INTEGRATION OF DIGITAL PEDAGOGY IN ELT: TEACHER PERCEPTION ON LEARNING ACHIEVEMENT AND PROFESSIONAL DEVELOPMENT

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ABSTRACT

Implementation of digital pedagogy in English language teaching is essential to enhance the language skills, vocabulary, and grammatical competence of the learners and professional development of ELT teachers at school level. This study would be very relevant to address issues of Information and Communication Technology (ICT) of learners and teachers at secondary school level in Nepal. The purposes of this study were to find out the perceptions of English teachers of community and institution schools regarding the use of digital pedagogy to develop learning achievement of learners and teacher professional development and investigate the impact of digital pedagogy on teachers and learners. We employed hermeneutic phenomenological research design to accomplish this study in which lived experiences of English teachers were collected using in-depth semi-structured interview. Eight English teachers particularly, four from community and four from institutional schools were selected as a sample for this study from Kathmandu metropolitan city. The findings of this study revealed enhancement of learning achievement through classroom engagements, enriching teacher professional development, developing of critical thinking and creative skills of learners through ICT, improving English language competency of learners through digital pedagogy, and developing 21ˢᵗ century skills through ICT through the integration of digital pedagogy in English language Teaching at school level. The digitalization of English language teaching and learning at school level is

essential for the learners and teachers to be adapted and accommodated them in this globalized global village.

Keywords: digital pedagogy, hermeneutic phenomenological research design, engagement, critical thinking, and 21st century skills

INTRODUCTION

The English language teachers are to be well-equipped with every device of digital pedagogy to make the success of teacher education programs in the English curricula of secondary level. The English language teachers and learners are still deprived of the access to Information Communication Technology (ICT) and internet connectivity to employ ICT in the language classes. ICT has been implemented as a tool and as a subject in school curricula to advance the quality of education through digitalization (National Curriculum Framework, 2007). In a similar vein, ICT has been incorporated in the school curricula to revolutionize quality education by integrating digital pedagogy (National and Communication Technology Policy, 2015). In addition, internet connectivity, human resources, content development and system enhancement are incorporated as components of ICT in school education (Education Master Plan, 2013). Digitalization in education is a slogan in the 21st- century era to facilitate the students in the esteemed schools and universities in the developing countries like Nepal. Internalizing the digital expertise, the teachers can use of ICT in language learning effectively (From, 2017). Integration of digital pedagogy in English language teaching at secondary level is essential to enhance language skills, and to improve proficiency of vocabulary and grammar of learners. More importantly, embracing digital pedagogy in language classroom helps the teachers develop their professional development.

REVIEW OF LITERATURE

It is essential to integrate digital pedagogy and ICT with English Language Teaching (ELT) in enhancing teaching and learning since the use of ICT makes it easier for teachers to deliver content knowledge to the students efficiently (Susanto *et al.,* 2020). Digital-mediated learning includes Computer Assisted Language Learning (CALL), Digital Computer and Language Learning (DCALL), e-learning, online distance education, blended learning and hybrid learning. Integration of ICT in ELT is e-learning, Computer Assisted Language Learning (CALL), Massive Open Online Courses (MOOCs), Mobile Assisted Language Learning (MALL) and Technology Enhanced Language Learning. The use of ICT in ELT can

change the language teachers from knowledge providers to skill suppliers. Subsequently, the students can undertake the charge of their own learning.

The integration of the tools of ICT with pedagogy helps the teachers develop their pedagogical digital competency. In this regard, Adhikari argues (2021) that ICT-integrated ELT helps promote teachers' and students' performances, enrich students-centered teaching strategies, develop learning opportunities and bring pedagogical changes in the domain of English language pedagogy. However, English as a Foreign Language (EFL), English teachers have limited skills and knowledge to integrate ICT with ELT so they need the professional exposures to the integration of ICT in ELT (Singh, 2019). In this regard, ICT integration in ELT has become an integral part of the education system to develop the 21st century skills (Parette & Blum, 2013). Integration of ICT in pedagogy motivates the students to participate and engage in learning. ICT supports the learners to work at their own pace and create high motivation with learner autonomy (Ahmadi, 2018; Singh, 2019). The synergy of ICT with ELT is essential to develop critical and creative thinking skills of teachers and learners (Khasatiya, 2020). The collaboration between ICT and ELT tools supports the personal and organizational success. There are barriers to integrating ICT with pedagogy, such as inadequate knowledge, financial constraints, and limited student access, (Siregar *et al.,* 2024). Furthermore, obstacles to ICT integration with ELT are inadequate sources, low self-efficacy, lack of confidence of the learners, poor digital equipment, inadequate number of computer labs, and lack of technical supports (Maru *et al.,* 2021).

