Interdisciplinary Research in Education
Volume 9, Issue 2, 2024: 15-25
DOI: https://doi.org/10.3126/ire.v9i2.75016

Skill Challenges in ICT Use among Economics Teachers at Tribhuvan University

Bishnu Maya Joshi[1*]; Shambhu Prasad Khatiwada[2]; Rajendra Kumar Pokhrel[3]
[1]Associate Professor, Economics Education, Mahendra Ratna Campus, Tahachal, Tribhuvan University
ORCiD: https://orcid.org/0000-0002-3474-5022
[2]Professor, Geography Education, Central Department of Education, Tribhuvan University
ORCiD: https://orcid.org/0009-0000-8146-3856
[3]Associate Professor, Economics Education, Mahendra Ratna Campus, Tahachal, Tribhuvan University
ORCiD: https://orcid.org/0009-0004-8435-2333
***Corresponding Author:** joshibishnu92@gmail.com

Keywords

ICT integration, skill challenges, quantitative methods, Tribhuvan University, teachers

Abstract

This paper analyzes the challenges in ICT proficiency among the economics teachers at Tribhuvan University in Nepal. This study uses a descriptive survey design to collect data from 404 Economics teachers at Tribhuvan University using a structured questionnaire. The statistical analysis indicates that gender, computer usage history, and additional income do not significantly impact skill challenges. It is found that skill-related barriers and proficiency issues hinder teachers' ability to effectively use ICT tools in the classroom, affecting instruction quality and confidence. Teachers faced challenges in effectively utilizing ICT, such as insufficient training, low confidence in ICT usage, and difficulties in integrating software into classroom activities. The job nature and home internet access significantly impact the challenges faced by permanent teachers and those without home internet access. The study emphasizes the need for professional development and internet access to enhance teachers' ICT skills, thereby improving education quality and fostering a more interactive learning environment

Introduction

In the 21st century, ICT has significantly influenced global educational practices, transforming the way teachers interact with content and students. Computers in the 21st century significantly enhance the education system, particularly in computer-based education (CBE), which involves the control, delivery, and evaluation of learning. As computer education expands, institutions can utilize computers to create databases and conduct performance analysis. Van Dijk (2005) proposes a four-phase framework to understand the various contexts in which technology access and usage are influenced. The author employs a descriptive approach by examining motivation, physical access, skills, and usage. The author examines the digital divide, focusing on demographics, urban/rural areas, sectors, access to skills and

technology, motivation, and physical access for effective ICT use. Nowadays, ICT has entered the Z-Generation, born after 2000, living in a technologically advanced age, completing the fifth generation. Generation Z, also known as Generation I, Internet Generation, Next Generation, or iGen, is a rapidly accessing generation that consumes and produces knowledge(Kadan & Aral, 2021; Schubert, 2018).

Empirical studies highlight the significance of ICT integration in education, enhancing teachers' theoretical knowledge and practical implications in data-driven 21st-century pedagogy. Teachers can effectively utilize ICT in their pedagogy by transforming teaching practices and shifting from traditional teacher-centric styles to learner-centric methods. ICT enhances teaching methods, course content, and promotes interactive learning, modernizing education processes. Proficiency in ICT skills is increasingly required among educators, including in economics teaching (Kabasiita et al., 2024; Rofi'i et al., 2023). Teachers must acquire relevant knowledge and develop pedagogical and technological skills through quality training programs, which are crucial for their success in the classroom. ICT adoption in education boosts student engagement, personalized learning, and resource access, but challenges persist among teachers, as they lack necessary skills and confidence (Alisoy, 2023; Kaleci & Cihangir, 2019).

