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Teachers' Preparedness for Use of Computer Technology Tools in Teaching and Learning English Vocabulary in Grade Three in Primary Schools in Nyamira County, Kenya

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Abstract

Teachers' preparedness significantly influences the successful integration of computer technology into English language teaching and learning activities. The purpose of this study was to assess teachers' preparedness for use of computer technology tools in teaching and learning English vocabulary in grade three in primary schools in Nyamira County, Kenya. The study used a mixed-methods research design, stratified simple random and purposive selection approaches to select a sample of 23 Curriculum Support Officers (CSOs) and 62 teachers who delivered English language activities to third-graders. Teachers completed a questionnaire to acquire quantitative data while CSOs participated in semi-structured interviews to collect qualitative data. Themes were used to categorize qualitative data, and narrative analysis was employed. Descriptive statistics such as percentages and frequencies were used to analyse quantitative data. The findings showed that primary school teachers were not adequately prepared to use computer technology tools in English vocabulary lessons. The findings indicated that insufficient training and limited competence in computer technology use contributed to teachers' inadequate preparation for utilisation of computer technology tools in English vocabulary instruction. Therefore, to maximize the use of computer technology tools in English language teaching and learning activities, teachers should have access to opportunities for ongoing professional development to keep their knowledge and skills up to date.

Keywords: *Teachers' preparedness, Computer technology tools, Teaching and learning English vocabulary*

INTRODUCTION

In recent years, the use of computer technology in education has become more widely recognized as a useful tool for teaching and learning English as a Second Language (ESL). It has brought remarkable innovations in English Language Teaching (ELT) geared towards improving the quality of language learning outcomes of learners (Ahmed& Hussain 2021; Zhang, 2021). However, successful utilisation of computer technology in ELT depends on the preparedness of teachers. Having the pedagogical knowledge and skills required for integrating technology into teaching practices is part of being prepared. In order to guarantee that computer technology is effectively integrated into language instruction, teachers must acquire technology pedagogical skills (Hassan et al., 2020; Dada & Olaniyan, 2021). According to Avellino and Ismail (2021), teachers' readiness to use technology in ESL teaching and learning activities is a determining factor. Tafazoli (2021) also established that

teachers' expertise in Computer Assisted Language Learning (CALL) is a prerequisite for successfully integration of CALL technology in language teaching and learning contexts. Additionally, Aljameel (2022) showed that training of teachers on computer skills is critical to gaining the expertise required for use of computer technology in language teaching. Therefore, teachers' preparedness is one of the key variables determining the efficient use of computer technology tools in language teaching and learning activities.

Recent research has revealed that utilisation of computer technology in language instruction has a significant potential impact on Second Language (L2) learning outcomes. Computer technology, for example, offers interactive audiovisual and digital resources that expose learners to authentic language input, opportunities to practice their language skills and obtain instant feedback (Lin & Wang, 2022). Similarly, Nazeer et al. (2023) demonstrated that CALL is a powerful teaching tool with great ability to promote the development of language skills, grammar and vocabulary for overall achievement of language proficiency. According to Sekhar (2021), vocabulary learning is central to successful L2 learning. Undoubtedly, the ability to communicate effectively in both spoken and written forms of English language is greatly influenced by the knowledge of its vocabulary possessed by learners. Hence, the development of vocabulary knowledge is a fundamental pre-requisite for English language learning (Wangdi, 2022). In the same vein, Rosyada-AS and Apoko (2023) claimed that without adequate knowledge of vocabulary, learners cannot make meaningful progress in language learning. Therefore, it is crucial for teachers to adopt effective teaching and learning methodologies to accelerate the development of learners' vocabulary repertoire for successful language learning.

The use of computer technology in ELT has been proven to have a significant effect on learners' vocabulary learning outcomes (Enayati & Gilakjani, 2020). Research has revealed that computer technology provides a variety of digital learning tools such computer word games, online dictionaries, video clips and interactive vocabulary practice exercises that significantly promote the development learners' vocabulary knowledge and retention. They also provide greater opportunities for learner autonomy and engagement in vocabulary learning activities (Regina &Devi, 2022). Likewise, Robin and Aziz (2022) reported that interactive and rich multimedia learning environment created by digital tools increase learners' motivation and understanding of meaning of new vocabulary. Khalifehkari and Gilakjani (2022) compared the effect of use of CALL and traditional teaching methods on vocabulary learning among learners. The results showed that the experimental group that was taught vocabulary through computer aided tools such digital pictures, videos and PowerPoint slides performed significantly better than the traditional group in vocabulary learning outcomes. However, there is need for adequate teacher preparedness for effective utilisation of computer technology tools in vocabulary instruction.

