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## TEACHERS' EXPERIENCES IN DIGITAL INTEGRATION IN THE DELIVERY OF THE LESSONS: BASES FOR IN-SERVICE TRAINING PROGRAM

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### ABSTRACT

This qualitative study aimed to determine the teachers' experiences in digital integration in the delivery of the lessons as bases for in-service training program. The research method utilized in the study was qualitative using in-depth interview and the design was phenomenology. Findings revealed that teachers' experiences centered on learners' participation, effective learning, making some adjustments, and convenience of digital tools. However, teachers also encountered several challenges, including lesson preparation, availability of digital tools, technical issues, and digital competence. To address these challenges, teachers employed coping strategies such as alternative instructional resources, adopting outside one's usual practice, collaboration with colleagues, self-directed learning, and support programs. The results serve as a foundation for developing targeted in-service training programs that support effective digital integration in teaching.

**Keywords:** *Digital Integration, Teachers' Experiences, Digital Competence, In-Service Training Program*

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## INTRODUCTION

In recent years, the integration of digital tools in classroom instruction has become increasingly essential, particularly as schools respond to the demands of 21st-century learning and the growing reliance on technology-enhanced education. These tools, inclusive of interactive software and educational applications, virtual learning environments and other online tools give the students dynamic and personal learning experiences (Wang et al., 2024).

Simulation, experiments, and visualization of scientific concepts with the use of digital tools and resources can allow students to engage with them and explore concepts more profoundly and engage interest (Olugbade et al., 2024).

Therefore, teachers' as a facilitator of learning are expected not only to possess content knowledge and pedagogical skills but also to effectively integrate digital technologies to enhance student engagement and learning outcomes.

Digital competency of teacher plays an important role in helping the students engage and succeed in learning. Whenever teachers successfully incorporate digital technologies into their instructional process, they improve the interactive and personalized learning experience, which can increase student motivation and knowledge (Gameil & AlAbdullatif, 2023).

Even with access to advanced digital tools, several studies have shown that while many teachers recognize the value of digital tools in improving instructional delivery, others often encounter challenges that are not immediately visible through measures. Issues such as anxiety toward using technology, fear of technical failure during lessons, limited time for

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lesson preparation, and insufficient hands-on training affect their willingness and ability to integrate digital tools meaningfully (Green, 2025).

These challenges can hinder the effective use of technology in lessons, resulting in superficial or inconsistent integration. Teachers' firsthand experiences in navigating these challenges provide valuable insights into existing gaps between policy expectations and classroom realities.

In-service professional development programs that focus on digital instructional integration significantly boost teachers' confidence and competence in using digital tools in classroom teaching. Teachers trained in technology-enhanced instructional strategies are more likely to adopt and sustain the use of digital resources in their lesson delivery (Amemasor, et al., 2025).

Professional development programs are significant in the attainment of digital transformation in the education sector by equipping teachers with skills and knowledge necessary to cope with the challenges of the digital age. Professional development of teachers does not only enhance their performance but also enables students to learn so that they can accommodate the current developments and the increased application of technology in education (Ahmad, 2025).

Understanding teachers' experiences in digital integration is therefore essential in designing responsive and sustainable in-service training programs. By examining how teachers use digital tools in lesson delivery, the challenges they face, and the strategies they develop,

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this study aimed to provide empirical bases for the development of an in-service training program that addresses real classroom needs. Such a program can enhance teachers' confidence, improve instructional quality, and ultimately contribute to more meaningful and effective learning experiences for students.

## MATERIALS AND METHODS

### Research Methodology

This chapter presents the research method, research design, participants of the study, data-gathering procedures, research instrument, and data analysis. The study aims to determine the teachers' experiences in digital integration as bases for in-service training program in the Municipality of Concepcion during the school year 2025-2026.

### Research Method

The research method utilized in this study was qualitative research using in-depth interview.

This study utilized the descriptive method of research to examine teachers' experiences with digital integration in lesson delivery, which served as the foundation for an in-service training program. The descriptive method focuses on detailing and portraying the characteristics, conditions, or phenomena as they naturally occur, without manipulating variables or attempting to explain cause-and-effect relationships (Barooah, 2025).