ICT integration in economics teaching has significantly improved the ability to illustrate complex theories and abstract economic principles through dynamic simulations and modeling software. Tools simplify theoretical concepts and offer interactive environments for students to engage with real-time data and visualizations, enhancing their practical understanding of economic models (Adu & Zondo, 2023; Gil-Flores et al., 2017; Kulalaieva et al., 2024). Technologies improve interactivity, enabling students to analyze real-world economic trends and decision-making processes, promoting a more practical approach to learning economics (Khalmurzayevna et al., 2024). Mishra and Koehler (2006) emphasized the importance of teachers' understanding of the complex relationships between content, pedagogy, technology, and the educational context for successful technology integration. The successful implementation of information and communication technology (ICT) in education significantly impacts teachers' ability to effectively utilize these technologies (Farısa et al., 2023).

Tribhuvan University, Nepal's largest and oldest institution, is prioritizing the integration of information and communication technology (ICT) into its teaching methods to comply with global educational standards In Nepal, recent educational reforms emphasize the importance of integrating ICT to improve the quality and accessibility of higher education. Despite the policy emphasis and benefits, numerous economics teachers at Tribhuvan University face significant challenges in achieving ICT proficiency. The literature indicates that the efficient use of ICT in education is crucial for resource, material, motivational, and demographic profiles of economics teachers at Tribhuvan University. (Joshi, 2022, 2023). Joshi (2023) highlights Nepal's slow progress towards integrating ICT in education, particularly at Tribhuvan University, where traditional methods still dominate and the shift towards technology is slow.

Tribhuvan University teachers face skill challenges in integrating ICT into teaching,

including lack of familiarity with digital tools, insufficient training, and limited technical support (N. R. Mishra, 2021). The insufficient ICT resource availability and teachers' usage in education hinder its effective integration and application in creating a student-centered learning environment. The integration of technology in classrooms faces challenges like limited training, inadequate institutional support, and difficulties in adapting ICT tools to complex subject matter. In this context, this paper explores the challenges faced by Tribhuvan University economics teachers in integrating ICT into their teaching practices, aiming to inform policy recommendations and professional development initiatives.

Methods and Materials

The paper employs a positivist research paradigm, descriptive survey design and a cross-sectional research approach. This design enables researchers to objectively measure skill-related barriers, proficiency issues, and the overall competency of economics teachers in using ICT, allowing for generalizations and relationships among variables. Primary data were collected from 404 sampled economics teachers from community and constituent campuses at Tribhuvan University in 2022 (Cochran & William, 1977). Data were collected from a structured questionnaire utilizing a Likert scale, which was administered via Google Forms. The research tools were validated through expert consultations and the item-total correlation method. The paper used Pinar et al. (2009) item-total correlation values for each item, indicating good validity with values ranging from 0.42 to 0.90. The paper ensures data reliability by utilizing Cronbach's alpha value of 0.95, indicating high internal consistency, as per De Barros Ahrens et al. (2020). SPSS version 26 is utilized for data analysis, employing descriptive statistics, t-tests, ANOVA, and correlation to identify the skill challenges teachers encounter in utilizing ICT. Statistical methods were employed to conduct a thorough analysis of the data, revealing significant patterns and variations among the respondents.

Results and Discussion

ICT proficiency

This section analyzes challenges in ICT proficiency among economics teachers at Tribhuvan University in Nepal. The rise of new technologies has significantly increased the use of ICT in education in recent years. ICTs have become increasingly important in various sectors like entertainment, administration, robotics, and education, due to their wide range of applications. The integration of ICT in economics education has been determined by several factors, such as access to ICT infrastructure, resource access, teachers' demographic characteristics, skill access and motivational access, and university culture.

In this paper, economics teachers emphasize the significance of ICT proficiency in utilizing new information sources, facilitating teaching through videos, presentations, and applications, increasing student involvement, and providing communication channels. Teachers are essential for educational innovations, but lack of knowledge and skills hinder the use of ICT in universities, making their role effective for shifting to a more digital education. However, teachers often encounter various skill-related challenges that impede effective ICT utilization. At Tribhuvan University, this issue is particularly pronounced among teachers, as evidenced by a recent study focusing on their skill challenges related to ICT.