In cognizant of the substantial role ICT in education, the Kenyan government through the Ministry of Education Science and Technology (MoEST) rolled out Digital Learning Programmes(DLP) in schools. Through DLP the government agitated the supply of computers to primary schools across the county to improve the quality of teaching and equip learners with digital literacy skills (MoEST, 2021). Additionally, the Kenya Institute of Curriculum Development (KICD) has digitalized content in various learning areas to improve the quality of learning outcomes among learners. The digital content encompasses a variety of

educational resources designed to support teaching and learning in alignment with the current Kenyan Competency Based Curriculum (CBC). The new curriculum emphasizes on innovative teaching and attainment of digital literacy among learners (KICD, 2019). Additionally, the curriculum design for English language activities offer suggested digital resources such video clips, digital pictures, online dictionaries, digital story books and educational games for teaching various components of English language learning activities and vocabulary is no exception (KICD, 2021). Despite all these initiatives, there is limited research evidence about teachers' preparedness for use of computer technology tools in vocabulary instruction in primary schools. In this regard, the study sought to assess teachers' preparedness for use of computer technology tools in the teaching and learning of English vocabulary in primary schools in Nyamira County, Kenya.

Objectives

The specific objectives of this study were:

I. To determine teachers' training in use of computer technology in teaching and learning in primary schools in Nyamira County, Kenya.
II. To assess the level of competence of teachers in using computer technology tools in teaching and learning English vocabulary in primary schools in Nyamira County, Kenya.

MATERIALS AND METHODS

The study adopted mixed methods research design involving collection of both qualitative and quantitative data. The study was carried out in primary schools in Nyamira County. 23 CSOs and 62 English teachers of third grade participated in the study. The sample size for the study was determined using purposive and stratified random sampling methods. A questionnaire was used to collect quantitative data from teachers about their preparedness for use of computer technology tools in English vocabulary lessons. Interviews were also conducted with the CSOs to obtain in-depth information and insights about teachers' preparedness for using computer technology tools in English vocabulary teaching and learning activities. Both quantitative and qualitative analyses were integrated and interpreted in the discussion. Descriptive statistics comprising frequencies and percentages were used to analyse quantitative data whereas narrative approach was used to analyse qualitative data.

RESULTS AND DISCUSSION

Preparedness of teachers for use of computer technology was measured in relation to their training in technology pedagogical use and competence (knowledge and skills) for use of computer technology in teaching practices. The outcomes are shown in the sub sections below.

Training in Computer Technology Use in Teaching and Learning

The study sought to determine whether primary school teachers had received any formal training in using computer technology in classroom teaching practices. The outcomes are shown in Table 1.

Table 1: Teachers' Training in use of Computer Technology in Teaching and Learning

Response	Frequency	Percentage
No	9	14.5%
Yes	53	85.5%

The results in Table 1 show that majority 53 (85.5%) of primary school teachers acknowledged that they had received training in using computer technology in teaching and learning activities. However, 9 (14.5%) of the teachers indicated that they had not received any training on computer-assisted instruction. The results suggest that most teachers had acquired the fundamentals of using computer technology in classroom instruction. This forms the foundation for using computer technology tools in English language learning activities by primary school teachers. In a similar vein, it came to light during the interview session with CSOs that majority of the teachers had undergone computer technology pedagogy training. One of the CSOs interviewed had this to say:

> Most primary school teachers have received training in technology integration in teaching and learning through workshops and seminars facilitated by MoEST in association with KICD and Teachers Service Commission (TSC). For instance, the recent workshop targeted teachers from both lower and upper primary schools to enhance their capacity building on use of technology to support remote learning during Covid-19 period and beyond.

