INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY RESEARCH AND ANALYSIS

ISSN(print): 2643-9840, ISSN(online): 2643-9875

Volume 08 Issue 01 January 2025

DOI: 10.47191/ijmra/v8-i01-51, Impact Factor: 8.22

Page No. 420-428

Mobile Learning Readiness and Pupils' Reading Performance

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ABSTRACT: Mobile learning, often referred to as M-learning, is an educational system that leverages mobile devices like smartphones, tablets, and other handheld gadgets to enable learning at any time and place. Being prepared for mobile learning involves several aspects, such as technological readiness, pedagogical strategies, and the learner's preparedness. This study investigated the level of mobile learning readiness and reading performance of Malitbog District I pupils in the Division of Bukidnon. Specifically, it aimed to describe mobile learning readiness in terms of basic readiness, skills readiness, and budget readiness, determine the pupils' reading performance, and ascertain the relationship between mobile readiness and the reading performance of pupils. Two hundred eighty (280) pupils were the respondents in the study. It was conducted in Malitbog District, Malitbog, Bukidnon. This study employed descriptive statistics such as frequency, mean, and standard deviation to determine the level of mobile readiness and pupils' performance. Pearson Product Moment Correlation was used to determine the relation between the variables. Findings revealed that the respondents' mobile readiness in terms of basic readiness was very high, while skills readiness and budget readiness were high. Moreover, the respondents' reading performance was at the instructional level. Furthermore, there was a significant relationship between mobile readiness and reading performance. It is recommended that pupils and teachers should explore educational apps, e-books, and online resources that can enhance reading skills.

KEYWORDS: Mobile learning readiness, reading performance

I. INTRODUCTION

Mobile learning, a type of distance education, allows learners to use portable devices to study from any location at any time. This approach holds great promise for situations where learners are spread out geographically, encouraging collaborative learning and engaging students with educational content. It can serve as an alternative to traditional books, computers, and campus lectures and facilitates timely information delivery. Originally designed for making and receiving calls, mobile phones have become powerful educational tools, enabling learning on the go and just in time.

It has spurred collaboration and control over content, which is no longer centered, and it allows pupils to produce, publish, and share information. The use of mobile device technology can actively engage pupils in the form of group collaboration (Rian & Kamisah, 2018). Mobile devices can also enhance social communication and interaction among users (Norazah & Helmi, 2018) through platforms like Google Docs, blogs, Facebook, and Twitter. However, the successful implementation of mobile learning depends on all stakeholders' full acceptance and readiness, particularly teachers.

Educators today encounter a variety of issues, situations, and challenges in their field. With new technology, information processing and assessment in learning and facilitation must adapt accordingly. Mobile phones are valuable tools in the educational process, and some schools have started integrating them into classroom learning and facilitation. However, this practice is still not common in elementary schools, indicating a research gap. Teacher education should integrate knowledge and pedagogy rather than treating them as separate components.

This study explored pupils' readiness for mobile learning as part of the effort to implement a 21st-century curriculum in elementary schools. It specifically examined how prepared students are for mobile learning and its impact on their reading performance. By evaluating their readiness, the research aims to help educators and policymakers identify gaps in access and digital literacy, as well as understand the importance of these factors in enhancing mobile reading performance.

II. METHODOLOGY

This study utilized a descriptive-correlational research design. It includes descriptive statistics and the relationship of the variables gathered from the two hundred eighty (280) grade IV, V and VI pupils of Malitbog District I, Malitbog, Bukidnon. The data was collected and analyzed quantitatively. This research design was used to describe the level of mobile readiness of pupils, their reading performance, and the relationship between the two (2) variables. Additionally, it described relationships among variables without seeking to establish a causal connection. A correlational research design investigates relationships between variables without the researcher controlling or manipulating any of them. It reflects the strength and/or direction of the relationship between two (or more) variables. The direction of a correlation can be either positive or negative (Bhandari, 2021.)