The issue pertains to the difficulties linked to the proficiency or proficiency level in utilizing ICT tools and applications. Proficiency issues can significantly impact a teacher's ability to confidently and effectively incorporate technology into their teaching methods, thereby directly affecting the quality of instruction. Professional development training is crucial for enhancing ICT skill proficiency for integration in economic classrooms. Table 1 reveals the ICT skill proficiency and challenges faced by teachers at Tribhuvan University. The table identifies five primary issues with corresponding mean scores, standard deviations, t values, and p values, highlighting their importance.

Table 1

Skill Challenges among Teachers

Statements	Mean	SD	t-value	p-value
Insufficient ICT training	2.07	0.82	-22.58	0.00*
Low confidence in utilizing ICT for teaching	3.18	0.99	3.73	0.00*
Students' unfamiliarity with economics software	2.13	0.77	-22.63	0.00*
Challenges in incorporating software into classroom	2.26	0.83	-17.77	0.00*
Absence of ICT related systems for educational use	2.38	0.88	-14.23	0.00*

*P< 0.05(i.e. Significant)

Table 1 reveals teachers' inadequate training, consistent with ElSayary (2023) recommendation for ongoing professional development in ICT, with a mean score of 2.07 and a significant negative t-value. Teachers' confidence in ICT usage is low, with a mean score of 3.18, attributed to limited exposure and practical experience, Williams-Buffonge (2021) emphasize the importance of confidence in effective ICT use, citing limited exposure and practical experience as a significant factor. The finding indicates that teachers' insufficient proficiency in relevant software significantly hinders teaching, underscoring the need for teacher training in ICT, as highlighted by Garzón Artacho et al. (2020). Teachers face challenges with software integration, with a mean score of 2.26 and a significant negative t-value, Esfijani and Zamani (2020) suggesting that resources and training can help. The lack of ICT infrastructure in schools is a significant barrier, as highlighted by Alivo et al. (2022), with a mean score of 2.38.

Factors Affecting to Skill Proficiency

The proficiency in ICT utilization in pedagogy is influenced by various factors at individual, institutional, and systemic levels. Empirical studies reveal that digital literacy, attitude, motivation, training, age, and experience influence teachers' ability to integrate ICT effectively in teaching. However, this paper summarizes gender, computer use, spouse status, income, job nature, and home internet access as the factors affecting teachers' ICT utilization proficiency in pedagogy at Tribhuvan University, Nepal (Table 2).

Table 2

Factors affecting teachers' ICT utilization proficiency in pedagogy

Factors	Category	Frequency	Mean	SD	p-value
Gender	Female	55.00	2.45	0.53	0.54
	Male	349.00	2.40	0.59	
Years of computer use	< 5 Years	102.00	2.40	0.55	0.20
	5-10 Years	116.00	2.32	0.52	
	10- 15 Years	96.00	2.44	0.68	
	>15 Years	90.00	2.49	0.59	
Spouse working	No	194.00	2.42	0.56	0.75
	Yes	210.00	2.40	0.61	
	Total	404.00	2.41	0.58	
Additional income	No	204.00	2.39	0.55	0.59
	Total	404.00	2.41	0.58	
Nature of job	Permanent	192.00	2.48	0.65	0.06
	Contract	99.00	2.32	0.49	
	Part-time	113.00	2.36	0.54	
	Total	404.00	2.41	0.58	
Internet at home	No	18.00	2.12	0.36	0.04
	Yes	386.00	2.42	0.59	

Table 2 examines the factors influencing ICT proficiency in pedagogy at Tribhuvan University, Nepal. The result indicates that there is no significant difference in ICT skill proficiency between female and male teachers, with female teachers scoring 2.45 and male teachers scoring 2.40, respectively (SD = 0.59), and a p-value of 0.54. Koseoglu et al. (2020) have also found that gender does not significantly impact ICT skill challenges, as both male and female teachers are increasing exposure to technology.

