



Original article

## Assistance using mobile learning applications to improve skills physical education teacher in the 4.0 era

Silvi Aryanti<sup>1(\*)</sup>, Hartati<sup>2</sup>, Destriana<sup>3</sup>, Ahmad Richard Victorian<sup>4</sup>, Edi Setiyo<sup>5</sup>, Fitri Agung Nanda<sup>6</sup>, Destriani<sup>7</sup>, Samsul Azhar<sup>8</sup>, Dewi Motik<sup>9</sup>

<sup>1.2.3.4.5.6.7.8.9</sup>Physical Education, Health and Recreation, Faculty of Teacher Training and Education, Universitas Sriwijaya

[silviaryanti@fkip.unsri.ac.id](mailto:silviaryanti@fkip.unsri.ac.id)<sup>1(\*)</sup>, [hartati@fkip.unsri.ac.id](mailto:hartati@fkip.unsri.ac.id)<sup>2</sup>, [destriana@fkip.unsri.ac.id](mailto:destriana@fkip.unsri.ac.id)<sup>3</sup>, [richardvictorian@fkip.unsri.ac.id](mailto:richardvictorian@fkip.unsri.ac.id)<sup>4</sup>, [edisetiyo@unsri.ac.id](mailto:edisetiyo@unsri.ac.id)<sup>5</sup>, [fitriagungnanda16@fkip.unsri.ac.id](mailto:fitriagungnanda16@fkip.unsri.ac.id)<sup>6</sup>, [destriani@fkip.unsri.ac.id](mailto:destriani@fkip.unsri.ac.id)<sup>7</sup>, [samsulazhar35@gmail.com](mailto:samsulazhar35@gmail.com)<sup>8</sup>, [Motikdewi7@gmail.com](mailto:Motikdewi7@gmail.com)<sup>9</sup>

### ABSTRACT

*The aim of this research is to evaluate the effectiveness of support in the utilization of mobile learning applications among 38 Physical Education, Sports, and Health Teachers in Lahat Regency. Employing a quantitative descriptive methodology through a survey approach, the research encompasses pre-test and post-test assessments. During the pre-test phase, the results highlight a deficiency in teachers' knowledge regarding mobile learning applications, specifically in comprehending their purpose and operational functionalities. Nonetheless, the post-test outcomes signify a significant enhancement, revealing that the teachers developed awareness and proficiency in utilizing mobile learning applications. They demonstrated an improved understanding of the applications' objectives and acquired the necessary skills for their effective implementation. The transition from the pre-test to the post-test phase signifies the success of the provided assistance in bridging the knowledge gap among the teachers. This implies that the intervention, likely delivered in the form of training or guidance, positively influenced the participants' comprehension and utilization of mobile learning applications. The research findings underscore the critical role of targeted support in augmenting educators' familiarity with technology, ultimately contributing to the seamless integration of mobile learning tools in educational settings. Consequently, this study makes a noteworthy contribution to the ongoing discourse on the significance of mobile applications in pedagogy, particularly within the domain of Physical Education, Sports, and Health.*

**Keywords:** mobile learning, physical education, era 4.0.

Received: 2023-11-06; Accepted: 2023-12-25; Published: 2023-21-31

© 2023 Universitas Suryakencana, e-ISSN: 2721-7175(online), p-ISSN: 2089-2341 (print)



Jurnal Maenpo: Jurnal Pendidikan Jasmani Kesehatan dan Rekreasi, this work in Universitas suryakencana is licensed under a [Creative Commons Attribution-ShareAlike 4.0 International License](https://creativecommons.org/licenses/by-sa/4.0/).

## INTRODUCTION

Implementing the 2013 curriculum requires teacher readiness to face learning changes. Teacher readiness can be linked to the success of learning with curriculum changes when implementing student learning in the classroom. Requires the teacher's ability to prepare learning media so that student competency can be achieved. Apart from teacher readiness, student readiness to accept learning changes is very important in achieving competency (Wahyuningtyas, Dyah Tri, 2017). Innovations in learning media represent one of the ways to capture the attention and enhance students' motivation in the school learning process . The educational process in the education unit focuses on learning in each subject.

Implementation of the 2013 curriculum by utilizing technological developments for learning in schools. (Anita et al., 2022) Technology is experiencing development as seen by many people using technology in various fields. (Junanto & Afriani, 2016) increasingly advanced technological developments are bringing changes to the world of education, not only experiencing changes in curriculum content but also changes in pedagogy, namely changes that encourage the birth of technology-based teaching, not just traditional teaching. (Aryanti et al., 2022) Learning at every level of education in the current era has utilized sophisticated technological developments in order to obtain the latest information.

