). It is true that in today's society, digital technology is also continuing to develop, and at the same time, the chip manufacturing industry is also changing rapidly (Xu, 2024). In addition, in emotional intelligence (EI), the role of digital technology has also begun to attract interest in academic literature, there are many things that are interesting to academics in terms of how technology can influence or be influenced by EI, including how technology can contribute to EI and its assessment (Audrin & Audrin, 2024). The change towards digital actually

makes it very easy to do various things that are considered important to develop, especially in the development of technology in the learning process.

Núnez-Canal in Dang et al., (2024). emphasized that the integration of technology in the teaching and learning process has been shown to have a significant impact on student learning outcomes. The transformation of digital and the Internet is something that greatly influences the integration of technology and gets more results for students in supporting their education and preparation for the future in the workplace (Techataweewan & Prasertsin, 2018). Technological changes present their own challenges for teaching professionals at two levels: the first level, developing digital competencies for themselves, and the second level is developing teaching activities that can equip all students taught with the competencies needed for students to succeed in the digital world (Hämäläinen et al., 2021).

Lim as cited in (Yao & Wang, 2024) emphasized that "educational environment, digital literacy refers to digital literacy that includes the ability to demonstrate innovation, curiosity, expedition, collaboration, and critical thinking skills in the context of digital technology". Current developments are also about the use of AI technology to increase efficiency and productivity and application programs in the context of education which are carried out with the aim of improving the teaching, learning, and decision-making processes (Yao & Wang, 2024). The importance of using digital in education is felt by students, especially those majoring in the Physical Education, Health, and Recreation (*Penjaskesrek*) program at the Faculty of Teacher Training and Education (FKIP) Abulayatama University. The learning process has so far been carried out in a hybrid manner, namely offline and online. In the teaching process in learning using digital such as online learning, this has an impact on diverse instructors, forming professional identities and also bringing problems and opportunities, which further emphasizes the dynamic nature of identity construction (El-Soussi, 2025). As a student who will later become a teacher at school, they should be able to have a view of digital developments, especially in the process of learning Physical Education, Health and Recreation (*Penjaskesrek*) at school. The digital learning process at school for each lesson is different according to the students' needs. In *Penjaskesrek* learning itself, the use of digital can be seen for reference both on the website and through various applications about *Penjaskesrek* learning.

The purpose of this study itself was conducted to find out about the responses of *Penjaskesrek* students to the learning process in the field of *Penjaskesrek* in the digital era. The lessons are argued to have sufficient duration and series of things to develop and implement instructional design, with learning content focused on games (Raluca, 2015).

Its implementation in student planning in carrying out the *Penjaskesrek* learning process in the digital era, the use of digital technology so that the *Penjaskesrek* learning process becomes innovative and superior. Students who take part in *Penjaskesrek* learning become more creative and understand learning easily by repeating their own learning with the help of various references sourced from the use of technology. As is known, Techataweewan & Prasertsin (2018) in their research stated that digital literacy has a positive effect on student skills, the important thing is for successful learning. Digital literacy itself in their research consists of a dynamic combination of a set of thoughts, behaviors, and skills used to change and improve undergraduate students through the use of digital information, technology, and media. Kulal et al. (2024) in their study also investigated the field of distance education, exploring the complex dynamics of digital access, equality, and inclusivity, with a particular focus on its influence on learning outcomes. The results obtained from the analysis were that the perception was generally positive towards digital learning, with some variability in aspects such as accessibility of learning materials and internet connectivity. In the leadership process using digital also makes the process easier. This approach can be done with collaborative projects emphasizing responsibility with the use of digital tools, promoting critical thinking, effective communication, and ethical problem-solving skills in online environments (Mekheimer & Abdelhalim, 2025).