The years of computer use did not show a significant effect on ICT skill challenges. Teachers with less than 5 years of computer use had a mean score of 2.40 (SD = 0.55), those with 5-10 years had 2.32 (SD = 0.52), those with 10-15 years had 2.44 (SD = 0.68), and those with more than 15 years had 2.49 (SD = 0.59), with a p-value of 0.20. This finding contrasts with prior studies like Amangeldi and Udi (2023), which suggested that more years of experience with computers often correlate with fewer ICT-related challenges. This discrepancy might be due to the specific context and varying levels of ICT integration in different teaching environments.

The working status of a spouse did not significantly impact the skill challenges faced by teachers, with those without a working spouse having a mean score of 2.42 (SD = 0.56) and those with a working spouse having a mean score of 2.40 (SD = 0.61), with a p-value of 0.75. This indicates that external family dynamics, such as a spouse's employment status, do not directly affect teachers' ICT skill challenges.

Similarly, additional income did not show a significant effect, as those without additional

income had a mean score of 2.39 (SD = 0.55) and the total sample had a mean score of 2.41 (SD = 0.58), with a p-value of 0.59. This suggests that financial factors related to additional income do not significantly influence the ICT skill challenges of teachers.

The nature of the job approached significance, with permanent teachers having a mean score of 2.48 (SD = 0.65), contract teachers 2.32 (SD = 0.49), and part-time teachers 2.36 (SD = 0.54), with a p-value of 0.06. Although not statistically significant, permanent teachers seemed to face slightly more challenges. This could be due to the increased responsibilities and expectations placed on permanent staff, as noted by Mokoena and Dhurup (2019), who highlighted that job security and expectations could impact teachers' willingness and ability to integrate ICT.

A significant difference was found regarding internet access at home. Teachers without internet access at home had a mean score of 2.12 (SD = 0.36), while those with internet access had a mean score of 2.42 (SD = 0.59), with a p-value of 0.04. This significant difference underscores the importance of having internet access at home for overcoming ICT skill challenges. Teachers with home internet access are likely to have more opportunities for practice and continuous learning, supporting findings by Van Deursen et al. (2019), who emphasized the role of home internet access in enhancing digital skills.

Assess Teachers' ICT Utilization Proficiency

The paper presents a composite index to assess teachers' ICT utilization proficiency at the Tribhuvan University, highlighting the importance of their knowledge, skills, and attitudes. Empirical studies indicate that proficiency in ICT utilization in economics education requires both technical skills and pedagogical strategies to improve learning outcomes through technology. In this paper, a correlation matrix analyzes skill proficiency challenges faced by Tribhuvan University teachers in ICT utilization, considering factors like gender, computer usage, spouse working status, income, job nature, and internet access (Table 3)

Table 3

A composite index of independent variables and skill challenges

	Gender	Computer using years	Spouse Working status	Additional income	Nature of Job	Internet at home	Skill Challenges
Gender	1						
Computer using years	0.08	1					
Spouse Working status	-.136**	.116*	1				
Additional income	0.09	0.09	0.03	1			
Nature of Job	-0.06	-.200**	-0.04	0.05	1		
Internet at home	-0.02	.151**	.153**	0.09	-.107*	1	
Skill Challenges	-0.03	0.07	-0.02	0.03	-0.10	.105*	1

Table 2 shows the composite index of the ICT utilization skills proficiency of economic teachers at the TU. The result indicates that there is a negligible (-0.03) correlation between gender and ICT skill challenges faced by teachers, suggesting that gender does not significantly impact these challenges. Pozas and Letzel (2023) and Ariastya et al. (2023) have also found no gender difference in ICT skills, suggesting universally applicable interventions for effective pedagogy use. However, Vergara et al. (2024) revised the gender differences in ICT skills proficiency challenges in teaching-learning.

The correlation between years of computer use and skill challenges was also minimal (0.07). This suggests that the length of time teachers have used computers does not significantly influence the skill challenges they experience. This finding is similar to the finding of the study conducted by and Özer and Kuloğlu (2023), also revealed no significant relationship between teachers' years of experience and ICT skills. This finding contrasts with studies like those by Soydaş (2023) and Buabeng-Andoh (2012) assert that more extensive experience with technology typically leads to fewer challenges. The results imply that merely having years of experience with computers does not equate to proficiency in using ICT for educational purposes, indicating a need for targeted training regardless of experience level.