The main pillar of the Industrial Revolution Era 4.0 is education. It is found that many elementary school students in Indonesia have been given cellphones by their parents along with good internet access. With cellphones, elementary school students can access the results of technological advances in the Industrial Revolution Era 4.0 in the field of education (Sur, Widiya Astuti Alama, Minhatul Hasanah, 2020) The Industrial Revolution 4.0 era is an era where knowledge and technology develop very quickly resulting in rapid and competitive change (Yusnaini dan Slamet, 2019). Teachers as educators in learning in the Education 4.0 era must have strong soft skills, including: critical thinking, creative, communicative and collaborative (Lubis M, 2020) Teacher education 4.0 does not only change the way of teaching but must be able to improve and adjust competence, quality and professionalism. It can be concluded that in the era of the

industrial revolution 4.0, it has been implemented in the world of education so that it has undergone changes, namely with the presence of technology.

The use of technology in the field of education can use mobile learning. (Ismaili & Ibrahimi, 2017) Mobile learning, utilizing smartphones and tablets, particularly in the context of mobile learning, offers an alternative solution for accomplishing educational objectives. (Samsinar, 2021) Mobile learning involves the utilization of tablets, smartphones, and laptops as personal digital assistant devices. The effective implementation of mobile learning necessitates teachers to possess proficiency in operating these devices and adeptly designing digital-based teaching materials. (Hasanudin et al., 2021) As science and technology advance, there is a concurrent evolution in the format of educational materials. Teaching materials based on mobile learning have become prevalent and are extensively employed in the educational process.

The novelty is that physical education and health teachers can use mobile learning applications. The identified research challenge in this domain is the lack of awareness among Physical Education Teachers in Lahat regarding mobile learning applications. Additionally, these teachers have yet to integrate mobile learning applications into the school's learning processes, relying primarily on traditional printed textbooks. This situation underscores a critical gap in embracing contemporary educational technologies, creating an opportunity for intervention and implementation of mobile learning applications within the educational landscape of Lahat. Addressing this gap holds the promise of not only enhancing teachers' awareness but also revolutionizing the pedagogical approaches used in physical education and health, fostering a more dynamic and engaging learning environment for students.

Based response to this research problem, there is an inclination to initiate the implementation of Mobile Learning Applications with Physical Education Teachers in Lahat. The incorporation of mobile learning is anticipated to assist students in comprehending the material by diversifying its presentation, thereby addressing the existing gap in the current teaching methods.

## METHOD

This research is quantitative descriptive research using the survey method. The research method employed is descriptive research with a quantitative approach. According to Sugiyono (2019) descriptive research is conducted to determine the values of independent variables, either one or more, without making comparisons or linking them to other variables. In other words, it is aimed at understanding and describing the independent variables without establishing comparisons or associations with other variables. The sample for this research was 38 Physical Education and Health Teachers in Lahat. This research was carried out at Lahat 5 Junior High School on 1-30 September 2023. The Questionnaire Instrument distributed to Physical Education Teachers in Junior High Schools is as follows:

Table 1. Questionnaire Pre- test Assistance in Using Mobile Learning Applications

Instrument Pre-Test Questions Assistance in Using Mobile Learning Applications	Amount	Percentage (%)
Are you interested in learning using the Mobile Learning Application?	38	100
Do you learn using the Mobile Learning Application at your school?	38	100
Do you understand about Mobile Learning Applications?	38	100
Do you know about Mobile Learning Applications?	38	100
Do you need additional technical training and assistance regarding the use of the Mobile Learning Application?	38	100
Do you know about the purpose of the Mobile Learning Application?	38	100
Do you know the meaning of Mobile Learning Applications?	38	100
Do you know/understand the use of the Mobile Learning Application?	38	100
Do you know how to operate the Mobile Learning Application?	38	100
Are you and your group willing to collaborate with the Physical Education and Health study program regarding assistance in using the Mobile Learning Application?	38	100

Table 2. Post-Test Assistance in Using Mobile Learning Applications

Instrument Post-Test Questions Assistance in Using Mobile Learning Applications	Amount	Percentage (%)
Are you interested in learning using the Mobile Learning Application?	38	100
Do you learn using the Mobile Learning Application at your school?	38	100
Do you understand about Mobile Learning Applications?	38	100
Do you know about Mobile Learning Applications?	38	100
Do you need additional technical training and assistance regarding the use of the Mobile Learning Application?	38	100
Do you know about the purpose of the Mobile Learning Application?	38	100
Do you know the meaning of Mobile Learning Applications?	38	100
Do you know/understand the use of the Mobile Learning Application?	38	100
Do you know how to operate the Mobile Learning Application?	38	100
Are you and your group willing to collaborate with the Physical Education and Health study program regarding assistance in using the Mobile Learning Application?	38	100