2. METHODS

This research is qualitative research. According to Moelong in Hanik & Ag (2020), "qualitative research is research that produces descriptive data in the form of written or spoken words from people or observed behavior". The sample used in this study were physical education students who were in semester V, VII as many as 39 respondents. The data collection technique used a questionnaire via Google Form. Arikunto (as cited in Yulinar et al., 2023) explained that questionnaires or questionnaires have the advantage as data collection instruments. The questionnaire distributed is an adapted questionnaire from Dang et al. (2024) which consists of points of professional involvement, competence in digital resources, teaching and learning competence, learning assessment competence. empowering student competence, competence in facilitating student digital competence, educational experience, learning value. The research analysis itself uses descriptive analysis techniques using percentage calculations from the results of the questionnaire distributed to students.

3. RESULTS & DISCUSSION

The research results collected based on the Google Form questionnaire distributed to students can be explained in Table 1 below;

Table 1. Research Questionnaire Summary Results

No.	Variables	Results
1.	Use of smartphones ● Android ● iPhone	97,4% (38) 2,6% (1)
2.	Professional Involvement	97,4% (38) 2,6% (1)
3.	Competence in Digital Resources,	89,7 % (35) 10,3 % (4)
4.	Teaching and Learning Competence,	89,7% (35) 10,3% (4)
5.	Assessment Competency Learning	87,2 % (34) 12,8 % (5)

Generally, the students of *Penjaskesrek* at FKIP Universitas Abulyatama use Android phones and only a few use iPhones. Students understand the importance of being a professional teacher in their field, in this case understanding the teaching profession, namely teaching according to the learning material and not deviating from the learning process. Munawir et al., (2023) explained that a professional teacher is a teacher who has expertise and abilities in educating from various aspects including intellectual, emotional and spiritual. These abilities are things that a teacher must have so that it can be said that the teacher is included in the professional category. Professional teachers in the digital era because the role of teachers is very influential in the world of education, namely shaping students into intelligent and dignified civilized human beings (Sari, 2017; Gunawan & Imam, 2023). Students also admitted that in the learning process during lectures they also often access various references for lecture materials, students emphasized that by accessing learning materials on the website for teachers it can also be one way to add learning materials.

As a teacher, according to students, they must also have competitive resources in the digital field, so a teacher must follow the development trends of the times in terms of the teaching and learning process. A teacher

in the digital era is expected to be able to keep up with the changes that occur so that teachers are able to innovate in the 4.0 era and in the 5.0 era where humans are placed as centers of creativity and innovation that are highly competitive so that as a teacher they can meet the demands for student development towards a better direction (Sitompul, 2022; Sri Munianti, 2022; Humaira & Aprison, 2024). Students also stated that as a reference in the learning process, teachers can see comparisons of education in foreign countries so that teachers remain innovative.

The results of the questionnaire search distributed via google form to physical education and health students of the FKIP Abulyatama University confirmed that as a teacher, it is necessary to have teaching and learning competencies, this can be stated from the percentage obtained, namely 89.7% or 35 students who chose while the others were 10.3% or 4 people. The results of the questionnaire search Most students stated that teachers need to use applications to help improve learning materials and according to students it is important for a teacher to look for various references on the website or download applications about various learning techniques on the Playstore or Apple App Store to support the learning and teaching process. Adawiyah & Rindaningsih, (2024) explained that the need and development of professionalism of a teacher is important, especially in mastering AI, this can support the professionalism of a teacher in keeping up with the times. The development of the digital era, especially in AI, can help teachers, students and even students in supporting their learning process (Rusman et al., 2024).

Teachers in the learning process, especially in improving student grades, including developing talents and increasing innovation in the field of education, are very important. This was studied from the perception of physical education students at the FKIP Abulyatama University, as many as 87.2% (34) people chose the importance of digital in improving students' innovative values and also empowering students to be creative. Maulana et al., (2025) explained that digital for the younger generation is a challenge that must be carried out as an effort to become more innovative. The ability of teachers in the digital era can produce many young generations who are critical, adaptive and socially intelligent, which is a demand in the era of development 4.0 (Sitompul, 2022).

