



## East African Journal of Education Studies

eajes.eanso.org

Volume 8, Issue 1, 2024

Print ISSN: 2707-3939 | Online ISSN: 2707-3947

Title DOI: <https://doi.org/10.37284/2707-3947>

**EANSO**  
EAST AFRICAN  
NATURE &  
SCIENCE  
ORGANIZATION

Original Article

### The Influence of Teachers' Perception of Digital Media use in Enhancing Basic Skills among Lower Primary of Dodoma City, Tanzania

Ambwene Nazarius Kilungeja<sup>1\*</sup>, Dr. Theresia Julius Shavega, PhD<sup>1</sup> & Dr. Janeth Kigobe, PhD<sup>1</sup>

<sup>1</sup> The Open University of Tanzania, P. O. Box 23409, Kampala, Tanzania.

\* Author for Correspondence ORCID: <https://orcid.org/0009-0001-5861-6399>; Email: [kilungejaambwene@gmail.com](mailto:kilungejaambwene@gmail.com)

Article DOI: <https://doi.org/10.37284/eajes.8.1.2552>

Date Published: **ABSTRACT**

25 December 2024

**Keywords:**

Teachers' Perception,  
Digital Media,  
Enhancing,  
Basic Skills,  
Lower Primary.

The study assessed the influence of Teachers' Perceptions of Digital Media (video and digital pictures) use in Enhancing Basic Skills (reading, writing and arithmetic) in Lower Primary (grade one and grade two) in Dodoma City, Tanzania. Two questions guided the study; What is the relationship between Teachers' perception of digital media and the use of digital media? How does Teachers' Perception of Digital Media Affect Using Digital Media in Enhancing Basic Skills? This quantitative study used correlational and causal-comparative research design to identify the relationship and causal effect among the variables. It involved 60 teachers from 15 public primary schools obtained through a stratified sampling technique. Data were collected through questionnaires, and analyzed by Correlation coefficient and simple linear regression. The Technology Acceptance Model guided the study. The analysis indicated a positive correlation between teachers' perception of digital media and the use of digital media. The Simple regression analysis displayed a positive effect of teachers' perception of digital media on the use of digital media in enhancing basic skills. The study recommends policymakers, curriculum developers, and implementers, consider influencing teachers with positive attitudes through training on the significance of videos and digital pictures in enhancing basic skills.

#### APA CITATION

Kilungeja, A. N., Shavega, T. J. & Kigobe, J. (2024). The Influence of Teachers' Perception of Digital Media use in Enhancing Basic Skills among Lower Primary of Dodoma City, Tanzania. *East African Journal of Education Studies*, 8(1), 62-70. <https://doi.org/10.37284/eajes.8.1.2552>

#### CHICAGO CITATION

Kilungeja, Ambwene Nazarius, Theresia Julius Shavega and Janeth Kigobe. 2024. "The Influence of Teachers' Perception of Digital Media use in Enhancing Basic Skills among Lower Primary of Dodoma City, Tanzania". *East African Journal of Education Studies* 8 (1), 62-70. <https://doi.org/10.37284/eajes.8.1.2552>

#### HARVARD CITATION

Kilungeja, A. N., Shavega, T. J. & Kigobe, J. (2024) "The Influence of Teachers' Perception of Digital Media use in Enhancing Basic Skills among Lower Primary of Dodoma City, Tanzania", *East African Journal of Education Studies*, 8(1), pp. 62-70. doi: 10.37284/eajes.8.1.2552

#### IEEE CITATION

A. N., Kilungeja, T. J., Shavega & J., Kigobe "The Influence of Teachers' Perception of Digital Media use in Enhancing Basic Skills among Lower Primary of Dodoma City, Tanzania" *EAJES*, vol. 8, no. 1, pp. 62-70, Dec. 2024. doi: 10.37284/eajes.8.1.2552.