Visualization and animation of teaching and learning materials make the students easier to comprehend teaching and learning issues in the classroom. ELT has embedded with 21st century technology in ameliorating knowledge acquisition. In this post-colonial era, the miraculous development in the field of science and technology has contracted the whole world into a global village due to the unprecedented advancement of science and technology. The use of ICT in education becomes the strategies of reaching goals of education in Nepal (MOE, 2013). ICT has become the integral part in the present education system due to the accessibility of the tools and devices of ICT locally and globally. Incorporating e-learning and ICT tools enables the learning achievement to attain the objectives of the language learning (Martinez & Gomez, 2023). In fact, application of digital pedagogy in ELT class helps the learners achieve language skills, vocabulary and grammar. ICT integrated ELT has played a pivotal role to

retrieve and share knowledge in the particular subject matter. The language classroom has been drastically changed from that of the mid to late 20th century from traditional mode of delivery to digitalized classroom (Eaton, 2010).

Most of the countries have embedded ICT into education due to its profound implication in every realm of education (UNESCO, 2005). There is a huge exposure of culture and knowledge through ICT integrated language pedagogy (Poudel, 2021). ICT integrated ELT has become a change agent in 21st century. More importantly, it can create more meaningful and realistic learning environment (Hollenbeck & Hollenbeck, 2009). The effective teaching and learning are impossible beyond integrating ICT tools in ELT classroom. The language teachers are to be equipped with knowledge and skills in technology and pedagogy to attain desired outcomes in education. Most of the faculty members in the secondary and higher education levels have been struggling to integrate ICT tools in teaching and learning due to the lack of proper workshop, trainings and exposures in digital pedagogy and poor infrastructure (Rana *et al.,* 2018; Adhikari, 2021).

With this concept, the term Digital Pedagogy (DP) is formalized working with pedagogy using digital tools with three process steps: a) dissemination of learning resources digitally, b) engaging students with learning activities digitally and c) accessing students' learning digitally.

Incorporating digital literacy into language learning is crucial in enhancing pedagogical approach (Hassan & Mirza, 2021). Technology has emerged as a prominent focal point in pedagogical advancement. ICT has begun to be applied in education since ICT is believed to improve the quality of human life (Wegerif & Major, 2019). The assimilation of ICT in ELT has become a huge globalization issue in this era due to the massive and vigorous changes in the field of education. The online teaching needs a variety of technological devices which are to be applied in synchronous mode of instruction (Codreanu, 2020; Gillett-Swan, 2017). The lack of digital technology in the ELT is the main issue of teacher education in context of Nepal. This study attempted to address the following research objectives:

- To find out the perceptions of English language teachers of community and institution schools regarding the use of digital pedagogy to develop learning achievement of learners and teacher professional development;

● To investigate the impact of digital pedagogy on teachers and learners.

MATERIALS AND METHODS

Research Design

Hermeneutic phenomenology is a constructivist approach in which multiple, socially constructed realities exist (Hatch, 2002). A phenomenological research design is used to collect and interpret data, "aiming to portray the phenomenon experienced by participants and how they would describe it" (Riazi, 2016a, p. 45). The in-depth interview was employed to collect data in this study. Phenomenology is conceived as "social and cultural situatedness of actions and interactions, together with participants' interpretation of actions" (Cohen, *et al.,* 2018, p. 21).