A significant negative correlation (-0.136**) was observed between spouse working status and skill challenges, suggesting that teachers whose spouses are employed may face slightly fewer ICT skill challenges. This may be attributed to shared responsibilities and resources, which can alleviate some of the pressures associated with teaching. This finding is in line with research by Morris (2012), who explored that dual-income households often provide better support systems for professional development.

The correlation between additional income and skill challenges was negligible (0.03), indicating that financial resources beyond regular income do not significantly impact the skill challenges faced by teachers. This finding aligns with the work of Fuchs and, which conclude Ariastya et al. (2023) that financial status alone does not guarantee better educational outcomes. Therefore, it is essential for educational institutions to focus on providing resources and training rather than relying solely on the financial status of teachers.

The correlation between the nature of the job and skill challenges was slightly negative (-0.10), suggesting that teachers in permanent positions may experience more ICT-related skill challenges than their contract or part-time counterparts. This finding could be due to the increased expectations and responsibilities placed on permanent staff. Such pressures may hinder their ability to engage in continuous professional development and effectively integrate ICT into their teaching. This finding is contrast with the result of the study conducted by Espinosa and Pañares (2023). A significant positive correlation (0.105*) was found between having internet access at home and skill challenges, indicating that teachers with home internet access tend to face fewer challenges in using ICT. This finding underscores the importance of reliable internet access in supporting teachers' professional development and ICT integration, as highlighted Van Deursen et al. (2019).Teachers with home internet access can engage in self-directed learning, access online resources, and practice using various ICT tools, which can enhance their proficiency and confidence.

Conclusion

The paper explores the teachers' ICT utilization proficiency at Tribhuvan University in Nepal. The finding reveals that teachers face significant challenges in effectively integrating ICT technology into their teaching practices due to inadequate infrastructure, low confidence, and difficulty in software integration. The lack of ICT infrastructure hinders technology integration, and factors like gender, computer use, spouse's working status, and income do not significantly impact teachers' ICT skill challenges. The job nature and home internet access have become significant factors, with permanent teachers and those without home internet access facing more significant challenges. The finding highlights the need for targeted interventions considering contextual factors and the correlation analysis, revealing that computer experience and income don't guarantee proficiency in ICT for educational purposes. The paper emphasizes the significance of continuous professional development and support for teachers in integrating ICT into their teaching practices to overcome challenges. This paper suggests that Tribhuvan University and other educational institutions should invest in comprehensive training programs, adequate resources, and reliable internet access to equip teachers with necessary skills and confidence in ICT utilization. Addressing these challenges will enhance the quality of education, promote an interactive, student-centered learning environment, and ultimately transform Tribhuvan University's educational landscape.

References

Adu, E. O., & Zondo, S. S. (2023). Perceptions of educators on ICT integration into the teaching and learning of economics. *EUREKA: Social and Humanities*(1), 61-71. https://doi.org/10.21303/2504-5571.2023.002530

Alisoy, H. (2023). Digital dynamics: Transforming classrooms with ICT. *Znanstvena misel journa, 34*. https://doi.org/10.5281/zenodo.10437759

Alivo, R. A., Cerbito, A. F., & Formaran, M. J. A. (2022). Perceived Barriers in the Sudden Transition to Asynchronous and Synchronous Online Distance Learning of Radiologic Technology Student. *Online Submission, 4*(1), 74-81. https://files.eric.ed.gov/fulltext/ED620764.pdf

Amangeldi, A., & Udi, I. A. (2023). Relationship between teachers' age, education, work experience, and teacher ability to use ICT effectively in their teaching practices. *Asia-Africa Journal of Academic Research and Review, 3*(2). http://www.journals.iapaar.com/index.php/aajarr