4.   CONCLUSION

The results of the study were based on the perception of *Penjaskesrek* students at FKIP Abulyatama that students already use sophisticated mobile phones and are able to operate laptops. In the category of professional involvement, according to students, they agree that a teacher needs to carry out his duties professionally so that each subject taught gets results that can follow the latest trends in education. In the competency in digital resources, students agree that teachers are able to collaborate on various current study materials to be taught to their students. Teachers should also not be inferior to the digital era and be able to follow the changes in the era of 4.0 and 5.0. In fact, a teacher basically must be able to teach students intellectually, socially and emotionally, this is the competence of teaching and learning in schools. Students are able to develop various innovations accompanied by a professional teacher in their field. If students have good innovation and competitiveness, these students have good grades, especially in the assessment of their competencies.

5.   ACKNOWLEDGMENTS

digital era or if there is any information dissemination or training for teaching in the digital era, finding, and preparing various learning materials from the internet, PlayStore, Apple app store.

REFERENCES

Adawiyah, R., & Rindaningsih, I. (2024). Strategi Pelatihan dan Pengembangan Guru di Era. *Alhikam Journal of Multidisciplinary Islamic Education*, *5*(2).

Anwar, S., & Saraih, U. N. (2024). Digital leadership in the digital era of education: enhancing knowledge sharing and emotional intelligence. *International Journal of Educational Management*, *38*(6), 1581–1611. https://doi.org/10.1108/IJEM-11-2023-0540

Audrin, C., & Audrin, B. (2024). Emotional intelligence in digital interactions – A call for renewed assessments. *Personality and Individual Differences*, *223*. https://doi.org/10.1016/j.paid.2024.112613

Dang, T. D., Phan, T. T., Vu, T. N. Q., La, T. D., & Pham, V. K. (2024). Digital competence of lecturers and its impact on student learning value in higher education. *Heliyon*, *10*(17). https://doi.org/10.1016/j.heliyon.2024.e37318

Elia, G., Solazzo, G., Lerro, A., Pigni, F., & Tucci, C. L. (2024). The digital transformation canvas: A conceptual framework for leading the digital transformation process. *Business Horizons*, *67*(4), 381–398. https://doi.org/10.1016/j.bushor.2024.03.007

El-Soussi, A. (2025). Teacher identity continuum: A framework for teacher identity shifts online. *International Journal of Educational Research Open*, *8*. https://doi.org/10.1016/j.ijedro.2024.100411

Gunawan, A., & Imam, I. K. (2023). Guru Profesional: Makna dan Karakteristik. *Cendekia Inovatif Dan Berbudaya*, *1*(2), 181–185. https://doi.org/10.59996/cendib.v1i2.256

Hämäläinen, R., Nissinen, K., Mannonen, J., Lämsä, J., Leino, K., & Taajamo, M. (2021). Understanding teaching professionals' digital competence: What do PIAAC and TALIS reveal about technology-related skills, attitudes, and knowledge? *Computers in Human Behavior*, *117*. https://doi.org/10.1016/j.chb.2020.106672

Hanik, H. U., & Ag, M. (2020). *Persepsi stakeholders terhadap identitas dan citra program studi ilmu hadits IAIN Kediri*.

Humaira, F., & Aprison, W. (2024). Kompetensi literasi digital pendidik di era society 5.0. *Adiba: Journal of Education*, *4*(1), 29–38.