The descriptive research method focuses on systematically describing a phenomenon as it exists in its natural setting, without manipulating variables. According to Elliott (2025), it aims to provide an accurate portrayal of current conditions, practices, or relationships within

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educational settings, enabling researchers to understand trends, patterns, and implications for practice.

This approach is particularly useful in educational studies that seek to document and analyze real-world events, behaviors, or perceptions without altering the environment in which they occur (Elliott, 2025).

It is appropriate for this study because it aims to present an accurate picture of teachers' actual experiences, practices, and challenges in integrating digital technologies in instruction.

## Research Design

The study used phenomenological research design.

Phenomenology is a qualitative research method that is interested in the way people experience a given phenomenon.

The main aim of phenomenology is to describe and comprehend the essence of lived experiences of people in a certain phenomenon. It aims at capturing the meaning that individuals attach to their experiences as it is observed through their own perspectives as opposed to explain and predict their behavior.

Creswell (2023) notes that the goal of phenomenology is to explain how multiple individuals share a common meaning of the experiences they have of a concept or a phenomenon they are dealing with. Phenomenology is concerned with making sense of how people live and what meaning they give to their lives.

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Phenomenology focuses on the study of structures of consciousness as experienced from a first-person perspective. The central aim of phenomenology is to investigate and describe phenomena as they are consciously experienced, without resorting to theories about their causal explanations or being influenced by unexamined preconceptions (Biemel & Spiegelberg, 2024).

To better understand the human experience, fields such as psychology and social work use phenomenology to gather firsthand accounts and impressions from individuals through interviews.

### Participants of the Study

The participants of this study were eight (8) purposely selected teachers in the Municipality of Concepcion. These teachers must be assigned in Schools located in the Schools District of Concepcion, Clusters 1 and 2.

To ensure that the data gathered are relevant and aligned with the objectives of the study, participants must meet the following inclusion criteria: 1) Currently practicing teacher Participants must be actively teaching at the time of the study in public educational institutions; 2) Direct involvement in lesson delivery Teachers must be handling classes and responsible for planning and delivering lessons; 3) Experience with digital integration Participants must have firsthand experience using digital tools (e.g., computers, tablets, learning management systems, online platforms, multimedia presentations, or educational applications) in delivering lessons, whether frequently or occasionally; and 4) Minimum

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teaching experience Teachers must have at least one (1) year of teaching experience, ensuring that participants have sufficient exposure to both traditional and digital teaching practices.

Only those teachers' participants who are willing to share their experiences as teachers delivering lesson with digital integration in the schools were included, and the participants were informed about their consent prior to taking part in the study.

### Sampling Design

The study utilized purposive sampling design. The purposive sampling is a category of various non-probability sampling methods. Purposive sampling is also referred to as judgmental, selective or subjective sampling, and it is based on the judgement of the researcher as far as the selection of units that are to be studied is concerned. The sample under investigation is usually very small, particularly in the comparison with probability sampling methods. It is a type of non-probability sampling where the researcher makes decisions related to the people to be part of the sample when making decisions based on a wide range of criteria which can include expert familiarity with the problem under study, or ability and willingness to take part in the study (Joshi & Banjara, 2024).

The primary objective of purposive sampling is to focus on specific aspects of a population that are of interest, which will be most effective in addressing the research question(s).

### Research Instrument

The research instrument utilized in the study was a researcher-made interview

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schedule.

In qualitative research, an interview schedule is a structured list or framework of questions and topics that a researcher prepares before conducting interviews to guide the conversation with participants. Helping ensure that relevant areas of the phenomenon are explored in depth while still allowing participants to express their experiences in their own words. It serves as a roadmap to systematically collect detailed narrative data about participants' perspectives and lived experiences, and it can be refined through pilot testing or expert validation to improve clarity and relevance (Paxino, 2022).