Campbell (2015) claims that phenomenological research design allows the researchers to delve into subjective and multiple realities and furthermore, this research design seeks to explore participants' understanding of the meaning and significance of specific life phenomena that they experience at work (Diaz, 2015). To address the research objectives, we used the hermeneutic phenomenological research design in this study.

Participants

Eight English teachers particularly, four from the community and four from the institutional schools were selected as a sample from Kathmandu metropolitan city through purposive non-random sampling procedure in this study. We selected two teachers from each school, specifically, at least, one male and one female English teacher from each school. The selected community schools were entitled as School A and B. In a similar vein, the selected institutional schools were entitled as School C and D. The sampled community and institutional schools and participants were selected using purposive non-random sampling procedure. In order to maintain anonymity and confidentiality, we entitled pseudonyms as Sangita, Shiva, Smriti, Sitaram, Diksha, Dinesh, Kavi, and Kavita.

Research Instrument

We used semi-structured interview as a research tool which was administered to the participants to collect data from them.

Research Site

The research site was Kathmandu district. All of the four community and institutional school were situated in Kathmandu metropolitan city.

FINDINGS AND DISCUSSION

Enhancement of Learning Achievement through Classroom Engagement

The integration of ICT in pedagogy helps the teachers create their own teaching and learning materials by using Learning Management System (LMS) in education. LMS helps the learners to be more engaged, collaborative, dynamics and smarter to use Moodle as a learning platform (Son, 2007). In this regard, Sangita stated that using related YouTube videos with rich content knowledge really make them excited and motivated towards their learning. Use of such YouTube videos avoid their monotony and demotivation in the class. Every moment of the class become very exciting and inspiring for them. The learners' engagement through YouTube is very high using digital pedagogical tool in language classes. The principle of LMS is that more they are engaged better they learn using devices of digital pedagogy.

Digital tools refer to computer-based devices, such as hardware and software devices, laptop, smart phones**,** multi-media projector, email, YouTube and Facebook which are to be used to make the language classroom more engaged and interactive (Acharya, 2013). The learners are motivated towards their learning while teaching them using digital pedagogy since language classes become very lucrative and fascinating using devices of digital pedagogy. To enhance quality education, integration of ELT with ICT plays a significant role to enhance learning and motivate the learners in school education in Nepal (Poudel, 2021). In this regard, all of the participants Shiva, Smriti, Sitaram, Diksha, Dinesh, Kavi, and Kavita acknowledged that the classroom becomes more engaged and enthusiastic while teaching them using YouTube videos in the language class. In this point, Kavi argued that *"vocabulary, language skills and grammar of English can be taught them through self-engagement techniques using different games. The techniques of making them more engaged using various devices of digital pedagogy really fascinates them towards their learning."*

The learners can be asked different open-ended questionnaire by pausing the YouTube videos so the learners' language skills, vocabulary and grammar can be improved. The class becomes more learner-centered

than teacher domination through digital pedagogy. The tools of 21st century skills are guidance and counselling, gaming tools, google analytics, jam board wheel, mentimeter, quizlet, kahoot, pentameter and Edu puzzle which are to be used by the language teachers in the classroom to increase the learning achievement of the learners.

ICT innovation has changed the landscape of the educational good governance through face to face, blended, hybrid and online mode of teacher teaching and learner learning. Online, hybrid and blended learning environment help the learners connect home, school, and other spaces for anytime anywhere learning opportunity whenever required (Downes, 2005). The learners can be asked to be more specific on their relevant content knowledge through engagement of using digital pedagogy.

Enriching Teacher Professional Development through Digital Pedagogy

In order to be professionally grown up, the teachers have to employ the 21st century skills in the classroom for their own pedagogical digital competency and upgrading the learning achievement of the learners. The teachers can publish articles through e-journal and they can present research papers in the national and international conferences of applied linguistics physically and digitally. Moreover, the teachers can participate as presenters and delegates in the webinar, e-workshop and e-symposium. In this point, Smriti asserted that

I participated workshops through digitally in a number of times at local, provincial and national levels. I learnt skills to teach reading skills through Edu-puzzle in which the learners are asked to respond the comprehensive questions by breaking them in course of watching movies and reading some comprehensive passages. There was pausing and breaking of passages in a number of times in order to respond the comprehensive questions. In digital pedagogy, there is fusion of technology, pedagogy and content knowledge smartly and systematically.