III. RESULTS AND DISCUSSION

Problem 1. What is the respondents' level of mobile learning readiness in terms of:

1.1 basic readiness;

1.2 skills readiness and

1.3 budget readiness

Table 1: Basic Readiness

Indicators	Mean	SD	Description	Interpretation
1. I have a mobile phone (Family-owned).	3.58	0.98	Strongly Agree	Very High
2. My mobile phone has a 4G service.	3.36	0.93	Strongly Agree	Very High
3. My mobile phone has Messenger App.	3.44	0.94	Strongly Agree	Very High
4. My mobile phone has a video call App.	3.48	0.95	Strongly Agree	Very High
5. I can do video calling using my phone.	3.14	0.90	Agree	High
6. I can access the internet using my phone.	3.28	0.91	Strongly Agree	Very High
7. I have a memory card to store files on my phone.	3.18	0.90	Agree	High
8. I can open files such as Word, pdf, excel, PowerPoint, video audio, picture, and graphics.	2.78	0.88	Agree	High
Overall	**3.28**	**0.92**	**Strongly Agree**	Very High

***Note*:** 3.26 – 4.00 Very High 2.51 – 3.25 High 1.76 – 2.50 Low 1.00 – 1.75 Very Low

Table 1 illustrates the respondents' readiness for mobile learning in terms of basic preparedness, showing an overall Mean of 3.28 with SD=0.92, described as Strongly Agree and interpreted as Very High. This indicates that learners are adequately prepared and capable of effectively participating in and benefiting from mobile-based educational activities. They possess the necessary skills, resources, and attitudes essential for utilizing mobile devices proficiently. A high level of readiness in basic preparedness suggests that learners have the foundational skills and resources required to confidently utilize mobile devices for educational purposes. This readiness serves as a positive indicator for educators and institutions looking to integrate mobile technology into learning environments. The education sector is significantly impacted by rapid technological advancements. As highlighted by Olimov and Mamurova (2022), technology enhances teaching and learning processes, making learning content more accessible to students. Among the prevalent technologies today, mobile phones stand out as widely utilized tools.

Indicator 1, *I have a mobile phone*, obtained the highest Mean of 3.58 with SD=0.98, described as Strongly Agree and interpreted as Very High . This indicates that a significant majority of learners acknowledge having a mobile phone, suggesting widespread ownership of this technology within the learner population. It reflects a strong affirmation from learners regarding their possession of mobile phones, indicating that it is a common attribute among them, with a shared consensus on this aspect. The prevalence of mobile devices directly impacts how young people access information, improving their knowledge acquisition, as highlighted by Criollo (2018) in the context of education.

On the other hand, indicator 8, *I can open files such as Word, PDF, Excel, PowerPoint, video, audio, picture, and graphic*, received the lowest Mean of 2.78 with SD=0.88, described as Agree and interpreted as High. This indicates that learners can access and view a variety of digital files, demonstrating their proficiency in opening, viewing, and interacting with diverse digital formats. The statement reflects a collective acknowledgment among learners regarding their ability to handle different file types, including document formats like Word and PDF, multimedia formats such as videos and audio, as well as various graphical content. This proficiency suggests that learners are comfortable working with a range of digital materials, contributing to a more dynamic and interactive learning experience.

Camilleri and Camilleri's (2019) study emphasizes the role of mobile applications (apps) in providing instant access to educational resources, serving as powerful tools for students to access e-books, videos, tutorials, and assessments conveniently. Mobile apps facilitate self-directed learning, enhance communication and collaboration among students and teachers, and create an interactive learning environment.

Table 2: Skills Readiness

Indicators	Mean	SD	Description	Interpretation
1. Send/receive e-mails.	2.41	0.86	Disagree	Low
2. Download files from the Internet.	3.45	0.98	Strongly Agree	Very High
3. Send files to other people.	3.33	0.96	Strongly Agree	Very High
4. Receive files from other people.	2.78	0.89	Agree	High
5. Open up their files.	2.14	0.87	Disagree	Low
6. Access Facebook, Friendster, Twitter.	2.97	0.91	Agree	High
7. Read online news.	2.58	0.88	Agree	High
8. Hotspot connection from mobile phone to their computer.	2.36	0.86	Agree	High
Overall	**2.75**	**0.90**	**Agree**	**High**

***Note*:** 3.26 – 4.00 Very High 2.51 – 3.25 High 1.76 – 2.50 Low 1.00 – 1.75 Very Low

Table 2 illustrates the respondents' readiness for mobile learning in terms of skills readiness, showing an overall Mean of 2.75 with SD=0.90, described as Agree and interpreted as High. This indicates that learners possess adequate knowledge and abilities to effectively operate a mobile phone. High skills readiness implies proficiency and familiarity with various mobile device functions and features, indicating their readiness to utilize mobile technology for learning, communication, collaboration, productivity, and personalized learning experiences.