It typically contains open-ended questions, prompts, and follow-up probes that help the researcher explore participants' experiences, perceptions, and meanings in a consistent yet conversational manner.

The interview schedule has three questions focusing on the purpose of study.

The researcher administered face-to-face or online interviews, where questions are asked in a conversational and flexible manner, and participants' responses are recorded through note-taking, video or audio recording with consent of the participant.

### **Validity of the Research Instrument**

To determine the validity of the researcher-developed interview schedule, the guide underwent content validation by a panel of experts, which included the adviser, the Dean of the Graduate School, and a panel of jurors. Their expertise in research, testing, assessment, and English was utilized to validate each question, ensuring necessary review and adjustment.

Validity is a crucial concept in research, referring to how accurately a study, research

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method, or instrument measures what it is intended to assess. It is concerned with the truth, accuracy, and relevance of the data gathered. A research instrument is regarded valid when it accurately depicts the topic or phenomenon under investigation and yields results that reflect actual conditions rather than errors or other influences.

Validity is important because it determines the credibility and usefulness of the findings. Even if data is meticulously collected, the results may be misleading if the instrument fails to accurately capture the intended information.

Comments, revisions, and suggestions from the panel of validators regarding the interview schedule were reviewed using the proper form of Good and Scates.

### **Data Gathering Procedures**

The data gathering procedure began with securing approval and permits to conduct the study from the adviser, the Dean of the Graduate School, the Office of the Schools Division Superintendent, the Office of the District Supervisors, the School Heads, and the research participants.

Once permission was granted, the researcher identified and invited qualified teacher-participants, explaining the purpose of the study. Prior to this, the researcher informed the participants about the need to sign a consent or waiver related to the study.

Data were collected through individual interviews using a validated interview schedule. The interviews were conducted at times and locations convenient for the participants and were recorded through note-taking, video, or audio, with their permission.

The responses were documented accurately and arranged for analysis, ensuring data

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confidentiality and adherence to ethical standards.

## Data Analyses

The data gathered from the interviews were evaluated using thematic analysis. Thematic analysis is a qualitative data analysis method used to identify, analyze, and report patterns or themes within a set of data. It enables researchers to arrange and describe data in great detail, as well as analyze the significance of participants' experiences.

The data were collected through the interview schedule and analyzed using thematic analysis, a qualitative method designed to identify, interpret, and report recurring patterns or themes within narrative data. This approach enables the researcher to uncover meaningful insights into the responses of the participants focusing on their experiences in integrating digital technologies in the delivery of their lessons, the challenges encountered by them in integrating digital technologies in the delivery of their lessons, and the coping strategies use by them to manage the challenges encountered in integrating digital technologies in the delivery of their lessons.

According to Braun and Clarke (2023), thematic analysis provides a flexible yet rigorous framework for analyzing qualitative data, allowing researchers to identify both explicit and implicit meanings across participants' narratives. It is particularly suitable for educational research that seeks to understand complex social and organizational dynamics.

(Nowell et al., 2021) further emphasize that thematic analysis enhances transparency and credibility in qualitative studies by ensuring systematic coding and interpretation of data.

The transcribed data from the interviews were analyzed using thematic analysis (Braun & Clarke

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(2023), which is well-suited for identifying, analyzing, and reporting patterns (themes) within qualitative data.

The analysis followed the standard six-phase process:

The data analysis process began with familiarization, where the transcripts were read and re-read in both the local language and English translation to ensure a deep understanding. Following this, initial codes were generated by assigning short phrases or labels to meaningful segments of data, such as "shared phone," "fear of judgment," or "poor signal". These codes were then grouped into potential overarching themes and sub-themes that captured significant patterns, with examples like grouping "no insult" and "private correction" under a broader theme. The themes were then reviewed and refined by checking them against the entire dataset to ensure they accurately reflected the participants' meanings and aligned with the study's focus. Clear, concise, and academically sound names were developed for the final emergent themes, which would be presented in Chapter 4. Finally, the themes, supported by direct quotes, were woven into the narrative structure of the report, linking the analysis and interpretation of data to the theoretical framework in Chapter 4.