Kulal, A., Dinesh, S., Abhishek, N., & Anchan, A. (2024). Digital access and learning outcomes: A study of equity and inclusivity in distance education. *International Journal of Educational Management*, *38*(5), 1391–1423. https://doi.org/10.1108/IJEM-03-2024-0166

Maulana, A., Endrawati Subroto, D., Putri Asriyani, A., & Hamdah, S. (2025). Kompetensi Guru dalam Pembelajaran di Era Digital. *Jurnal Pendidikan dan Sosial Humaniora*, *3*, 107–114. https://doi.org/10.59061/guruku.v3i1.895

Mekheimer, M., & Abdelhalim, W. M. (2025). The digital age students: Exploring leadership, freedom, and ethical online behavior: A quantitative study. *Social Sciences and Humanities Open*, *11*. https://doi.org/10.1016/j.ssaho.2025.101325

Munawir, M., Erindha, A. N., & Sari, D. P. (2023). Memahami Karakteristik Guru Profesional. *Jurnal Ilmiah Profesi Pendidikan*, *8*(1), 384–390. https://doi.org/10.29303/jipp.v8i1.1108

Nur, M., Muhamad, A., Syam, I., Yulinar, H., Arhesa, S., Nugraheni, W., Umaran, U., Saeful, R., Argian, B., Taufik, R., & Hardiansyah, S. (n.d.). *Inovasi Pendidikan Olahraga*.

Raluca, M. (2015). Motor Games, Social Learning Alternative Content in Physical Education Lesson. *Procedia - Social and Behavioral Sciences*, *180*, 1289–1296. https://doi.org/10.1016/j.sbspro.2015.02.266

Ramstedt Stadin, M., Asplund, S., Nyman, T., Svartengren, M., & Hellman, T. (2024). Digital competence is a must: Manager and safety representative perspectives on evolving job skills and balancing digital work environments in transportation, logistics, and home care. *Computers in Human Behavior Reports*, *16*. https://doi.org/10.1016/j.chbr.2024.100486

Rusman, I., Nurmala, Nurasti, Rahmadania, Wahyuni, & Qadrianti, L. (2024). Peran Kecerdasan Buatan dalam Pembelajaran di Era Digital. *Prosiding Seminar Nasional Fakultas Tarbiyah dan Ilmu Keguruan IAIM Sinjai*, *3*, 42–46. https://doi.org/10.47435/sentikjar.v3i0.3138

Sari, N. (2017). Menjadi guru profesional di era globalisasi. *https://Jurnal.Univpgri-Palembang.Ac.Id/Index.Php/Prosiding/Article/View/1227/1049*.

Sitompul, B. (2022). Kompetensi Guru dalam Pembelajaran Di Era Digital. *Jurnal Pendidikan Tambusai*, *6*, 13953–13960.

Sri Munianti. (2022). Pentingnya pengembangan kompetensi guru di era digital. *JSG: Jurnal Sang Guru*, *1*, 230–234. https://ejournal.uinib.ac.id/jurnal/index.php/jsg/index

Tan, Y., Jiang, G., Merajuddin, S. S., & Zhao, F. (2025). Analyzing the impact of digital technology on consumers' travel intentions. *Journal of Innovation and Knowledge*, *10*(2). https://doi.org/10.1016/j.jik.2025.100685

Techataweewan, W., & Prasertsin, U. (2018). Development of digital literacy indicators for Thai undergraduate students using mixed method research. *Kasetsart Journal of Social Sciences*, *39*(2), 215–221. https://doi.org/10.1016/j.kjss.2017.07.001

Xu, Y. (2024). Intelligent e-learning system in the development of preschool music education based on digital audio technology. *Entertainment Computing*, *50*, 100682. https://doi.org/10.1016/J.ENTCOM.2024.100682

Yao, N., & Wang, Q. (2024). Factors influencing pre-service special education teachers' intention toward AI in education: Digital literacy, teacher self-efficacy, perceived ease of use, and perceived usefulness. *Heliyon*, *10*(14). https://doi.org/10.1016/j.heliyon.2024.e34894

Yulinar, Y., Nugraheni, W., Taufiq, A., Yustina, Y.R., & Lubis, S.P.W. (2023). Pemahaman Mahasiswa Terhadap MBKM: Pelaksanaan dan Program MBKM. *Dedikasi Pendidikan*.