The synergy of ICT and ELT is inevitable to keep up with the pace of 21st century. Moreover, the use of collaboration of ICT and ELT facilitates the ELT teachers for their better academic and professional careers. The breakthrough of ICT has shaped and modified the personal and professional careers of students and language teachers (Acharya, 2014). In this regard, Sitaram claimed that

English teachers can learn lifelong skills through tools of digital pedagogy. There is a massive anger and dissatisfaction of learners for the

use of slides in the name of ICT. The teachers even do not make slides but they explore relevant slides on the google and use them in the classroom. There is one way of reading the slides without interaction and engagement using non-digital pedagogy. To improve such one-way teaching using slides in the name of so-called ICT embedded ELT, we have been using slides and showing them recorded videos and questions as assignment at the end of the videos with the help of digital pedagogy. At the same time, we ask them to have interaction on the given questions after watching the videos as well.

Digital pedagogy really facilitates the teachers to be professionally sound in their professional careers. Teachers' cognition of technology in ELT is an integral part of their professional careers and improvement of the learning achievement. In determining the role and efficacy of technology within the educational settings, teachers' cognition of technology is very crucial (Johnson *et al.,* 2016). The digital pedagogues can bring considerable changes in the learning achievement of the learners as well as there is a paradigm shift into classroom digital pedagogy from traditional pedagogy. Pedagogy and technology are a unified whole in the development model of pedagogical digital competences of teachers (He, Lundgren & Pynes, 2017). All of the participants Sangita, Shiva, Smriti, Diksha, Dinesh, Kavi, and Kavita agreed that digital pedagogy would be advantageous for the professional development of English teachers so they are encouraged to use digital pedagogy in the language class.

Developing of Critical Thinking and Creative Skills of Learners through ICT

The main objective of using ICT tools is to make the learners more creative, innovative, and critical thinkers. However, the learners who are from underprivileged community do not have access of internet, laptop and smart mobile (Karn, 2011). In this regard, Kavita stated if the learners are provided with access of the internet and devices of digital pedagogy, they can use the search engines to browse the required content documents. Moreover, the they can read and respond the learning materials provided by their respective subject teachers. As such, they can develop their critical skills through the contents provided by their tutors. Moreover, they can use their own thinking skills in course of responding the assignment to their tutors.

The advancement of ICT is a major reason to bring changes in the field of education (Yuhana *et al.,* 2022). The learners can develop

their critical thinking skills through excessive use of the devices of digital pedagogy. In this context, Diksha claimed that when the learners develop the reading culture through online reading, by default, their creative writing skills can be developed. In a similar vein, they can develop the vocabulary by playing games. There are different types of gamifications which can help them to develop critical thinking skills. In my experiences, I used digital tools to teach vocabulary, listening and speaking skills.

Critical thinking skills is essential for the learners even to respond formative assessment and they need critical and creative thinking skills to respond the questions in the summative assessment. Digital pedagogy makes them very witty, and thought provokers so digital pedagogy should be executed in school education and university level strictly to follow 2018 digital Nepal framework of Government of Nepal (2018). More importantly, digitalization has been made the key priority of the Government of Nepal in all disciplines including education. Similarly, technology enabled education is the national educational reform agenda for both school education and higher education sectors in Nepal.

Improving English Language Competency of Learners through Digital Pedagogy

The integration of ICT in ELT creates conducive learning environment for the students of the 21st century to develop the 21century skills such as collaboration, language skills, coordination, friendship, digitally sound etc. The globalization of English with technology helps the language teachers to integrate ICT with 21st century skills in the language classroom. In this regard, Dinesh stated that learners writing skill will be developed promptly since they will get more exposure through online reading materials and they get feedback from their peers and teachers easily. They do not need time to produce writing. Moreover, they should have laptop, tablet or smart phones with good access of internet.