#### MLA CITATION

Kilungeja, Ambwene Nazarius, Theresia Julius Shavega & Janeth Kigobe. "The Influence of Teachers' Perception of Digital Media use in Enhancing Basic Skills among Lower Primary of Dodoma City, Tanzania". *East African Journal of Education Studies*, Vol. 8, no. 1, Dec. 2024, pp. 62-70, doi:10.37284/eajes.8.1.2552

## INTRODUCTION

The use of digital media in education has become an important tool for enhancing students' learning experiences worldwide. Since the late 20th century, digital media technologies, including computers, tablets, and various educational software, have been incorporated into classrooms to improve literacy, numeracy, and other essential skills among students. The United Nations Educational, Scientific, and Cultural Organization (UNESCO) has advocated for using information and communication technologies (ICT) to help bridge gaps in education quality across the globe (UNESCO, 2015).

There Several shreds of evidence indicate how digital media significantly enhances learning outcomes when used effectively. The World Bank for instance has identified digital learning as a central pole in addressing foundational literacy and numeracy problems in low-income countries, (World Bank, 2020). Flewitt et al. (2018) have demonstrated how children have improved their literacy skills after being exposed to interactive digital tools. They said digital tools provide opportunities for personalized learning, instant feedback, and creative ways to engage students in problem-solving activities. However, there has been limited use of digital media like audio, video, pictures and games to enhance learning among primary Teachers (Kafyulilo, 2015). Teachers' awareness being an influencing factor for the use of digital media has not been well addressed (Goodwyn, 2014). This study assessed the influence of Teachers' perception of digital media use in enhancing basic skills. Various empirical literatures have described this;

Dorgan et al. (2020) who investigated teachers' attitudes towards digital media in education in Florida found that most teachers who had positive attitudes toward digital media used digital in teaching. The study used a questionnaire to collect data from 1335 primary school teachers and used correlation for data analysis. The results suggested that the use of digital media in education had a significant relationship with teachers' perceptions towards digital media. The study recommended professional development among teachers to provide them with awareness of using digital media in

education. The study by Dorgan et al was essential in addressing the relationship between teachers' attitudes toward the use of digital media in education. However, our study was beyond Dorgan et al because it addressed teachers' perception of digital media in enhancing Basic skills.

Gündoğdu (2022) conducted a study on the relationship between pre-service teachers' perceptions of digital games and the use of digital games in primary schools. Gündoğdu found that pre-service teachers who used digital games in teaching had a positive perception of digital games. The research involved 306 third and fourth-year pre-service teachers studying in Ankara, Turkey. The study recommended digital training to pre-service teachers, to influence their attitudes and efficacy towards digital games. Gündoğdu's study was different from our study because it involved pre-service teachers while focused on in-service teachers.

Akram., et al (2022) conducted a study in Pakistan to assess teachers' perceptions of technology incorporated into teaching practices at all educational levels. The findings reveal that teachers who incorporated technology in teaching had positive perceptions of technology integration in teaching-learning practices. They believe that technology-incorporated teaching assists them in enhancing their instructional practices effectively, making the learning process exciting and interactive, and keeping learners motivated. Akram., et al suggested that concerned authorities should set clear and effective policies to make efficient use of ICT by allocating a sufficient budget and ensuring all necessary facilitation, e.g., ICT infrastructure, tools, software, internet, and labs. The study by Akarma., et al differed from our study specifically focused on lower primary and not all levels of education.

Suharno, & Suryani (2017) conducted a study in Indonesia to determine English teachers' perceptions of digital media in Senior High Schools in Solo. The study aimed to describe English teachers' technical readiness, attitude, obstacles, and perception towards digital media. Suharno and Suryani used questionnaires and interviews to collect data and descriptive statistics to analyze data. The study revealed that most teachers desire to integrate digital

media effectively into the classroom, but they lack knowledge of how to use it. Thus, the study recommended that English teachers at Senior High Schools in Solo undergo intensive training in the use of digital media to inculcate their awareness of the use of digital media. The study by Suharno and Suryani was important in our study because it assessed English teachers' perception of digital media in Senior High School. Nonetheless, our study was beyond Suharno, and Suryani because it assessed teachers' perception of digital media in enhancing basic skills in lower primary.