Based on the table 1 and 2, this study was conducted by distributing questionnaires to physical education teachers, with a total of 38 teachers in Lahat. The purpose was to collect data on the effectiveness of support in utilizing mobile learning applications. The questionnaire consisted of 10 categories of questions, totaling 38 items, with a percentage scale of 100% for the trial. Subsequently, the data obtained from the questionnaires were analyzed using SPSS to determine the research findings on the use of mobile learning applications among physical education teachers in Lahat.

## RESULTS AND DISCUSSION

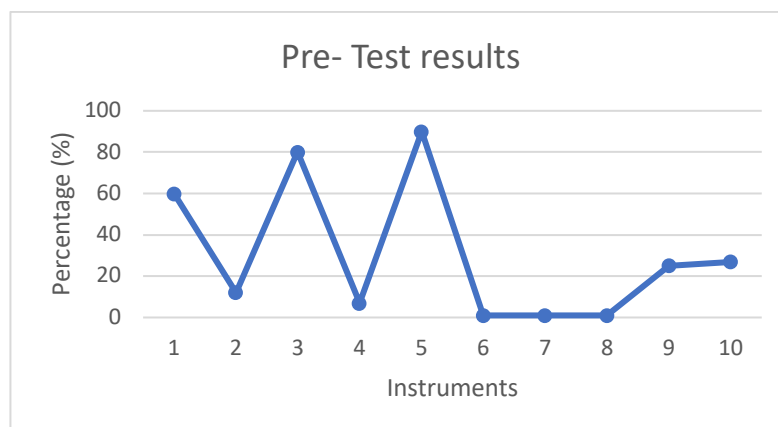
### Result

This research activity was carried out in two stages, namely Pre-Test and Post to find out about the use of Mobile Learning applications among Physical Education Teachers in Lahat.

Table 3. The Pre-Test results are as follows:

Instrument Pre-Test Questions Assistance in Using Mobile Learning Applications	Amount	Percentage (%)
Are you interested in learning using the Mobile Learning Application?	38	60
Do you learn using the Mobile Learning Application at your school?	38	12
Do you understand about Mobile Learning Applications?	38	80
Do you know about Mobile Learning Applications?	38	7
Do you need additional technical training and assistance regarding the use of the Mobile Learning Application?	38	90
Do you know about the purpose of the Mobile Learning Application?	38	1
Do you know the meaning of Mobile Learning Applications?	38	1
Do you know/understand the use of the Mobile Learning Application?	38	1
Do you know how to operate the Mobile Learning Application?	38	25
Are you and your group willing to collaborate with the Physical Education and Health study program regarding assistance in using the Mobile Learning Application?	38	27

Based on Table 3, Instrument 1 yielded a result percentage of 60%, Instrument 2 achieved 12%, Instrument 3 attained 80%, Instrument 4 obtained 7%, Instrument 5 reached 90%, Instruments 6, 7, 8 collectively scored 1%, Instrument 9 registered 25%, and Instrument 10 secured 27%. For a clearer overview, please refer to the following graph:



**Graph 1. Pre- Test Results**

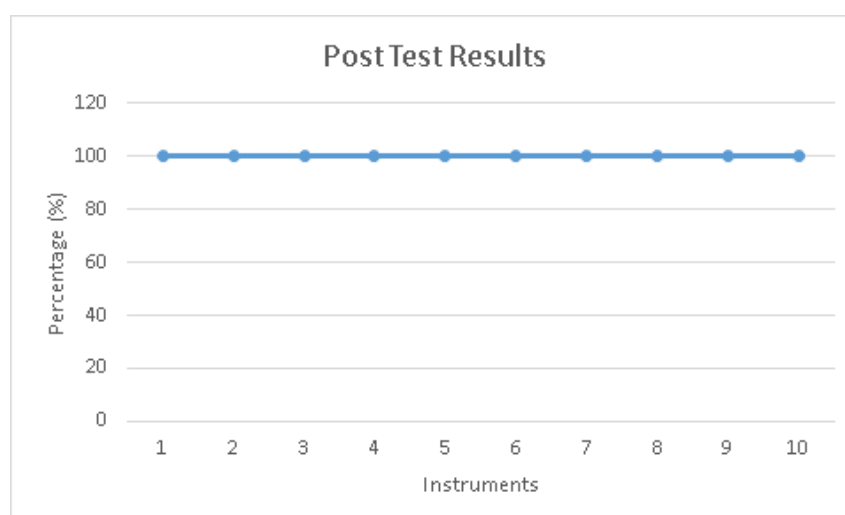
Based on the results of the pre-test questionnaire, it can be seen that Physical Education Teachers in Lahat do not know about mobile learning applications starting from how to use them and the purpose of using them. However, Physical Education teachers are interested in using mobile learning applications, apart from that, teachers need assistance on how to use mobile learning applications.