The integration of mobile devices in primary education reflects a shift towards personalized and interactive learning experiences aligned with contemporary pedagogical approaches prioritizing student-centered learning and innovative teaching methods to enhance learning outcomes. As cited by Camilleri & Camilleri (2019), handheld mobile devices, such as smartphones and tablets, allow students to access and review online content from almost any location. These mobile applications offer immediate access to educational resources and are increasingly utilized in primary education to enrich the student experience.

Specifically, indicator 2, *Download files from the internet,* obtained the highest Mean of 3.45 with SD=0.98, described as Strongly Agree and interpreted as Very High. This indicates that learners feel capable and comfortable acquiring files from online sources, demonstrating practical information management skills essential in today's digital age. Klimova (20210) asserted that, mobile learning promotes autonomous and personalized learning, requiring students to be responsible and motivated to improve their academic performance.

However, indicator 5, *Open up their files,* received the lowest Mean of 2.14 with SD=0.87, described as Disagree and interpreted as Low. This suggests a need for more consensus among learners regarding their ability or willingness to open files, highlighting the importance of enhancing digital literacy skills in file management and opening procedures.

Mobile learning, as emphasized by Dahri et al. (2021), offers flexibility and convenience, enabling learners to access educational resources anytime and anywhere through mobile devices like smartphones and tablets. This accessibility promotes continuous and personalized learning experiences, fostering collaborative and interactive learning environments regardless of geographical barriers. Overall, integrating mobile technology into the learning process empowers learners to take control of their educational journey and adapt to the evolving digital landscape.

Table 3: Budget Readiness

Indicators	Mean	SD	Description	Interpretation
1. I am afraid I will spend more money on my handphone because of mobile learning.	3.15	0.93	Agree	High
2. I will be ready for mobile learning after 2 years or more.	2.90	0.88	Agree	High
3. I am worried about the payment for Internet connection.	3.12	0.92	Agree	High
4. I am ready to spend more money on mobile apps.	2.28	0.87	Disagree	Low
5. I am not sure as to how much it costs to adopt mobile learning.	2.99	0.90	Agree	High
Overall	**2.89**	**0.90**	**Agree**	**High**

***Note*:** 3.26 – 4.00 Very High 2.51 – 3.25 High 1.76 – 2.50 Low 1.00 – 1.75 Very Low

Table 3 outlines the respondents' readiness for mobile learning concerning budget readiness. It has an overall Mean of 2.89 with SD=0.90, described as Agree and interpreted as High. This indicates that learners possess the financial resources necessary to engage with mobile technology effectively, supporting its integration into various contexts for enhanced functionality and user experiences. The United Nations Broadband Commission for Digital Development (2018) highlights the potential of mobile devices with broadband connectivity to enhance multidisciplinary education globally, especially in underserved communities.

Among the indicators, indicator 5, *I am afraid I will spend more money on my handphone because of mobile learning*, received the highest Mean of 3.15 with SD=0.93, described as Agree and interpreted as High. The learners express their concern about increased expenses related to mobile learning activities, particularly data usage. This aligns with Darko-Adjei's (2019) findings regarding data bundle usage, where using smartphones for learning is perceived to consume significant data bundles, leading to increased expenditure.

On the other hand, indicator 4, *I am ready to spend more money on mobile Apps,* obtained the lowest Mean of 2.28 with SD=0.87, described as Disagree, and interpreted as Low. This suggests that the Learners prioritize budgetary considerations and are cautious about unnecessary expenditures, reflecting financial constraints and a need for more willingness to invest in mobile applications.

The study by Masiu and Chukwuere (2018) underscores the significant financial impact of smartphone usage on students and their families, particularly in developing countries. Addressing these implications requires a comprehensive approach involving policy interventions, community support, digital literacy initiatives, and collaboration with technology companies to ensure equitable access to mobile learning benefits. Understanding and addressing financial challenges will support students' academic success and future economic opportunities.