## RESULTS AND DISCUSSIONS

The study determined the teachers' experiences in digital integration in the delivery of the lessons as bases for in-service training program in the Municipality of Concepcion during the School Year 2024-2025.

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The research method utilized in the study was qualitative method using in-depth interview. The research design was the phenomenology approach with Thematic Analysis.

The participants of the study were the eight (8) purposely selected teachers who were currently teaching and have firsthand experience in integrating digital tools in lesson delivery.

The researcher-made research questionnaire was used and validated by the experts. The interview was scheduled during the teachers' vacant time. Formal letter was delivered personally and via email to the school heads, of whom, will approve and assign the participants for the said interview.

The researcher personally visited the participants to conduct the in-depth interviews. A voice recorder and notes were used for data gathering, and photo documentation was taken with the participants' permission.

After a series of interviews, the researcher consolidated all the collected data. The narratives were transcribed, analyzed, and interpreted using a thematic approach.

The following are the findings of the study:

Based on the responses from the in-depth interview, the teachers from different schools that are using digital tools in the delivery of their lessons have diverse experiences, that can contribute as a basis for program enhancement which could foster effective and relevant in-service training program for teachers'. They experienced the digital integration that focuses on learners' participation, effective learning, making some adjustments, and conveniency of digital tools.

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During the conduct of in-depth interview with the participants, it was found out that the challenges encountered by teachers in the integration of digital tools in delivery of the lesson were on lesson preparation, availability of digital tools, technical issues, and digital competence.

The coping strategies of teachers in integrating digital tools in the delivery of the lessons based on the results of the in-depth interview were alternative instructional resources, adopting outside one's usual practice, collaboration with colleagues, self-directed learning, and support programs.

## CONCLUSION

Based on the findings, the following insights were drawn:

Teachers perceive digital integration as a valuable approach that enhances learners' participation and supports more effective learning in the classroom. Through the use of digital tools, teachers observe that students become more engaged and involved in activities, which can improve understanding and overall learning outcomes. At the same time, teachers recognize the need to make adjustments in their teaching strategies and methods to effectively incorporate technology into lessons. This adaptation highlights the evolving role of teachers as facilitators who continuously refine their practices.

Additionally, the convenience offered by digital tools—such as easier resource sharing, communication, and access to learning materials—helps teachers manage instruction more

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efficiently and create a more flexible learning environment. Overall, the experience suggests that digital integration positively influences teaching and learning while requiring ongoing adjustment and innovation from educators.

Challenges highlight that successful digital integration requires not only teaching skills but also careful planning, access to reliable resources, and technical support. Digital tools have the potential to improve teaching and learning by providing teachers with proper training, resources, and assistance can boost their confidence, enhance their digital skills, and help them use technology more effectively, ultimately improving teaching and learning outcomes.

Teachers are actively finding ways to overcome challenges in integrating digital tools into their lessons. They rely on alternative instructional resources to adapt when technology or materials are limited, and they are willing to step outside their usual teaching practices to incorporate new approaches. Collaboration with colleagues highlights the importance of peer support and shared problem-solving in navigating digital integration. Additionally, teachers engage in self-directed learning to improve their digital skills, demonstrating initiative and a commitment to professional growth. Participation in support programs further reinforces the role of institutional guidance in helping teachers effectively use technology. Overall, these coping strategies indicate that teachers are resourceful, adaptable, and proactive in ensuring that digital tools enhance learning despite obstacles.

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\*\*\*\*\*



## References

Abbasi, W.T., Ibrahim, A.H., & Ali, F.B. (2021). Perceptions about English as Second Language Teachers' technology-based English language teaching in Pakistan: Attitudes, uses of technology, and challenges. In Cham: Springer, 314–325. [https://doi.org/10.1007/978-3-030-82616-1\\_28](https://doi.org/10.1007/978-3-030-82616-1_28).

Abildinova, G., Abdykerimova, E., Assainova, A., Mukhtarkyzy, K., & Abykenova, D. (2024). Preparing Educators for the Digital Age: Teacher Perceptions of Active Teaching Methods and Digital Integration.