Ariastya, R. M., Karolina, V., Afandi, H. T. M., & Maria, H. T. (2023). Digital literacy among teachers in singkawang city: An analysis of gender, age, and socio-economic status. *Journal of Educational Review and Research, 6*(2), 153-160. https://pdfs.semanticscholar.org/a030/0d7c88ad3dab6ca4d38f87db49cba1c505b8.pdf

Buabeng-Andoh, C. (2012). An exploration of teachers' skills, perceptions and practices of ICT in teaching and learning in the Ghanaian second-cycle schools. *Contemporary educational technology, 3*(1), 36-49. https://dergipark.org.tr/en/pub/cet/issue/25727/271451

Cochran, W. G., & William, G. (1977). *Sampling Techniques. New York: John Wiley& Sons*. Inc. https://shorturl.at/4zJh6

De Barros Ahrens, R., Da Silva Lirani, L., & De Francisco, A. C. (2020). Construct validity and reliability of the work environment assessment instrument WE-10. *International journal of environmental research and public health, 17*(20), 7364. https://doi.org/https://doi.org/10.3390/ijerph17207364

ElSayary, A. (2023). The impact of a professional upskilling training programme on developing teachers' digital competence. *Journal of Computer Assisted Learning*. https://doi.org/10.1111/jcal.12788

Esfijani, A., & Zamani, B. E. (2020). Factors influencing teachers' utilisation of ICT: The role of in-service training courses and access. *Research in Learning Technology, 28*. https://doi.org/10.25304/rlt.v28.2313

Espinosa, C., & Pañares, N. (2023). Teachers' Characteristics and their ICT Competence in West II District, Cagayan de Oro City. *International Journal of Research Publications, 125*(1). https://hcommons.org/deposits/item/hc:62673

Farısa, H., Sunggıngwatı, D., & Susılo, S. (2023). Teachers'competencies and students'attitudes toward ict at an efl secondary schooL. *Turkish Online Journal of Distance Education, 24*(3), 224-239. https://doi.org/10.17718/tojde.1122729

Garzón Artacho, E., Martínez, T. S., Ortega Martin, J. L., Marin Marin, J. A., & Gomez Garcia, G. (2020). Teacher training in lifelong learning—The importance of digital competence in the encouragement of teaching innovation. *Sustainability, 12*(7), 2852. https://doi.org/10.3390/su12072852

Gil-Flores, J., Rodríguez-Santero, J., & Torres-Gordillo, J.-J. (2017). Factors that explain the use of ICT in secondary-education classrooms: The role of teacher characteristics and school infrastructure. *Computers in human behavior, 68*, 441-449. https://doi.org/10.1016/j.chb.2016.11.057

Joshi, B. M. (2022). Application of Technology in Economics Teaching: Teachers' Perspectives. *Xavier International College Journal (XICJ)*. https://alevel.xavier.edu.np/upload/file/journal/03.pdf

Joshi, B. M. (2023). Teacher's Perception Regarding the Use and Challenges of ICT in Teaching-learning. *Ganeshman Darpan, 8*(1), 44-56. https://doi.org/10.3126/gd.v8i1.57331

Kabasiita, J., Kagambe, E., Kasiita, T., Kisembo, M., Namubiru, A., & Namutebi, E. (2024). The Mediating Role of Teacher Training and Learner Orientation in ICT Integration for Competence-Based Curriculum Implementation in Kyaka II Refugee Settlement. *East African Journal of Information Technology, 7*(1), 173-187. https://doi.org/10.37284/eajit.7.1.2056

Kadan, G., & Aral, N. (2021). The digital identity of the Z generation and their use of digital technology. *Academic Researches in*, 256. file:///C:/Users/Dell/Downloads/Health%20Science%20_2021_27_010202.pdf

Kaleci, F., & Cihangir, A. (2019). The integration of information and communication technologies for education: Comparative analysis of Turkey and Singapore. *Ahmet Keleşoğlu Eğitim Fakültesi Dergisi, 1*(2), 139-161. https://doi.org/10.38151/akef.641913

Khalmurzayevna, Y. S., Nuriddinovich, F. S., & Karimovich, S. S. (2024). ICT in teaching Economics. *Gospodarka i Innowacje., 47*, 122-129. https://gospodarkainnowacje.pl/index.php/issue_view_32/article/view/2589

Koseoglu, H., Öztürk, T., Ucar, H., Karahan, E., & Bozkurt, A. (2020). 30 Years of gender inequality and implications on curriculum design in open and distance learning. *Journal of Interactive Media in Education, 2020*(1).