Wanjiku et al. (2017) conducted a study to assess pre-service teachers' perception of digital media in teaching Kiswahili subjects among public primary schools in the Rift Valley region in Kenya. Wanjiku et al collected data through questionnaires and interviews. The research used a sample of 232 pre-service teachers and 36 tutors to assess their perception of the benefits of digital media. Wanjiku et al used descriptive and thematic analysis to analyze the data collected. The results showed that most teachers who used digital media in teaching Kiswahili subjects had positive attitudes towards digital media. Wanjiku et al suggested that teachers should be given training to create more awareness of the use of digital media in teaching. The study by Wanjiku et al was important in this article although it was different from our study because we assessed the Teachers' perception of digital media in basic skills among the lower primary and not Senior High Schools.

Ngussa, B. M., & Chiza, A. (2017) who conducted a study in Tanzania to assess teachers' perception of digital media in the implementation of the curriculum among Tanzania's lower public primary schools, concluded that the majority of teachers who used digital media in teaching perceived digital media positively. Ngussa, B. M., & Chiza, collected data from 34 primary school teachers and used descriptive analysis to analyze data. Ngussa, B. M., & Chiza, recommended that the government should support primary school teachers with digital devices like computers, projectors, televisions, tablets, and laptops. The study by Ngussa, B. M., & Chiza, was important in this study because it also focused on public primary schools. However, our study was

beyond Ngussa, B. M., & Chiza, because the sample involved 60 lower primary school teachers.

In Tanzania, the integration of digital media in primary education is aligned with the government's educational reforms as outlined in the Education and Training Policy of 2014 (Ministry of Education and Vocational Training, 2014) This policy emphasizes the use of ICT as a tool to enhance the quality of teaching and learning, particularly in foundational subjects such as reading, writing, and arithmetic (3Rs). The National Information and Communications Technology Policy for Basic Education (NICTPBE) further underscores the need to integrate digital technologies into basic skills (URT, 2016).

Despite these efforts, there are continuous challenges that delay the effective integration of digital media in Tanzanian primary schools. Research by Mtebe, & Raphael (2018) shows that teachers often lack sufficient training on how to effectively combine digital tools into their pedagogy, limited professional development opportunities and inadequate digital infrastructure in schools (Mtebe, & Raphael, 2018).

Understanding teachers' perceptions of digital media is crucial, as their attitudes and beliefs about technology significantly influence its effective integration into teaching practices. As highlighted by Kafyulilo (2015), Many Tanzanian teachers express worry about using digital tools due to limited training and lack of confidence in their digital skills. Addressing these perceptions is essential to ensuring that digital media can be effectively used to enhance basic skills in lower primary education.

### **Statement of the Problem**

Despite the significance digital media has, in enhancing basic skills, its integration in the lower primary in Tanzania remains unreliable. Research indicates that while digital media has been successfully implemented in some countries, in Tanzania is still questionable (Mtebe, & Raphael, 2018). In Tanzania, the government's Education and Training Policy of 2014 acknowledges the importance of ICT in improving educational outcomes, but teachers often lack the necessary skills and confidence to effectively incorporate

digital tools into their classrooms (Ministry of Education and Vocational Training, 2014)

In Dodoma City, where urbanization has led to improved access to technology, the perceptions and attitudes of teachers towards using digital media remain to be a challenge. Studies suggest that teachers' attitudes and readiness are key factors in the success of ICT-based involvements in enhancing basic skills in primary education (Kafyulilo, 2015). Therefore, understanding how teachers perceive and use digital media in the classroom is necessary for addressing gaps in basic skills among lower primary pupils. Without sufficient teacher support and active incorporation strategies, the potential of digital media to improve basic skills may remain to be a problem. Therefore, the study assessed the influence of Teachers' Perceptions of Digital Media use in Enhancing Basic Skills among Lower Primarys in Dodoma City, Tanzania. The study was guided by two questions.

### Research Questions

- What is the relationship between Teachers' perception of digital media and the use of digital media?
- What is the effect of Teachers' Perception of Digital Media (video, digital pictures) on the use of digital media in Enhancing Basic Skills (reading, writing, and arithmetic) among Lower Primary?