Table 4. The Post-Test results are as follows:

Instrument Post-Test Questions Assistance in Using Mobile Learning Applications	Amount	Percentage (%)
Are you interested in learning using the Mobile Learning Application?	38	100
Do you learn using the Mobile Learning Application at your school?	38	100
Do you understand about Mobile Learning Applications?	38	100
Do you know about Mobile Learning Applications?	38	100
Do you need additional technical training and assistance regarding the use of the Mobile Learning Application?	38	100
Do you know about the purpose of the Mobile Learning Application?	38	100
Do you know the meaning of Mobile Learning Applications?	38	100
Do you know/understand the use of the Mobile Learning Application?	38	100

Do you know how to operate the Mobile Learning Application?	38	100
Are you and your group willing to collaborate with the Physical Education and Health study program regarding assistance in using the Mobile Learning Application?	38	100

Based on the table 4, the results this implies that the mobile learning application has a 100% effectiveness in assisting 38 physical education teachers in Lahat in utilizing instructional media. For a more detailed understanding, please refer to the following graph:



**Graph 2.** Post- Test Results

Based on the Post Test results, it can be concluded that after being given the use of the Mobile Learning application, the Physical Education Teachers in Lahat are interested in using the Mobile Learning application, have understood the use of the Mobile Learning application, the purpose of using the mobile learning application.

## Discussion

Based on the results of the Pre-Test and Post Test, it can be seen that there has been an increase in Physical Education Teachers in Lahat. Initially, teachers did not know about the Mobile Learning Application. After being provided with



assistance, the Physical Education Teachers were interested and knew the purpose of using the mobile learning application. The use of mobile learning applications has a good impact on teachers in developing skills. The statement suggests that teachers demonstrated interest in and an understanding of the purpose behind using mobile learning applications. Additionally, the utilization of these applications has had a positive impact on teachers in terms of skill development.

In the discussion, one could explore the factors contributing to teachers' interest in mobile learning applications. This may include the accessibility and convenience offered by such applications, fostering engagement and participation. Furthermore, the discussion could delve into the specific purposes identified by teachers for using mobile learning apps, such as enhancing lesson delivery, promoting interactive learning, or providing supplementary resources. Mobile Learning has the concept of making the student's learning environment controllable and optimizing the learning area ([Hamdan & Ben-Chaban, 2013](#))

Regarding the positive impact on skill development, the discussion might elaborate on the specific skills that teachers have improved through the use of mobile learning applications. This could encompass technological proficiency, adaptability to new teaching methods, or the ability to create and deliver digital-based instructional materials effectively. ([Mac Callum et al., 2014](#)) Mobile learning is easy to use and has an impact on lecturer behavior during learning.

Additionally, the discussion could touch upon any challenges faced by teachers during the adoption of mobile learning applications, as well as potential strategies for overcoming these challenges. Overall, the goal would be to provide a comprehensive understanding of how teachers' interest and utilization of mobile learning applications contribute to their professional development and the effectiveness of their teaching practices. According to ([Aryanti & Azhar, 2022](#)) when used, mobile learning applications have a positive impact so that learning goals can be achieved for students. With the advancing world of technology, there has been a global surge in the use of mobile devices, especially smartphones. This trend is also evident in the field of education. The development of learning through the utilization of mobile and handheld technology, now widely recognized as mobile learning, promises true independence in terms of time and place. The

adoption of mobile learning not only provides flexibility but also contributes to enhancing students' learning motivation (Sonego, et al., 2016).