Ahmad, F.B. (2025). Degree of Teachers' Adaptation to Digital Skills Sustainable Development. *Asian Journal of Education and Training*, 11(1).

Aidoo, B. (2023). Teacher Educators' Experience Adopting Problem-based Learning in Science Education. *Educ. Sci.*, 13, 1113. <https://doi.org/10.3390/educsci13111113>.

Akram, H., Abdelrady, A.H., Al-Adwan, A.S., & Ramzan, M. (2022). Teachers' Perceptions of Technology Integration in Teaching-learning Practices: A Systematic Review. *Front. Psychol.*, 13, 920317. <https://doi.org/10.3389/fpsyg.2022.920317>.

Amemasor, S.K., Opong, S.O., Ghansah, B., Benuwa, B.B., & Essel, D.D. (2025). A Systematic Review on the Impact of Teacher Professional Development on Digital Instructional Integration and Teaching Practices.

Andika, D., Anggreni, B.S., Diananseri, C., & Setiawan, I. (2022). Teacher Role as Professional Educator in School Environment. *International Journal of Science Education and Cultural Studies*, 1(1).

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\*\*\*\*\*  
Aqilah Farhana Mohamad Isa, N., Mustaffa, N.A., Muda, N., Che Balian, S.R., AbdLatif, A.W.,

& Zawawi, S.A. (2025). Teachers' Perspective and Challenges of Using Digital Tools.

Biemel, W. & Spiegelberg, H. (2024). Phenomenology. The Editors of Encyclopedia Britannica.

Retrieved from <https://www.britannica.com>.

Bohnert, M. & Gracia, P. (2021). Emerging Digital Generations? Impacts of Child Digital Use on Mental and Socioemotional Well-being Across Two Cohorts in Ireland, 2007–2018.

Child Indicators Research: The Official Journal of the International Society of Indicators, 14(2).

Braun, V. & Clarke, V. (2023). Thematic analysis: a step-by-step guide. SAGE Publications.

Buschmann, H. & Fiore, T. (2025). Unlocking the Essence of EdTech Integration: Elementary Teachers' Lived Experiences with Classroom Technology. *Journal of Digital Educational Technology*, 5(2), ep2512.

Buschmann, H. & Fiore, T. (2025). Unlocking the Essence of EdTech Integration: Elementary Teachers' Lived Experiences with Children in Low-cost Private Sector Schools in Lahore, Pakistan; Post COVID-19 Era. *Journal of Digital Educational Technology*, 12(4). <https://doi.org/10.30935/jdet/17295>.

Cahyono, B., Ardi, P., Siwa, Y., Sari, R., & Gestanti, R. (2023). EFL Teachers' Technological Pedagogical Knowledge (TPK) and Ecological Agency in Responding to the Differentiated Learning Policy in Indonesia. *J. Res. Appl. Ling.*, 14, 84–100. <https://doi.org/10.22055/Rals.2023.44055.3081>.

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\*\*\*\*\*



\*\*\*\*\*

Chaoqun, L., Lee, J.C.K., & Gu, M.M. (2025). Education and Information Technologies, 30, 19537–19557.

Chen, C.H., Fei, H.Y., & Tsai, C.C. (2024). Hierarchical Analysis of In-service Teachers' Barriers to Technology-integrated Instruction. Computers and Education.

Creswell, J.W. & Creswell, J.D. (2023). Research design: qualitative, quantitative, and mixed method approaches (6th ed.). SAGE Publications.

Das, M.S. & Bai, C. (2024). A Study on Digital Teaching Competency and Self-directed Learning among Higher Education Teachers. Journal of Emerging Technologies and Innovative Research, 11, f715-f721.

De Guia, E.F. & Solomon, J.Y. (2024). Unlocking Online Teaching Potential: Investigating Teacher Readiness with Adaptability and ICT Facilities. <https://dx.doi.org/10.47772/IJRISS.2024.805177>.