The technology can be used to deliver content knowledge, promote interaction, assess students' learning and provide them feedback (Martin & Wang, 2019). In fact, integrating of ICT tools for EFL learners requires to improve learning outcome, increase students' participation and opportunities (Siregar, 2024). The products of ICT are essential entities to bring splendid changes in the field of teaching, learning and conducting research (Beckman, 2018). Learners can develop accuracy, and fluency in speaking skills watching YouTube videos and Edu-puzzle and other digital

resources. In this regard, Kavi asserted that I asked every student to read folk and fairy tales through YouTube every day. Every Friday, I used to conduct a special program in my class. The learners have to share the main gist of the story that they read on the YouTube. This culture helps them to develop reading, listening and speaking skills so reading culture can be developed through tools of digital pedagogy.

ESL and EFL teachers should think to integrate technology in their language instructional practice to be compatible with the pace of 21st century since ICT facilitates constructive and meaningful learning experiences. All of the participants agreed that learners' listening, speaking, reading and writing skills, vocabulary and grammar can be developed through devices of digital pedagogy. The integration of digital devices in ELT helps the teachers and teacher educators in delivering the content to the students effectively. More importantly, ICT integration in ELT classroom supports the learner autonomy (Acharya, 2013). ICT integrated ELT facilitates the learners to develop language skills, vocabulary and grammar effectively. ICT has offered distinct opportunities, novel tools, approaches and strategies for enhancing teaching and learning.

Developing 21st Century Skills through ICT

Digital pedagogy can help the learners develop 21st century skills such as collaboration skills, critical thinking skills, creative thinking skills, problem solving skills, and decision-making skills (Pazilah *et al.,* 2024). In this regard, Sangita argued that Twenty first century skills are inevitable to empower teachers for their professional development and increasing the learning achievement of the students. The 21st century technology creates comfortable environment to engage the learners in learning through collaboration digitally. All of the human attributes can be developed through of 21st century skills.

SLC graduates (school leaving certificate) are to be humane, cooperative digitally competent and flexible, critical thinkers, and seculars to be adjusted and accommodated in any corner of the world since this world has been shifted into global village through digital world. In order to address the issues of 21st century skills, there should be the marriage between digitalized tools and ELT is crucial (Valtonen *et al.,* 2018). There are a number of 21st century skills which are to be learnt by the learners to be saleable in any economical, and educational job markets to be survived in this digital world. In a same vein, Sitaram argued that the learners should

have good command over the major languages which are lingua franca in the job market such as English, French, Japanese, Chinese, Korean, Spanish, and German. More importantly, learners should have good competency over English to survive in any country in the world since English language has been growing as an international language and global lingua franca. English has become an international language so learners should improve proficiency of English to develop communicative skills.

English language has been globalized in every field such as education, tourism, commerce, trade, medicine, journalism, information and communication technology, science and technology so first and foremost the learners have to develop English language competency to be success academically. In this point, Diksha asserted that "students can develop collaborative and co-working skills as the 21st Skills. Digital pedagogy helps them to work collaboratively since they have to carry out the assignments with their peers. It is very difficult for the learners to work in collaboration with their peers". 21st century skills incorporate problem solving skills, critical and creative thinking skills, guidance and counselling skills, leadership skills, ICT skills, and collaborative skills.

CONCLUSION

Digital pedagogy is very essential to replace the chalk and talk method of teaching in this 21st century. The learners cannot become global learners through the traditional methods of teaching, such as Grammar Translation method, Direct method. Audio Lingual method, The Silent method etc. in school level in Nepal. There are substantial quantities of resources of e-learning in each subject to collect teaching and learning materials. The teachers have to implement digital pedagogy to make the learners understand the content knowledge effectively in their face-to-face class as well. In order to make the 21st century learners compatible with this digitalized word, local governments of Nepal should adopt the mode of digital pedagogy in school level since the Constitution of Nepal (2015) has granted the responsibility of operating and controlling the school level education to the local governments. There are more advantages of implementing digital pedagogy in place of traditional modes of teaching and learning in school level. The teachers can develop the professional careers through adopting digital pedagogy. The learning achievement can be promoted if the digital pedagogy has been executed effectively. The learners can develop their

critical and creative thinking skills, English language proficiency, problem solving skills, and collaborative skills through digital pedagogy.