## CONCLUSION

Based on the results of research conducted regarding assistance in using the Mobile Learning Application to Physical Education and Health teachers in Lahat Regency, it can increase knowledge and is expected to improve student learning outcomes using the technology-based learning media developed.\

## ACKNOWLEDGMENTS

Thank you to the Chancellor of Universitas Sriwijaya and the Institute for Research and Community Service for funding this community service activity. Sriwijaya University Public Service Agency DIPA Budget for Fiscal Year 2023 SP DIPA-023.17.2.677515/2013, dated 10 May 2023 in accordance with the Decree of the University Chancellor Number 0005/UN9/SK.LP2M.PM/2023 dated 20 June 2023 and Agreement/Contract Number 0034.105/UN9/SB3.LP2M.PM/2023 Date 17 July 2023.

## REFERENCE

- Anita, Y., Arwin, A., Ahmad, S., Helsa, Y., & Kenedi, A. K. (2022). Pelatihan Pengembangan Bahan Ajar Digital Berbasis HOTS Sebagai Bentuk Pembelajaran Di Era Revolusi Industri 4.0 Untuk Guru Sekolah Dasar. *Dedication : Jurnal Pengabdian Masyarakat*, 6(1), 59–68. <https://doi.org/10.31537/dedication.v6i1.658>
- Aryanti, S., & Azhar, S. (2022). *Uji Coba Skala Kecil : Implementasi Aplikasi Mobile Learning Materi Bulu Tangkis Small Scale Trials : Implementation of Mobile Learning Applications for Badminton Materials*. 11(2), 311–318.
- Aryanti, S., Azhar, S., Tangkudung, J., Yusmawati, Ilahi, B. R., & Okilanda, A. (2022). Teaching Games for Understanding (TGfU) Model Learning for Overhead Pass Volleyball in Elementary School Students. *International Journal of Human Movement and Sports Sciences*, 10(4), 677–682. <https://doi.org/10.13189/saj.2022.100407>
- Hamdan, K., & Ben-Chaban, Y. (2013). *An Interactive Mobile Learning Method to Measure Students performance*. <https://doi.org/10.5339/qproc.2013.mlearn.26>
- Hasanudin, C., Subyantoro, S., Zulaeha, I., & Pristiwati, R. (2021). Strategi Menyusun Bahan Ajar Inovatif Berbasis Mobile Learning untuk Pembelajaran Mata Kuliah Keterampilan Menulis di Abad 21. *Prosiding Seminar Nasional Pascasarjana*, 343–347.
- Ismaili, J., & Ibrahim, E. H. O. (2017). Mobile learning as alternative to assistive

- technology devices for special needs students. *Education and Information Technologies*, 22(3), 883–899. <https://doi.org/10.1007/s10639-015-9462-9>
- Junanto, T., & Afriani, R. (2016). Implementasi Digital-Age Literacy Dalam Pendidikan Abad 21 Di Indonesia. *Prosiding Seminar Nasional Pendidikan Sains*, 2016–2113. <https://media.neliti.com/media/publications/173402-ID-none.pdf>
- Lubis M. (2020). Peran Guru Pada Era Pendidikan 4.0. *Eduka : Jurnal Pendidikan, Hukum, Dan Bisnis*, 4(2).
- Mac Callum, K., Jeffrey, L., & NA, K. (2014). Factors Impacting Teachers' Adoption of Mobile Learning. *Journal of Information Technology Education: Research*, 13, 141–162. <https://doi.org/10.28945/1970>
- Samsinar, S. (2021). Mobile Learning Dalam Pembelajaran. *AL-GURFAH: Journal of Primary Education*, 4307(February), 1–5.
- Sur, Widiya Astuti Alama, Minhatul Hasanah, and M. R. M. (2020). Analisis Motivasi Belajar Mahasiswa Dengan Sistem Pembelajaran Daring Selama Masa Pandemi Covid-19. *Jurnal EQUATION Teori Dan Penelitian Pendidikan Matematika*, 3(2).
- Wahyuningtyas, Dyah Tri, and R. N. S. (2017). Pelatihan Media Pembelajaran Matematika Berdasarkan Kurikulum 2013 Bagi Guru Sekolah Dasar Di Gugus 9 Kecamatan Sukun Malang. *Jurnal Dedikasi*, 14, 8–11.
- Yusnaini dan Slamet. (2019). Era Revolusi Industri 4.0: Tantangan Dan Peluang Dalam Upaya Meningkatkan Literasi Pendidikan. *Prosiding Seminar Nasional Pendidikan Program Pascasarjana Universitas Pgri Palembang*, 12(01), 1073–85.
- CAMPOS, Alline C., et al. Cannabidiol, neuroprotection and neuropsychiatric disorders. *Pharmacological research*, 2016, 112: 119-127.