Dioquino, W.S. & Paglinawan, J.L. (2024). Resource Availability and Technological Mindset on Digital Competence of Long-serving Teachers. <https://dx.doi.org/10.47772/IJRISS.2024.814MG0029>.

Dirsa, A., BP, S., Diananseri, C., & Setiawan, I. (2022). Teacher Role as Professional Educator in School Environment. International Journal of Science Education and Cultural Studies, 1(1), 32-41. <https://doi.org/10.58291/ijsecs.v1i1.25>.

Elliott, J. (2025). Everyday Voices as Big Data: A Call for the Secondary Analysis of Large-scale Qualitative Interview Data. Sociology. <https://doi.org/10.1177/00380385251344472>.

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\*\*\*\*\*



\*\*\*\*\*

Ercan, T. & Kutay, M. (2022). Smart Cities Policies and Financing Approaches and Solutions.

Findik, L. (2024). Adult Learning Theories. <https://doi.org/10.4018/979-8-3693-5812-2.ch002>.

Fiveable (2024). Instructional Adjustments – Foundations of Education. [https://fiveable.me/key-terms/foundations-education/instructional-adjustments?utm\\_source=chatgpt.com](https://fiveable.me/key-terms/foundations-education/instructional-adjustments?utm_source=chatgpt.com).

Front. Educ., 9, 1473766. <https://doi.org/10.3389/feduc.2024.1473766>

Gameil, A.A. & Al-Abdullatif, A.M. (2023). Using Digital Learning Platforms to Enhance the Instructional Design Competencies and Learning Engagement of Pre-service Teachers. Education Sciences, 13(4), 334. <https://doi.org/10.3390/educsci13040334>.

Goles, C., Sanchez, J.M., Sumalinog, G., Mananay, J., & Alejandro, I.M. (2024). Beyond the Pandemic: The Changing Landscape of Technology Integration in Higher Education in Central Visayas, Philippines. CTU Journal of Innovation and Sustainable Development, 16(1). <https://doi.org/10.22144/ctujoisd.2024.262>.

Green, C.N. (2025). Strategic Considerations for Integrating Digital Technology and Literacy Learning. The Language and Literacy Spectrum, 35(1), Article 5.

Halene, K.D. & Hashim, H. (2025). Exploring Digital Education: Experiential Insights of ESL Teachers in Rural Malaysian Schools. <https://dx.doi.org/10.47772/IJRISS.2025.903SEU0067>.

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\*\*\*\*\*



\*\*\*\*\*

Haslin, K. & Hamzah, I.M. (2023). Digitization of Education: Readiness and Challenges for Students in Learning. QALAM International Journal of Islamic and Humanities Research, 3(1), 41–57.

Hyang, P. & Rim, Y. (2023). The Influence of Teachers' Digital Literacy Competencies on Pedagogical Modification and Practical Knowledge. Cultural Convergence, 45.

Instruction Partners (2024). Preparing High-Quality Lessons. <https://instructionpartners.org/2024/10/31/preparing-high-quality-lessons/>.

International Technology Education Association (2024). Planning Learning: Developing Technology Curricula.

Jalop, A.J.B. & Paglinawan, J.L. (2025). The Role of Collaborative Learning Environments to the Digital Pedagogies of Experienced Teachers. <https://dx.doi.org/10.47772/IJRISS.2025.90400515>.

Jamaludin, K. (2024). International Journal of Academic Research in Progressive Education and Development, 13(3). <https://doi.org/10.6007/IJARPED/v13-i3/22144>

Joshi, A.B. & Banjara, M.R. (2024). Research methods and thesis writing. Format Printing Press, Kathmandu.

Lagura, M.K.E.L. & Paglinawan, J.L. (2025). Narratives of Teachers Using Edutainment Tools in Marginalized Areas. International Journal of Scientific and Management Research.

Li, J. & Wu, C.H. (2023). Determinants of Learners' Self-directed Learning and Online Learning Attitudes in Online Learning. <https://doi.org/10.3390/su15129381>.