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REFERENCES

Acharya, C. P. (2013). Use of ICT/Web tools in ELT in Nepal. *Journal of NELTA, 19*(1-2), 1-16.

Adhikari, Y. N. (2021). Integrating technology into English language teaching in Nepal: Students and teachers' perspectives, *Prithvi Academic Journal, 4,* 107-120. https://doi.org/10.3126/paj. v4i0.37052

Ahmadi, M. R. (2018). The use of technology in English language learning. *International Journal of Research in English Education, 3*(2), 115-125.

Beckman, K., Apps, J., Bennett, S., & Lockyer, L. (2018). Conceptualizing technology practice I in education using Bourdieu's sociology. *Learning Media and Technology, 43*(2), 197-210. https://doi.org/1 0.1080/174.39884.2018.1462205

Campbell, T. A. (2015). A phenomenological study on international doctoral students' acculturating experiences at a US university. *Journal of International Students, 5*(3), 285-299.

Codreanu, F. (2020). Teaching English online: From course to practice. *Language for Specific Purpose*, 20(3), 29-37.

Cohen, L., Manion, L., & Morrison, K. (2018). *Research methods in education.* Tylor and Francis.

Diaz. M. P. (2015). Phenomenology in educational qualitative research: Philosophy as science or philosophical science? *International Journal of Educational Excellence*, *1*(2), 101-110.

Digital Nepal Framework (2018). *2018 digital Nepal framework. Ministry of Education, Science and Technology.* Government of Nepal.

Downes, S. (2005). *Introduction to connective knowledge.* https://www. researchgate.net/publication/248290359

Eaton, S. E. (2010). *Global trends in language learning in the twenty first century.* Retrieve from https://files.eric.ed.gov//fulltext/ED510276

Education Master Plan (2013). *Information and communication technology in education master plan 2013-2017.* Government of Nepal, Ministry of Education.

From, J. (2017). Pedagogical digital competence-between values, knowledge and skills. *Higher Education Studies, 7*(2), 43-49. https://doi.org/10.5539/hes.v7n2p4

Gillett-Swan, J. (2017). The challenges of online learning: Supportive and engaging the isolated learner. *Journal of Learning Design, 10*(1), 20-30. https://doi.org/10.5204/jld.v9i3.293

Hassan, M. M,. & Mirza, T. (2021). The digital literacy in teachers of the school of Rajouri (J & amp, K.)- India: Teachers' perspective. *International Journal of Education and Management Engineering, 11*(1), 28-40. https://doi.org/10.5815/ijeme.2021.01.04

Hatch, J. A. (2002). *Doing qualitative research in education settings.* Albany: State university of New York Press.

He, Y., Lundgren, K. & Pynes, P. (2017). Impact of short-term study abroad program: Inservice teachers' development of intercultural competence and pedagogical beliefs. *Teaching and Teacher Education*, *66,* 147-157. https://doi.org/10.1016/j.tate.2017.04.012

Hollenbeck, J. & Hollenbeck, D. (2009). Using technology to bridge the cultures together in the multicultural classroom. *In:* D. P. French, (Ed.). *Technology in the college science classroom.* Stillwater: Oklahoma State University, pp. 1-6.

Johnson, A. M., Jacovina, M. E., Ressel, D. G., & Soto, C. M. (2016). Challenges and solutions when using technologies in classroom. *In adaptive educational technologies for literacy instruction.* Routledg, pp. 12-32. https//doi.org/10.4324/9781315647500

Karn, S. (2011). Wounded warrior rescuing Thakur Ram from deadly epidemic. A *Multidisciplinary Journal, 1* (1).

Khasatiya, R. (2020). The intersection of ELT and ICT: Meeting the demands and challenges of 21st century education. *International Webinar on ELT & Technology*, *9*(4), 23-33.