Table 4: Overall Level of Mobile Learning Readiness

Variables	Mean	SD	Description	Interpretation
Basic Readiness	3.28	0.92	Strongly Agree	Very High
Skills Readiness	2.75	0.90	Agree	High
Budget Readiness	2.89	0.90	Agree	High
Overall	2.97	0.91	Agree	High

Note: 3.26 – 4.00 Very High 2.51 – 3.25 High 1.76 – 2.50 Low 1.00 – 1.75 Very Low

Table 4 shows the respondents' summary of the level of mobile learning readiness with an overall Mean of 2.97 with SD=0.91, described as Agree and interpreted as High. This means the learners are well-prepared and equipped to use mobile devices for various purposes, including practical learning. High mobile readiness among learners is essential in the modern educational landscape, where mobile devices play a significant role in providing flexible and accessible learning opportunities. It enables learners to take full advantage of mobile technology's benefits for educational purposes.

Moreover, this suggests a positive shift towards leveraging technology to enhance educational outcomes and promote a more engaging and personalized learning environment. According to Sobra (2020), Mobile devices allow students to improve their knowledge acquisition. Education is there to ensure all students can benefit from a learning experience. When considering our ever-changing world, teachers and educational institutions should embrace technology as an innovative new methodology to enable their students to achieve their goals.

Among the three indicators, B*asic Readiness* obtained the highest Mean of 3.28 with SD=0.92, described as Strongly Agree and interpreted as Very High. A very high level of basic readiness sets the stage for a positive and productive mobile learning experience, allowing learners to capitalize on the advantages of mobile technologies for education. Basic readiness paves the way for a more engaging, efficient, and personalized mobile learning experience, leading to positive outcomes and continual learner growth. The result confirms Olimove and Mamurova (2022) that rapid technological developments also affect education. Technology improves teaching and learning.

Meanwhile, *Skills readiness* obtained the lowest Mean of 2.75 with SD=.90, described as Agree and interpreted as High. When learners have a high level of skill readiness in mobile learning, they possess a robust set of competencies and capabilities related explicitly to utilizing mobile devices and technologies for learning purposes. This readiness extends beyond basic familiarity with mobile devices and encompasses more advanced skills. High skills readiness in mobile learning implies that learners are not only comfortable using mobile devices but also possess the advanced skills needed to maximize the educational benefits of mobile technologies.

Moreover, this proficiency allows them to engage in more complex and interactive learning experiences using mobile platforms. It further suggests that learners engage in more complex and interactive learning experiences; it indicates a dynamic and

enriching learning environment that promotes active participation, collaboration, personalization, and real-world application of knowledge. According to Kusmaryani, Musthafa, and Pumawarman (2019), mobile applications positively affect the verbal abilities of English language learners.

Problem 2. What is the pupils' level of reading performance?

Table 5 shows the respondents' summary of the level of mobile learning readiness with an overall Mean of 2.97 with SD=0.91, which is described as Agree and interpreted as High. This means the learners are well-prepared and equipped to use mobile devices for various purposes, including practical learning.This means that the learners' performance was within the realm of what was expected or intended by the instructional program or curriculum. They demonstrated proficiency that aligns with the goals and objectives set forth by the educational materials or methods used.

Table 5: Overall Reading Performance

Scale	Frequency	Percentage	Reading Performance	Mean	SD	Description	Interpretation
2.35-3.00	104	37.14	Independent				
1.68-2.34	152	54.29	Instructional	2.39	0.9	Instructional	**Moderate**
1.00-1.67	24	8.57	Frustration		4		
Total	**280**	**100.00**					

***Note**:* 2.35 – 3.00 High 1.68 – 2.34 Moderate 1.00 – 1.67 Low

This implies that while the learners showed competence in reading, it was neither exceptionally high nor significantly low. It suggests that the learners are progressing and on track with their reading skills, but there may be areas where they could benefit from additional support or instruction to enhance their performance further.

Notably, reading serves as the fundamental basis for the majority of learning endeavors (Ditona & Rico, 2021). It stands as the cornerstone of academic development, encompassing crucial skills like reading, writing, and numeracy, which are pivotal for a child's achievements in both educational and life contexts. Acquiring literacy skills in reading is indispensable for every learner as it contributes significantly to various facets of life. The importance of reading lies in its role as the foundation upon which spoken and written language, essential for shaping individuals, families, relationships, and even international collaborations, are constructed (Cabalo & Cabalo, 2019).

Problem 3. Is there a significant relationship between the respondents' mobile learning readiness and their reading performance?