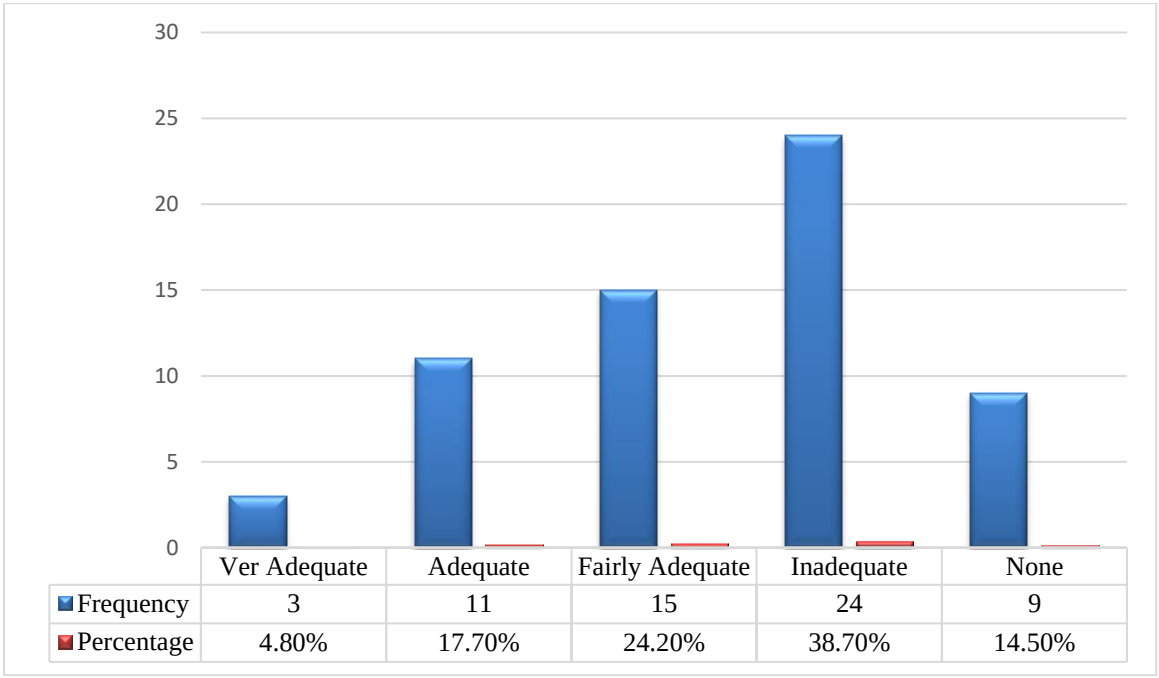
In the same vein, another CSO remarked that:

> The present CBC strongly emphasizes continuous professional development of teachers to build their knowledge and skills of technology use in classrooms. Teachers are encouraged to embrace technology in classroom teaching and learning environments through workshops and seminars conducted at least once every term to provide them with up-to-date information on the newest pedagogical practices.

The results are consistent with those of Murithi and Yoo's (2021) study, which revealed that most Kenyan primary school teachers had received basic computer instruction as part of their teacher professional development programme. Marchlik (2021) discovered that providing teachers with training on the use of technology in the classroom is essential for them to acquire the knowledge and skills needed to successfully integrate technology into teaching and learning ESL.

Adequacy of the Training in Computer Technology Use in Teaching and Learning

In addition, teachers were asked to rank the quality of the training they had received in using computer technology in teaching. The items in the questionnaire were rated on 1 to 5 Likert scale. The outcomes are displayed in Figure 1.



	Ver Adequate	Adequate	Fairly Adequate	Inadequate	None
Frequency	3	11	15	24	9
Percentage	4.80%	17.70%	24.20%	38.70%	14.50%

Figure 1. Adequacy of Teachers' Training in Computer Technology use in Teaching Practices

The results in Figure 1 reveal that 24 representing (38.7%) of the teachers rated the training received on use of computer technology in teaching as inadequate, 15(24.2%) indicated fairly adequate whereas 11(17.7 %) indicated adequate. Another 9(14.5%) indicated none and only 3(4.8%) of the teachers considered the training received very adequate. The findings indicate that most primary school teachers need sufficient training in using computer technology in teaching practices. Similarly, findings from the interview session with the CSOs revealed that elementary school teachers need more training in using computer technology in teaching different curricular subjects. For example, one of the CSOs had the following to offer:

> Even though the majority of primary school teachers have had some training in using technology in classroom teaching, they still lack the proficiency necessary to incorporate computer technology tools into their instructional practices. To stay up to date with the latest developments in education, including the integration of technology into classroom instruction, teachers should undergo frequent in-service training.

Another CSO also supported by saying:

> Teachers in primary schools are not adequately prepared towards utilisation of computer technology in teaching and learning. For instance, the three days' training workshop teachers attended on incorporation of ICT in teaching was not substantive to guarantee successful implementation of computer technology tools in classroom teaching and learning activities.

The results are consistent with the previous studies which have consistently reported that insufficient training of teachers in technology use is one of key barriers to effective application of technology in ELT (Alimyar & Lakshmi, 2021; Waruingi et al., 2021).

Competence in Use of Computer Technology Tools for Teaching and Learning English Vocabulary

In addition, teachers were asked to rate their level of competence (knowledge and skills) in using computer technology tools in teaching English vocabulary. A five-point Likert scale, with the options Very Competent (VC), Competent (C), Somewhat Competent (SWC), Less Competent (LC), and Not Competent (NC), was used to score the responses. Table 2 presents the findings.