Martin, F., Budhrani, K. & Wang, C. (2019). Examining faculty perception of their readiness to teach online. *Online Learning, 23*(3), 34-43. https://doi.org/10.24059/0lj.v.23i3.1555

Martinez, J. A. A. & Gomez, J. F. (2023). The impact of e-learning and ICT on English language learning: COVID-19 context. *Research in Learning Technology, 31*, 2141. https://doi.org/10.25304/rlt.v31.2941

Maru, M. G., Pikirang, C. C., Ratu, D. M. & Tuna, J. R. (2021). The integration of ICT in ELT practices: The study on teachers' perspective in new normal era. *IJIM, 15*(22), 44-67. https://doi.org/10.3991/ijim.v15i22.25533

Nation and Communication Technology Policy (2015). *Nation and communication technology policy*. Ministry of Information and Communication, Government of Nepal, Kathmandu, Nepal.

National Curriculum Framework (2007). *National curriculum framework for school education in Nepal*. Ministry of Education, Curriculum Development of Centre, Government of Nepal, Bhaktapur, Nepal.

Parette, H. & Blum, C. (2013). *Instructional technology in early childhood: Teaching in the digital age*. Baltimore, MD: Brookes.

Pazilah, F. N., Hashim, H., & Yunus, M. M. (2024). Exploring Malaysian ESL pre-service teachers' perception knowledge of learners' digital literacy and 21st century competency. *International Journal of Learning, Teaching and Educational Research, 23*(1), 300-317. https://doi.org/10.26803/ijlter.23.1.15

Poudel, P. (2021). Information and communication technology in foreign language classes in English: Roles and practices. *International Journal of Technology in Education and Science*, *5*(1), 37-55. https://doi.org/10.46328/ijtes.179

Rana, K., Greenwood, J., Fox-Turnbull, W., & Wise, S. (2018). A shift from traditional pedagogy in Nepali rural primary schools? Rural teachers' capacity to reflect ICT policy in their practice. *International Journal of Education and Development using ICT. 14*(13).

Riazi, A. M. (2016a). Innovative mixed-methods research: Moving beyond design technicalities to epistemological and methodological realizations. *Applied Linguistics, 37*(1), 33-49. https://doi.org/10.1093/applin/amvo64

Singh, R. (2019). Students' perspectives on technology integration in ELT. *Journal of NELTA, 24*(1-2), 95-106.

Siregar, R. A., Raja, F. D., Purnawarman, P., & Damayanti, I. L. (2024). The Lonely journey of EFL pre-service teachers in remote areas: *Readiness and challenges in integrating ICT in teaching English with Technology, 24*(1), 59-78. https://doi.org/10.56297/ FSYB3031/wwwcs617.

Son, J. B. (2007). Technology and language teacher education. In *Teacher development in technology-enhanced language teaching*. Palgrave Macmillan, Cham, pp. 3-28. https://doi.org/10.1007/978-3-319.75711-7_1.

Students' and teachers' perspectives. Prithvi Academic Journal, 4, 107-120.

Susanto, R. Rachmadtullah, R., & Rachbini, W. (2020). Technological and pedagogical models: Analysis of factors and measurement of learning outcomes in education. *Journal of Ethnic and Cultural Studies, 7*(2), 1-14. Lttps://dx.doi.org//10.2933/ejecs/311

UNESCO (2005). *Information and communication technologies in schools.* France: Open Learning Centre.

Valtonen, T., Kukkonen, J., Kontkanen, S., Makitalo-Siegl, K., Sonintu, E. (2018). Differences in pre-service teachers' knowledge and readiness to use ICT in education. *Journal of Computer Assisted Learning*, *34*(2), 174-182. https://doi.org/10.1111/jca1.12225.

Wegerif, R. & Major, L., (2019). Buber educational technology and expansion of dialogic space. *AI and Society, 34*(1), 109-119. https:// doi.org/10.1007/s00146-018-0828-6.

Yuhana, Adiantika, H. N. & Charisma, D. (2022). ICT-ELT integration in Indonesian higher education context: EFL teachers' perception. *International Social Sciences and Humanities, 2*(1), 134-139. https://doi.org/10.32528/issh.v2i1.126