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\*\*\*\*\*



\*\*\*\*\*

Lim, W.M. (2024). What is Qualitative Research? An Overview and Guidelines. *Australasian Marketing Journal*, 33(2), 199-229.

Lin, R., Yang, J., Jiang, F., & Li, J. (2022). Does Teacher's Data Literacy and Digital Teaching Competence Influence Empowering Students in the Classroom? *Educational Information Technology*, 28, 23. <https://doi.org/10.1007/s10639-022-11274-3>.

Liu, C. & Xu, Y. (2025). A Visual Analysis of the Research Literature on Teachers' Digital Literacy (2015–2024). *Front. Educ.*, 10, 1597121. <https://doi.org/10.3389/educ.2025.1597121>.

Liu, J., Awang, M.M., & Umar, A. (2025). *International Journal of Academic Research in Progressive Education and Development*, 14(3), 1127-1139. <http://dx.doi.org/10.6007/IJARPED/v14-i3/26136>.

Liu, Z., Kong, X., Liu, S., Yang, Z., & Zhang, C. (2022). Looking at MOOC Discussion Data to Uncover the Relationship between Discussion Pacings, Learners' Cognitive Presence, and Learning Achievements. *Educational Information Technology*. <https://doi.org/10.1007/s10639-022-10943-7>.

Llego, M.A. (2024). Learning Action Cells and Action Research: Transforming Teacher Development in Philippine K-12 Education. <https://www.teacherph.com/learning-action-cells-lac-action-research-deped/>.

Lourenço, L.P.R., Cruz, E., & Costa, F.A. (2023). Collaborative Experiences among Teachers Oriented Towards the Pedagogical Integration of Digital Technologies: A Systematic Literature Review. *ICERI2023 Proceedings*, 6442-6449.

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\*\*\*\*\*



\*\*\*\*\*

Lu, C., Lee, J.C.K., & Gu, M.M. (2025). Integrating Digital Technologies into Teaching: A Study on Pre-service Language Teachers' Perceptions and Practice. *Educational Information Technology*, 30, 19537–19557. <https://doi.org/10.1007/s10639-025-13511-x>.

Ma, H. & Ismail, L. (2025). Bibliometric Analysis and Systematic Review of Digital Competence in Education. *Humanities and Social Sciences Communications*, 12, 185. <https://doi.org/10.1057/s41599-025-04401-1>.

Marikyan, D. & Papagiannidis, S. (2025). Technology Acceptance Model: A Review. In S. Papagiannidis (Ed.), *TheoryHub Book*. <https://open.ncl.ac.uk> ISBN: 9781739604400.

Mendoza, E., Cimagala, L.C., Villagonzalo, A., Guillarte, M., & Saro, J. (2023). Coping Mechanisms and Teachers' Innovative Practices in Distance Learning: Challenges and Difficulties for the Modular Teaching and Learning Approach. *Psychology and Education: A Multidisciplinary Journal*, 6(9). [https://scimatic.org/show\\_manuscript/944](https://scimatic.org/show_manuscript/944).

Naeem, M., Ozuem, W., Howell, K., & Ranfagni, S. (2023). A Step-by-step Process of Thematic Analysis to Develop a Conceptual Model in Qualitative Research.

Nowell, L.S., Norris, J.M., White, D.E., & Moules, N.J. (2021). Thematic Analysis: Striving to Meet the Trustworthiness Criteria. *International Journal of Qualitative Methods*, 20, 1–13. <https://doi.org/10.1177/1609406921995300>.

OECD (2023). *OECD Digital Education Outlook 2023: towards an effective digital education ecosystem*. OECD Publishing. <https://doi.org/10.1787/c74f03de-en>.

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Olugbade, D., Oyelere, S.S., & Agbo, F.J. (2024). Enhancing Junior Secondary Students'

Learning Outcomes in Basic Science and Technology through PhET: A Study in Nigeria.

Education and Information Technologies. <https://doi.org/10.1007/s10639-023-12391-3>.