### Significance of the Study

This study is important to education and technology as it expands the digital media knowledge base. Digital media tools are new to most teachers and students in lower primary schools in Tanzania. The findings of this research study have the following benefits: Firstly, the study investigated Teachers' Perceptions of Digital Media (video, digital pictures) in Enhancing Basic Skills (reading, writing and arithmetic) among Lower Primary of Dodoma City in Tanzania. The findings impacted the way digital media is used as a pedagogical tool in Lower Primary schools in Tanzania. Therefore, the study is significant to educators who want to learn more about the use of digital media. Secondly, the findings of the present study are expected to create awareness

among teachers on the importance of digital media as a pedagogical tool and change their attitudes and practices by improving their professional practices in teaching. Thirdly, the findings add new knowledge to the existing literature in Tanzania since there is little digital media-related research. Fourthly, the findings may serve as reference points for educational stakeholders in other parts of the world that would lead to improvement of provisions of education among lower primary pupils.

### THEORETICAL CONTEXT

The study used the Technology Acceptance Model (TAM) which was developed by (Davis, 1989; Davis, 1993). He suggested that an individual's decision to perform a behaviour is the result of the analysis of the benefit that they expect to receive from the behaviour compared to the effort they put in to perform the behaviour (Davis, et al., 1993. This means that the use of the information system is determined by an evaluation of the perceived usefulness of the system and the perceived difficulty of using it (Davis, 1989). Perceived usefulness means the individual's perception of the extent to which the use of a given technology improves performance. Also, perceived ease means the degree to which individuals find the innovation difficult to understand and use. According to TAM, technology acceptance has a three-stage process, whereby external factors (system design features) trigger cognitive responses (perceived ease of use and perceived usefulness), which, in turn, form an effective response (attitude toward using technology/intention), influencing use behaviour (Davis, 1989; Davis, 1993). Therefore, this study summarized the significance of the Model in three main concepts that are; Acceptance, Usefulness and Easiness. Acceptance means agreeing on the significance of digital media in enhancing basic skills, Usefulness means readiness to apply it in enhancing basic skills and Easiness means the ability to use digital media in enhancing basic skills. Therefore, Teachers' perception of digital media could be influenced by the acceptance of digital media, perceived usefulness and perceived easiness. If teachers' perception of digital media is positive, means teachers accept it because of its usefulness and easiness but if perceived negatively means, they



don't accept it and are not ready to use it because find it difficult to use it.

## METHODOLOGICAL SOLUTIONS AND PROCEDURES

This study was conducted in Dodoma City-Tanzania. The study adopted the quantitative approach, Correlational and Causal-Comparative Research Design as the methodological solution to this study. The study involved 60 teachers from 15 public primary schools. The schools were obtained through a simple random technique to open an equal chance of participation to every school. Teachers were obtained through a stratified sampling technique because teachers in grades one and two have similar elements. The study used questionnaires for data collection. The questionnaire had two variables whereby the first variable consisted of six questions items measuring the perception of teachers on digital and the second variable had six questions items measuring the use of digital media in enhancing basic skills. All the questions were developed by a researcher and submitted to the experts to verify the internal validity of the questions.

To check the reliability, a pilot study was conducted on the four schools and Cronbach's alpha was used to analyze the internal reliability of the question items. The alpha coefficient for the items on teachers' perception of digital media was .985 (see Table 1), suggesting that the items had relatively excellent consistency. Moreover, the six items on the use of digital media in enhancing basic skills were .99 also suggesting that the items had relatively excellent consistency. Note that a reliability coefficient of .70 or higher is considered "acceptable" in most social science research situations. We used SPSS Statistics software version 26.0 to support data analysis. A correlation coefficient and simple linear regression were used to determine the linear relationship and the influence of teachers' perception on the use of digital media (video, digital games) and the improvement of basic skills amongst the lower primary pupils. We chose this statistical test because we wanted to assess the linear relationship and the causal effect between teachers' perception of the use of digital media and the improvement of basic skills (reading, writing and arithmetic).