Table 6: Test Correlation on Respondents' Mobile Readiness and Reading Performance

	Reading Performance				
Reading Readiness	r-value	p-value	Level of Correlation	Decision	Interpretation
Basic Readiness	0.5438	0.002	Moderate Positive Correlation	Reject Ho	Significant
Skills Readiness	0.5729	0.001	Moderate Positive Correlation	Reject Ho	Significant
Budget Readiness	0.3922	0.018	Weak Positive Correlation	Reject Ho	Significant

***Note*:** Significant if the computed p-value is less than 0.05 level of significance**.**

Table 6 shows the test correlation between pupils' mobile readiness and reading performance. A test revealed a positive correlation between mobile readiness and reading performance. The independent variable is mobile readiness in terms of basic readiness, skills readiness, and budget readiness, and the dependent variable is the level of reading performance. It can be generalized from the table that the pupils' mobile readiness is statistically related to pupils' reading performance as evidenced by the p-values of the three indicators of pupils' mobile readiness, namely basic readiness with r-value 0.5438 and p-value of 0.002; skills readiness with r-value 0.5729 and p-value of 0.001; and, budget readiness with r-value 0.3922 and p-value of 0.018. Further, this means the pupils' mobile readiness is significant and positively related to their reading performance. This also means that if pupils' mobile readiness increases, all other independent variables also increase, and the same when one of the variables decreases, the other one also decreases. It indicates that their reading performance improves significantly when pupils are ready with their mobile phones. Salimi et al. (2020) assert that Mobile devices, such as tablets, laptops, and Smartphones, have changed the landscape of education, requiring teachers to integrate technology in the classroom. Recent studies indicate that academic performance is a complex phenomenon that various factors can influence. Previous studies have also

demonstrated a positive and significant relationship between academic performance, academic self-efficacy, and readiness to take advantage of mobile learning tools.

Moreover, for basic readiness, a computed r-value of 0.5438 is 0.002. The computed p-value is lower than the p-critical 0.05 level of significance. Thus, the null hypothesis is rejected. This means that basic readiness significantly relates to the pupils' reading performance. This suggests a potential correlation between digital literacy skills and reading performance. The correlation implies that learners with higher digital literacy, specifically related to mobile devices, tend to have better reading performance. They are proficient in using a mobile phone and may have access to digital reading materials, e-books, and online resources.

Furthermore, the correlation suggests their familiarity with mobile technology positively influences their engagement with digital reading content. Learners with basic readiness to use mobile phones are better positioned to access digital reading resources, and efforts to bridge the digital divide can contribute to more equitable educational outcomes. According to Sora (2020), mobile devices allow students to improve their knowledge acquisition. Education aims to guarantee that every student can derive value from the learning process. In light of our constantly evolving world, educators and educational institutions should adopt technology as a novel and innovative approach to empower their students in reaching their objectives.

Subsequently, skills readiness, registered a computed r-value of 0.5729 with a computed p-value of 0.001. The computed p-value is lower than the p-critical 0.05 level of significance. Thus, the null hypothesis is rejected. This means learners have strong digital literacy skills, which positively influences their reading capabilities. This suggests that learners with higher technical skills related to mobile devices demonstrate better reading performance. They can efficiently access and engage with digital reading materials, contributing to improved reading performance. Learners with skills readiness can efficiently use these apps, potentially leading to a more streamlined and effectual reading experience. It further indicates that those quick to acquire and utilize mobile-related skills may also be more adaptable to emerging digital reading technologies and platforms. Learners with solid skills can efficiently search for, find, and process information, positively impacting their reading comprehension. Skills readiness can take advantage of interactive features, annotations, and multimedia elements in digital reading, enhancing their engagement and understanding and integrating various reading strategies to enhance comprehension and critical thinking.

This conforms with Talan (2020), that Mobile learning, also known as m-learning, can significantly impact learners' performance in English language learning. Mobile or m-learning can substantially affect English language learners' performance. Mobile learning has been determined to greatly influence learning outcomes.

IV. CONCLUSIONS

Based on the findings of the study, the following conclusions are formulated:

1. Pupils with high levels of basic readiness are better equipped and more inclined to actively participate in mobile learning experiences. Pupils with high levels of basic readiness are not only technically proficient but also possess a range of foundational skills, attitudes, and motivations that facilitate their active participation and success in mobile learning experiences.
2. The pupils' have the ability to read and comprehend text at a specific difficulty level suitable for instruction and learning purposes.
3. Pupils who are more technologically adept and comfortable with mobile devices are also likely to demonstrate higher levels of reading proficiency and comprehension.