Table 2: Teachers' Competence in Use of Computer Technology Tools in English Vocabulary Teaching and Learning Activities

Computer Technology Tools	VC	C	SWC	LC	NC
Use computer-based word games in vocabulary learning activities	4 6.5%	9 14.5%	15 24.2%	21 33.9%	13 21.0%
Use online dictionaries and digital story books in vocabulary lessons	7 11.3%	14 22.6%	19 30.6 %	13 21.0%	9 14.5%
Use digital flash cards in vocabulary teaching and learning activities	9 14.5%	15 24.2%	18 29.0%	12 19.4%	8 12.9%
Use audio and video clips in vocabulary teaching and learning	6 9.7 %	10 16.1%	16 25.8%	18 29.0%	11 17.7%
Use digital pictures in vocabulary lessons	12 19.4%	17 27.4%	20 32.3%	8 12.9%	5 8.1%

The results shown in Table 3 suggest that teachers displayed various levels of competence regarding the use of computer technology tools in English vocabulary lessons. For instance, 21 representing 33.9 % of the teachers indicated less competent in using computer word games while 13 (21.0%) not competent. On the same note, 15(24.2%) indicated somewhat competent in using computer-based word games, 9 (14.5 %) competent and only 5 reported (8.1%) very competent. This shows that majority of the teachers have little competence in using computer word games in vocabulary lessons. Additionally, 19 (30.6 %) of the teachers reported to be somewhat competent in using online dictionaries and story books whereas 14 (22.6%) indicated competent, 13(21.0%) less competent, 9(14.5 %) not competent and 7(11.3%) very competent.

The results displayed in Table 2 also show that 18 (29.0 %) of the teachers reported that they were somewhat competent in using digital flash cards in vocabulary lessons, 15 (24.2 %) indicated competent and 9 (14.5%) very competent. In addition, 12 (19.4%) indicated less competent and 8 (12.9%) not competent. Regarding use of audio and video clips in vocabulary lessons, the results reveal that 16 (25.8%) of the teachers indicated somewhat competent, 18(29.0%) less competent and 11(17.7%) not competent. Nonetheless, 10 (16.1%) indicated competent while 6 (9.7%) very competent. Further, the results in Table 1 reveal that 20 (32.3%) of the teachers reported to be somewhat competent in the use of digital pictures, 17(27.4%) competent while 12(19.4%) very competent. Moreover, 8 (12.9.8%) indicated less competent and only 5(8.1%) reported not competent in using digital pictures in vocabulary lessons. As shown in the results, teachers lack adequate competence needed for successful use of computer technology tools in vocabulary teaching and learning activities.

The results were supported by the CSOs during the interview sessions who reported that majority of the teachers in primary schools demonstrate inadequate competence in using computer technology in teaching and learning activities. For instance, one the CSOs asserted that:

> Majority of the primary school teachers lack adequate competencies necessary for effective utilisation of technology classroom teaching. For instance, their skills for using computer multimedia tools such as video clips in classroom teaching are relatively low.

In supporting this assertion, another CSO commented that:

> Teachers in primary schools are not thoroughly prepared for implementation of computer technology in classroom teaching. Lack of proper training, which results in inadequate competence in using computer technology tools in English language learning activities, is the most challenging task for teachers.

The results are in line with those of Yuomeyse and Ngamaleu (2020) who found that most of the primary school teachers in Cameroon lacked the necessary competences required for use of ICTs in teaching practices. Saimi and Yamat (2021) in Malaysia also revealed that lack of adequate knowledge of technology use was a critical factor that influenced ICT competency among ESL primary school teachers. Likewise, Marchlik et al. (2021) assessed the level of

ESL teachers' preparation for use of ICT in teaching English to young learners in Poland during the COVID- 19 pandemic. Results showed that teachers were not adequately prepared for the implementation of remote learning. It was found that limited skills of ICT among teachers inhibited their use of technology in language teaching. Furthermore, Nkengbeza (2022) conducted a study in Namibia to investigate primary school teachers' difficulties with using technology in English language instruction. The results demonstrated that a lack of suitable skills and training in technology use hampered the incorporation of technology in English language teaching and learning.

CONCLUSION

Based on the findings, even though most teachers had some training in using computer technology in the classroom, they lacked the necessary proficiency in using computer technology tools in English vocabulary lessons. This suggests that teachers need to be sufficiently trained in using computer technology tools for teaching English vocabulary. Opportunities for ongoing professional development should be provided to teachers to equip them with skills and knowledge required to effectively use computer technology tools in English vocabulary teaching and learning activities.

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