**Table 1: Cronbach's Alpha of the Items on Teachers' Perception of Digital Media**

Item-Total Statistics	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Digital media is important in teaching basic skills	11.90	69.854	.869	.996
Digital media is more interesting and motivating in teaching basic skills	11.70	65.705	.991	.985
Digital media makes reading, writing, and arithmetic classes more Participatory	11.70	65.705	.991	.985
Digital media promote a learner-centred approach to learning	11.80	67.688	.953	.989
Digital media offer various teaching and learning materials	11.70	65.705	.991	.985
Digital media is the Best media for teaching basic skills	11.70	65.705	.991	.985

*Note:* The items have relatively excellent reliability with Cronbach's alpha  $\alpha = .985$

**Table 2: Cronbach's Alpha of the Items on the Use of Digital Media**

<b>Item-Total Statistics</b>				
	<b>Scale Mean if Item Deleted</b>	<b>Scale Variance if Item Deleted</b>	<b>Corrected Item- Total Correlation</b>	<b>Cronbach's Alpha if Item Deleted</b>
I know how to use videos and digital games when teaching basic skills	11.90	69.854	.869	.996
I teach basic skills by using videos and digital games	11.70	65.705	.991	.985
I motivate pupils with videos and digital games	11.70	65.705	.991	.985
I use examples from videos and digital games	11.80	67.688	.953	.989
I get notes from videos and digital games	11.70	65.705	.991	.985
I can download the videos and digital games for teaching	11.70	65.705	.991	.985

*Note:* The items have relatively excellent reliability with Cronbach's alpha  $\alpha = .99$

## RESULTS BASED ON THE RESEARCH QUESTIONS

### Question I. What is the relationship between Teachers' Perception of Digital Media and the Use of Digital Media?

To answer this question correlation analysis was used. The results revealed a strong positive relationship between teachers' perception of digital media and the use of digital media to enhance basic

skills. The correlation was statistically significant at  $r(60) = 0.976$ ,  $p < 0.01$ , as shown in Table 3. This implied that teachers' perceptions of digital media had a direct association with the use of digital media in improving reading, writing and arithmetic. This implied that teachers who have a positive perception of digital media were more likely to use it in facilitating reading, writing and arithmetic. (see Table 3).

**Table 3: Correlation between Teacher's Perception of Digital Media and the Use of Digital Media in Improving Basic Skills**

<b>N(items)</b>	<b>M</b>	<b>SD</b>	<b>1</b>
1. Teachers' perception of digital Media	4	2.35	1.63
2. Use of Digital Media	7	2.37	1.63
			.976** .000

\*\* $p < 0.01$  Spearman non-parametric indicating statistically significant correlations between Teachers' perception of digital media and Teachers' use of digital media

### Question II. What is the Effect of Teachers' Perceptions of Digital Media Use in Enhancing Basic Skills?

To answer this question Simple linear regression analysis was computed to assess the effect of teachers' perceptions of digital media on the use of digital media in enhancing basic skills in lower primary. The results revealed that 99.8% of teachers

who were ready to use digital media perceived digital media positively at  $R^2 = .998$ ,  $F(1, 58) = 29424.818$ ,  $p < .001$ . However, the Predictor variable that teachers' perception of digital media affected the use of digital media in reading, writing, and arithmetic was strong and statistically significant at  $\beta = .999$ ,  $t(171.537)$ ,  $P < .001$ . This implies that the use of digital media in reading, writing, and

arithmetic among the lower primary pupils depended on the Teacher's perception of digital media (see Tables 4, 5 & 6).

**Table 4: Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	.999 <sup>a</sup>	.998	.998	.07301	.998	29424.818

a. Predictors: (Constant), Teachers' perception of Digital Media

b. Dependent Variable: Use of Digital Media

**Table 5: ANOVA**

Model	Sum of Squares	Df	Mean square	F	Sig.
Regression	156.841	1	156.841	29424.818	.000 <sup>b</sup>
1 Residual	.309	58	.005		
Total	157.150	59			

a. Dependent Variable: Use of Digital Media

b. Predictors: (Constant), Teachers' perception of Digital Media

**Table 6: Coefficients**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-.022	.017		-1.343	.184
1 Teachers' Perception of Digital Media	1.000	.006	.999	171.537	.000