V. RECOMMENDATIONS

Based on the findings and conclusions generated from this study, the researcher has formulated the following recommendations:

1. Pupils may be provided with mobile learning technology to encourage pupil-centric learning and collaboration among learners. Before integrating mobile technology, pupils must be oriented and capacitated, especially in the interaction of different mobile applications. Since skills readiness is the lowest, offer comprehensive training sessions and workshops focused on mobile learning tools and techniques. This includes guidance on using educational apps, navigating online platforms, managing digital resources, and leveraging mobile devices for effective learning.
2. Pupils are encouraged to take proactive steps in developing their digital literacy skills and leveraging their mobile devices as valuable tools for learning. By doing so, they can enhance their readiness to thrive in a technology-driven learning environment.
3. Teachers are encouraged to seamlessly integrate mobile technology into the curriculum by exploring a wide range of educational apps, e-books, and online resources that effectively enhance reading skills. It is essential to ensure that these tools align closely with educational goals and standards, fostering a dynamic and enriching learning experience for pupils.

REFERENCES

1) Adaba (2017) Full article: Collaborative Learning Practices: Teacher and student ... Available at: https://www.tandfonline.com/doi/full/10.1080/0305764X.2016.1259389 (Accessed: 28 March 2024).
2) Alam, M. A. (2023). Connectivism learning theory and connectivist approach in teaching and learning: a review of literature. Bhartiya International Journal Of Education & Research, 12(2).
3) Al-Hunaiyyan, A., Alhajri, R. A., & Al-Sharhan, S. (2018). Perceptions and challenges of mobile learning in Kuwait. Journal of King Saud University-Computer and Information Sciences, 30(2), 279-289.
4) Assapari, Muhammad & Hidayati, Rosyadi. (2023). EFL speaking student readiness to use mobile-assisted language learning. Let journal: A Journal on Language and Language Teaching. 26. 365-378. 10.24071/llt.v26i1.5240.
5) Bağcı, H., & Pekşen, M. F. (2018). Investigating the smartphone addictions of vocational school students from different variables. Malaysian Online Journal of Educational Technology, 6(4), 40–52.
6) Bhandari, P. (2021). Correlational Research | When & How to Use
7) Bombaes, A. (2018). Student's intentions to use m-learning: An empirical perspective from the Philippines. Business and Economic Research, 8(1), 68-83.
8) Broadband Commission (2018). The State Broadband: Broadband catalyzing sustainable development, New York: UNESCO & ITU.
9) Cabalo, J. P., & Cabalo, M. M. (2019). Factors affecting pupils' reading proficiency in multi-grade classes among rural elementary schools. International Journal of Science and Management Studies, 2(2), 108-124.
10) Camilleri, M.A. & Camilleri, A.C. (2019). The Students' Readiness to Engage with Mobile Learning Apps. Interactive Technology and Smart Education. DOI: 10.1108/ITSE-06-2019-0027
11) Chen, Y., Carger, C. L., & Smith, T. J. (2017). Mobile-assisted narrative writing practice for young English language learners from a funds of knowledge approach. Language Learning & Technology, 21(1), 28–41. Retrieved from http://llt.msu.edu/issues/february2017/chencargersmith.pdf
12) Chukwuere, J. & Enwereji, P.c. (2017). The financial and academic implications of using smartphones among students: a quantitative study. Journal of economics and economics education research.
13) Criollo-C, S.; Lujan-Mora, S.; Jaramillo-Alcazar, A. (2018). Advantages and Disadvantages of M-Learning in Current Education. In Proceedings of the 2018 IEEE World Engineering Education Conference (EDUNINE), Buenos Aires, Argentina, pp. 1–6.
14) Criollo-C, S.; Luján-Mora, S. (2017). M-Learning and Their Potential use in the Higher Education: A Literature Review. In Proceedings of the 2017 International Conference on Information Systems and Computer Science (INCISCOS), Quito, Ecuador, 23–25 November 2017; pp. 268–273.
15) Christensen, R., & Knezek, G. (2018). Reprint of Readiness for integrating mobile learning in the classroom: Challenges, preferences and possibilities. Computers in human Behavior, 78, 379-388.
16) Churchill, D., Pegrum, M., Churchill, N. (2018). The implementation of mobile learning in Asia: Key trends in practices and research. In J. Voogt, G.Knezek, R. Christensen, & K.W. Lai (Eds.), Second handbook of information technology in primary and secondary education (pp. 1-41). Springer.
17) Dahri, N.A.; Vighio, M.S.; Bather, J.D.; Arain, A.A. Factors Influencing the Acceptance of Mobile Collaborative Learning for the Continuous Professional Development of Teachers. Sustainability 2021, 13, 13222.
18) Darko-Adjei, N. (2019). The use and effect of smartphones in Students' learning activities: evidence from the University of Ghana, Legon. Library Philosophy and Practice, 1-37.
19) DepEd Order No. 016, s. 2023. Revised Guidelines on the Implementation of the Department of Education Computerization Program
20) Fombona Cadavieco, A.; Pascual Sevillano, M.; González Videgaray, M. (2017). M-learning y realidad aumentada: Revisión de literatura científica en el repositorio WoS. Comunicar Revista Científica Iberoamericana Comunicación Educación 2017, 52, 63–72.
21) Grant, M. M. (2019). Difficulties in defining mobile learning: Analysis, design characteristics, and implications. Educational Technology Research and Development, 67(2), 361–388.
22) Hendriwanto, H., & Kurniati, U. (2019). . Building reading fluency with mobile assisted extensive reading. International Journal of Interactive Mobile Technologies, 13(6), 84–92
23) Hendricks, G. P. (2019). Connectivism as a learning theory and its relation to open distance education. Progressio, 41(1), 1-13.