Osorio, J. & Banzato, M. (2022). Digital Transformation of Education and Learning Through

Information Technology in Educational Management. Open conference on computers in

education. Springer. [https://doi.org/10.1007/978-3-030-97986-7\\_24](https://doi.org/10.1007/978-3-030-97986-7_24).

Paxino, J. (2022). Interview Schedule. The University of Melbourne. Workflow.

<https://doi.org/10.26188/19342043.v1>.

Raave, D.K., Saks, K., Pedaste, M. & Roa, E.R. (2024). How and Why Teachers Use

Technology: Distinct Integration Practices in K-12 Education.

<https://doi.org/10.3390/educsci14121301>.

Saklaki, A. & Gardikiotis, A. (2024). Exploring Greek Students' Attitudes Toward Artificial

Intelligence: Relationships with AI Ethics, Media, and Digital Literacy. *Societies*, 14, 248.

<https://doi.org/10.3390/soc14120248>.

Salgado, J.D.A., & Paglinawan, J.L. (2024). Teacher's Challenges and Opportunities in

Integrating Digital Technology in the Classroom.

Shahzad, M. (2024). The Impact of Digital Divide on the Educational Outcomes of Deprived

Students.

Siyam, Y., Siyam, N., Hussain, M. et al. (2025). Evaluating Technology Integration in

Education: A Framework for Professional Development. *Discover Education*, 4, 53.

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Supratman, L., Irfan, A.M., Nurramadhani, A., Ningsih, R.D., & Pomares, K.M.R. (2025).

Empowering Teachers' Digital Literacy: Training on Creating Digital Learning Media at Rural Elementary Schools. *Pedagogia: Jurnal Ilmiah Pendidikan*, 17(1).  
<https://doi.org/10.55215/pedagogia.v17i1.45>.

Temirkhanova, M., Abildinova, G., Abildinova, G., & Karaca, C. (2024). Enhancing Digital Literacy Skills Among Teachers for Effective Integration of Computer Science and Design Education: A Case Study at Astana International School, Kazakhstan. *Front. Educ.*, 9, 1408512. <https://doi.org/10.3389/educ.2024.1408512>.

TESDA (2023). TVET Glossary of Terms. [https://www.tesda.gov.ph/Uploads/File/Glossary/2023%20TVET%20Glossary%20of%20Terms.pdf?utm\\_source=chatgpt.com](https://www.tesda.gov.ph/Uploads/File/Glossary/2023%20TVET%20Glossary%20of%20Terms.pdf?utm_source=chatgpt.com).

Umar, M. & Ko, I. (2022). E-learning: Direct Effect of Student Learning Effectiveness and Engagement Through Project-based Learning, Team Cohesion, and Flipped Learning during the COVID-19 Pandemic. *Sustainability*, 14(3), 1724.

UNESCO (2023). Global education monitoring report 2023: technology in education: A tool on whose terms? UNESCO Publishing. <https://doi.org/10.54675/PKZQ7462>.

Volante, D.C., Oliverio, J.C.G., Greda, M.R. & Bayani, V.C. (2025). Awareness and Readiness of School Leaders in Digital Governance: Challenges and Strategies for Implementation in the Philippine Context.

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Wang, Y., Liu, W., Yu, X., Li, B., & Wang, Q. (2024). The Impact of Virtual Technology on Students' Creativity: A Meta-analysis. *Computers & Education*, 215, 105044. <https://doi.org/10.1016/j.compedu.2024.105044>.

Watson, J.H. & Rockinson-Szapkiw, A. (2021). Predicting Preservice Teachers' Intention to Use Technology-enabled Learning. *Computers and Education*, 168, 104207. <https://doi.org/10.1016/j.compedu.2021.104207>.

Xu, Z., Yuan, H., & Liu, Q. (2021). Student Performance Prediction Based on Blended Learning. *IEEE Transactions on Education*, 64, 66–73. <https://doi.org/10.1109/TE.2020.3008751>.

Zafer, H.M.I., Maqbool, S., Rong, Y., & Maqbool, S. (2025). Impact of Digital Learning Tools on Students' Engagement and Achievement.

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