a. Dependent Variable: Use of Digital Media

## DISCUSSION

This study assessed the influence of Teachers' Perception of Digital Media (video and digital pictures) use in Enhancing Basic Skills (reading, writing and arithmetic) among Lower Primary of Dodoma City, Tanzania. The correlation analysis revealed that there was a strong positive relationship between teachers' perception of digital media and the use of digital media in teaching basic skills (reading, writing, and arithmetic). The results also provided valuable evidence that teachers' perceptions of digital media influence the use of digital media in enhancing basic skills. The results corresponded to Dorgan et al. (2020) who conducted a study in Florida to investigate teachers' attitudes towards digital media in education and found that positive attitudes toward digital media influenced the use of digital media in education. These results implied that teachers' awareness of digital media is essential,

thus the government should inculcate awareness in teachers on the significance of digital media to stimulate positive attitudes to use digital media when teaching basic skills (reading, writing and arithmetic) in lower primary.

Similarly, Wanjiku et al (2017) who investigated pre-service teachers' perceptions of digital media in teaching Kiswahili subjects, observed that Positive perceptions of digital media in education awaken teachers' awareness to use digital media in teaching basic skills. The Technology acceptance model by (Davis, 1989; Davis, 1993), suggested that an individual's decision to perform a behaviour is the result of the perception of the benefit that they expect to receive from the behaviour compared to the effort they put in to perform the behaviour (Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. 1993). Therefore, if teachers have a positive attitude towards digital media can be motivated to use it when teaching basic

skills. Today, pupils are more attracted to digital media such as audio, images, and video, which make reading more engaging than traditional printed books. Videos and digital games are especially beneficial in helping pupils learn new sounds and word pronunciation, as they offer additional features such as vocabulary and language elements. Therefore, it is recommended that the Tanzanian government should take immediate and deliberate steps to influence primary school teachers to build positive attitudes towards using digital media when teaching. Moreover, the government should put more effort into organizing training and workshops to equip teachers with digital skills. Furthermore, the government should support teachers with digital devices and internet connectivity to increase teachers' awareness and motivation to use digital media in teaching basic skills (reading, writing and arithmetic).

### **Strength, Limitation, and Future Direction**

This study differs from other studies conducted in Tanzania to assess teachers' perceptions of using digital media in teaching basic skills (reading, writing, and arithmetic skills) among lower primary pupils. These findings make the study distinctive compared to other literature regarding the teachers' perceptions of using digital media in teaching basic skills (reading, writing, and arithmetic skills) among lower primary pupils. Therefore, the findings deliver light to the education stakeholders to consider the use of digital media amongst the lower primary school pupils in Tanzania. The study also opens the room for curriculum improvement in lower primary schools, which would allow the active use of videos and digital games to facilitate basic skills (reading, writing, and arithmetic skills). It may also invite donors to see the importance of supporting digital facilities like computers, projectors, televisions, and tablets for running educational programs. Since the study was quantitative, more time was needed to collect and analyze data. Generalization of the study could also be tangible if the study involved a large sample, but since it used a small sample, generalization was restricted.

As we think through the role of science and technology in primary education, it becomes clear that the use of videos and digital games in teaching

basic skills (reading, writing, and arithmetic skills) is not just beneficial, but essential. Therefore, the Tanzanian government must take immediate and deliberate steps to support primary teachers with training, digital facilities and internet access. This will not only simplify the use of videos and digital games in teaching basic skills (reading, writing, and arithmetic skills) but also demonstrate a solid commitment to the future of Tanzanian education.