24) Hussin, S., Manap, M. R., Amir, Z., & Krish, P. (2012). Mobile learning readiness among Malaysian students at higher learning institutes. Asian Social Science, 8(12), 276-283.
25) Jaelani, A., & Adung, N. (2022). The use of mobile-assisted language learning to promote learner autonomy in the EFL speaking context. JEE (Journal of English Education), 8(1), 68-84.
26) Jin, W., & Sabio, C. J. (2018). Poential use of mobile devices in selected public senior high schools in the city of Manila Philippines. International Journal of Learning, Teaching and Educational Research, 17(4), 102-114. https://doi.org/ 10.26803/ijlter.17.4.7
27) Kearney, M.; Burden, K.; Schuck, S. Disrupting Education Using Smart Mobile Pedagogies. Didact. Smart Pedagog. 2018, 139–157.
28) Ko, M. H. (2019). Students' reactions to using smartphones and social media for vocabulary feedback. Computer Assisted Language Learning, 32(8), 920– 944
29) Klimova, B. (2021). Evaluating impact of mobile applications on EFL university learners' vocabulary learning - A review study. Procedia Computer Science, 184, 859–864.
30) Krull, G.; Duart, J.M. (2017). Research Trends in Mobile Learning in Higher Education: A Systematic Review of Articles (2011–2015). Int. Rev. Res. Open Distribution. Learn. pp 1–23.
31) Kukulska-Hulme, A.; Viberg, O. Mobile collaborative language learning: State of the art. Br. J. Educ. Technol. 2018, 49, 207–218.
32) Kusmaryani, W., Musthafa, B., & Purnawarman, P. (2019). The influence of mobile applications on students' speaking skills and critical thinking in English language learning. Journal of Physics: Conference Series, 1193(1), 1–7.
33) Lan, E. M. (2022). A comparative study of computer and mobile-assisted pronunciation training: The case of university students in Taiwan. Education and Information Technologies, 27(2), 1559–1583.
34) Li, H. (2022). Mobile-assisted language learning in Chinese higher education context: a systematic review from the perspective of the situated learning theory. Education and Information Technologies, 27(7), 9665–9688.
35) Linh, V. T., & Vu, N. N. (2021). The impact of mobile learning on EFL students' learning behaviors and perceptions: From content delivery to blended interaction. International Research in Higher Education, 5(4), 25.
36) Masiu, T. M., & Chukwuere, J. E. (2018, November). The effect of smartphones on students' academic life: A perceptive from a South African University. In International Conference on Business and Management Dynamics (pp. 174-183).
37) McClean, S.; Crowe, W. Making room for interactivity: Using the cloud-based audience response system Nearpod to enhance engagement in lectures. FEMS Microbiol. Lett. 2017, 364, 1–7.
38) Mumba, P. M. (2018). Assessing the readiness of students to use mobile applications in collaborative learning: A case of Copperbelt University. Zambia ICT Journal, 2(2), 1–7. https://doi.org/10.33260/zictjournal.v2i2.38
39) Neufeld, P.G.; DelCore, H.D. Situatedness and Variations in Student Adoption of Technology Practices: Towards a Critical Techno-Pedagogy. J. Inf. Technol. Educ. Res. 2018, 17, 001–038.
40) Norazah, M. N., & Helmi, N. (2018). Cross-Culture Learning Via Massive Open Online Courses for Higher Education. Journal of Education Malaysia, 43, 35-39.
41) Olimov, S. S., & Mamurova, D. I. (2022). Information Technology in Education. Pioneer: Journal of Advanced Research and Scientific Progress, 1, 17-22.
42) Poong, Y. S., Yamaguchi, S., & Takada, J. I. (2017). Investigating the drivers of mobile learning acceptance among young adults in the World Heritage town of Luang Prabang, Laos. Information Development, 33(1), 57-71.
43) Parras-Burgos, D.; Fernández-Pacheco, D.G.; Barbosa, T.P.; Soler-Méndez, M.; Molina -Martínez, J.M. (2020). An Augmented Reality Tool for Teaching Application in the Agronomy Domain.Appl.
44) McCarty, S., Stao, T., & Obari, H. (2017). Implementing mobile language learning technologies in Japan. Singapore: Springer.
45) Rajendran, T., & Md Yunus, M. (2021). A systematic literature review on the use of mobile-assisted language learning (MALL) for enhancing speaking skills among ESL and EFL learners. International Journal of Academic Research in Progressive Education and Development, 10(1), 586–609.
46) Rian, V., & Kamisah, O. (2018). The Effectiveness of Various Instructional Medium in Improving Students' Science Process Skills. Journal of Education Malaysia, 41-42, 111.
47) Rodríguez, A. I., Riaza, B. G., & Gómez, M. C. S. (2017), "Collaborative learning and mobile devices: An educational experience in Primary Education", Computers in Human Behavior, Vol. 72, pp. 664-677.