Kulalaieva, N., Romanov, L., Yershov, M.-O., Romanova, H., & Yershova, L. (2024). The application of technologies for developing critical thinking skills of vocational education learners in the process of teaching economics. *Youth Voice Journal, 3*(14), 77-85. https://lib.iitta.gov.ua/id/eprint/742591

Mishra, N. R. (2021). Perception and practices of ICT integration in higher education classroom. *Rupantaran: A Multidisciplinary Journal, 5*, 75-88. https://doi.org/10.3126/rupantaran.v5i01.39848

Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *108*(6), 1017-1054.

Mokoena, B., & Dhurup, M. (2019). Self-Efficacy, Organisational Commitment, Job Satisfaction and Satisfaction With Life Relationships: a Study Among Amateur Sport Coaches in South Africa. *International Journal of Social Sciences and Humanity Studies, 11*(1), 19-34.

Morris, N. (2012). *Learning and teaching with emerging technologies: Preservice pedagogy and classroom realities* (Publication No. UMI No. MR77279) [Masters Thesis. ProQuest Dissertations and Thesis Global.

Özer, M., & Kuloğlu, A. (2023). The relationship between primary school teachers' perceptions of 21st century skills and digital literacy level. *Malaysian Online Journal of Educational Technology, 11*(3), 173-183. https://doi.org/10.52380/mojet.2023.11.3.429

Pinar, R., Celik, R., & Bahcecik, N. (2009). Reliability and construct validity of the health-promoting lifestyle profile II in an adult Turkish population. *Nursing research, 58*(3), 184-193. https://doi.org/10.1108/09604520710744326

Pozas, M., & Letzel, V. (2023). "Do you think you have what it takes?"–exploring predictors of pre-service teachers' prospective ICT use. *Technology, Knowledge and Learning, 28*(2), 823-841. https://link.springer.com/article/10.1007/s10758-021-09551-0

Rofi'i, A., Nurhidayat, E., & Firharmawan, H. (2023). Teachers' Professional Competence in Integrating Technology: A Case Study at English Teacher Forum in Majalengka. *IJLECR (International Journal of Language Education and Cultural Review), 9*(1), 64-73. https://doi.org/10.21009/ijlecr.v9i1.37683

Schubert, W. D. (2018). *The Importance of Impacting iGen: Ministering to Generation Z Through Websites and Social Media* Global.

Soydaş, E. (2023). *Factors affecting teachers'technology acceptance and usage for teaching mathematics* Middle East Technical University]Global.

Van Deursen, JAM, A., Van Dijk, & AGM, J. (2019). The first-level digital divide shifts from inequalities in physical access to inequalities in material access. *New*

media society, 21(2), 354-375. https://doi.org/10.1177/1461444818797082

Van Dijk, J. A. (2005). *The deepening divide: Inequality in the information society*. Sage publications. https://doi.org/https://dx.doi.org/10.4135/9781452229812.n1

Vergara, D., Antón-Sancho, Á., & Fernández-Arias, P. (2024). Engineering professors' habits: didactic use of Information and Communication Technologies (ICT). *Education and Information Technologies, 29*(6), 7487-7517. https://link.springer.com/article/10.1007/s10639-023-12110-y

Williams-Buffonge, N.-A. G. (2021). *Caribbean lecturers' self-efficacy and their perceived barriers to technology adoption* (Publication No. 28318772) [Ph.D., Walden University]ProQuest Dissertations & Theses Global Global.