### **RECOMMENDATIONS AND CONCLUSION**

To improve basic skills (reading, writing, and arithmetic skills) among Tanzania's lower primary school pupils, it can be suggested that the policymakers, curriculum developers, and curriculum implementers, give teachers more training and digital devices to consider using videos and digital games in instruction to improve basic skill (reading, writing, and arithmetic skills) amongst lower primary pupils. Therefore, digital facilities should be considered among the compulsory teaching materials used in primary schools. The government budget should consider the presence of digital facilities like projectors, televisions, computers, and tablets in schools to enhance reading skills. The government should organize more capacity-building training for the in-serve and pre-service primary school teachers on using digital media to facilitate basic skills (reading, writing, and arithmetic skills). The government should also encourage teachers to use it when facilitating classroom reading activities. This study highlights a general picture of the influence of teachers' perceptions of digital media use in enhancing basic skills (reading, writing, and arithmetic skills) among lower primary pupils. Most of the findings suggest the positive and significant part of how teachers' perceptions of digital media use can enhance basic skills (reading, writing, and arithmetic skills) among lower primary pupils. It is, therefore, the right time to take critical steps to inculcate awareness to teachers on the significance of using digital media in enhancing basic skills (reading, writing, and arithmetic skills) among the lower primary pupils.

### **REFERENCES**

- Akram, H., Abdelrady, A. H., Al-Adwan, A. S., & Ramzan, M. (2022). Teachers' perceptions of



- technology integration in teaching-learning practices: A systematic review. *Frontiers in Psychology*, 13, Article 920317. <https://doi.org/10.3389/fpsyg.2022.920317>
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340. <https://doi.org/10.2307/249008>
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1993). User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, 35(8), 982–1003. <https://doi.org/10.1287/mnsc.35.8.982>
- Dogan, S., Dogan, A. (2020). Teachers' skills to integrate technology in Education. *Education and Information Technologies*, 26, 1311-1332.
- Flewitt, R., Messer, D., & Kucirkova, N. (2018). New directions for early literacy in a digital age: The iPad as a tool for communication and collaboration. *Cambridge Journal of Education*, 48(5), 627– 646. <https://doi.org/10.1080/0305764X.2018.1538398>
- Goodwyn, A. (2014). Reading is now cool. A study of English teachers ‘perspectives on e-reading devices as a challenge and an opportunity. *Education Review*, 66(3) 263-275.
- Gündoğdu S., N., (2022) The relationship between preservice teachers’ perceptions towards the use of ICT integration in teacher education and digital game-based learning; East Technical University
- Kafyulilo, A., Fisser, P., Pieters, J., & Voogt, J. (2015). ICT Use in Science and Mathematics Teacher Education in Tanzania: Developing Technological Pedagogical Content Knowledge. *Australasian Journal of Educational Technology*, 31(4), 381-399.
- Mtebe, J. S., & Raphael, C. (2018). Exploring the challenges faced by teachers in integrating digital technologies into their teaching practices. *International Journal of Education and Development using Information and Communication Technology*, 14(1), 68-82
- Ministry of Education and Vocational Training. (2014). *Education and Training Policy*. United Republic of Tanzania.
- Ngussa, B. M., & Chiza, A. (2017). Significance and adequacy of instructional media as perceived by primary school pupils and teachers in Kinondoni District, Tanzania. *International Journal of Educational Policy Research and Review*, 4(6), 151–157. <https://doi.org/10.15739/IJEPRR.17.016>
- Sari, A., Suryani, N., Rochsantiningsih, D., & Suharno. (2017). Teachers' perceptions towards digital-based teaching material. *Proceedings of the International Conference on Teacher Training and Education 2017 (ICTTE 2017)*, 881–888. <https://doi.org/10.2991/iccte-17.2017.10>
- Union, M. & Green, T. (2015). The use of e-readers in the classroom and at Home to help third-grade students improve their reading and English language, Arts standardized test scores. Tech trends. *Linking Research & Practice to Improve Learning*, 59(5).71-84
- URT. (2019). *Curriculum for primary education standard I-VII*. Tanzania Institute of Education.
- Wanjiku-Omollo, R., Kandagor, M., & Wanami, S. (2017). Assessment of the benefits of ICT integration in teaching Kiswahili in public primary teachers’ colleges in Kenya, the case of Rift Valley region. *International Journal of Engineering Science Invention*, 6(10), 1–7.
- World Bank. (2020). *Tanzania Education Sector Analysis: Beyond Primary Education, the Quest for Balanced and Efficient Policy Choices for Human Development*. World Bank Group. <https://doi.org/10.1596/978-1-4648-1600-9>
- UNESCO. (2017). *Options for a Global Composite Indicator for Education*. Montreal: UNESCO Institute for Statistics.