48) Salimi, G., Heidari, E., Mohammadjani, M., & Mousavi, A. (2022). Structural relationship of academic self-efficacy, mobile learning readiness, and academic performance among graduate students: a mediation study. Interactive Learning Environments, 1-15.
49) Sánchez, I. A., & Isaias, P. (2018), "Proceedings of the International Association for Development of the Information Society (IADIS)", International Conference on Mobile Learning (14th, Lisbon, Portugal, April 14-16, 2018). International Association for Development of the Information Society.
50) Seifert, T., & Har-Paz, C. (2020). The effects of mobile learning in an EFL class on self-regulated learning and school achievement. International Journal of Mobile and Blended Learning, 12(3), 49–65.
51) Shamsi, A. F., Altaha, S., & Gilanlioglu, I. (2019). The role of M-learning in decreasing speaking anxiety for EFL Learners. International Journal of Linguistics , Literature and Translation (IJLLT), 2(1).
52) Sobral, S.R. (2020). Mobile Learning in Higher Education: A Bibliometric Review. Int. J. Interact. Mob. Technol.14, 153–170.
53) Talan, T. (2020). The effect of mobile learning on learning performance: A Meta-analysis study. Educational Sciences: Theory and Practice, 20(1), 79–103.
54) Thomas, M. (2017). Project-based language learning with technology: Learner collaboration in an EFL classroom in Japan. New York: Routledge.
55) UNESCO. World Conference on Higher Education, The United Nations Educational, Scientific and Cultural Organization. 1990.
Available online: http://www.unesco.org/new/en/education/themes/leading-the-international-agenda/education-for-all/theefa-movement/jomtien-1990/ (accessed on 10 August 2020).
56) Xu, Q., Dong, X., & Jiang, L. . (2017). EFL learners' perceptions of Mobile assisted feedback on oral production. TESOL Quarterly, 51(2), 408–417.
57) Zain, D. S. M., & Bowles, F. A. (2021). Mobile-assisted language learning (MALL) for higher education instructional practices in EFL/ESL contexts: A recent review of literature. Call-Ej, 22(1), 282–307.