

The Use of Digital Tools in Assessing Language and Literacy Development in Early Childhood Centers in Tamale Nanton District, Ghana

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Abstract

The study investigated the use of digital tools in assessing language and literacy development in early childhood centers in the Tamale Nanton District, Ghana. Specifically, the study examined the extent to which facilitators integrate digital tools in teaching practices, assessed facilitators' levels of digital literacy skills, and explored the factors influencing the successful integration of digital tools in teaching. A total of 113 facilitators (39 males and 74 females) were selected from a population of 160 using simple random sampling. Data for this quantitative study were collected using a closed-ended questionnaire. The findings revealed that a significant majority of the facilitators did not use digital tools to assess learners' literacy and language development. Furthermore, the integration of digital tools in early childhood education in the district was found to be very low, with the availability of limited digital tools. The study recommends that the Nanton District Education Service strengthen monitoring and evaluation of facilitators' teaching practices, while the Ministry of Education should organize periodic information and communication technology (ICT) workshops for early childhood facilitators. Additionally, the Ghana Education Service, in collaboration with the Tamale Nanton District, should provide adequate digital tools to schools.

Keywords: Digital literacy, digital tools, early childhood education, ICT integration, language development, literacy development

INTRODUCTION

Recent research by Beattie et al. [1–11] (2021) found that the efficient use of high-quality technology is a basic prerequisite for preparing all students in Early Childhood Education (ECE) for future academic success, despite the purported concerns about the effects of technology on attention and socialization skills. [12–14] For example, Cviko et al. (2012, 2013) [15] noted that the advantages of using digital technology in a meaningful way were significantly higher than the advantages of using traditional resources like “Ampe and Oware” to help learners achieve substantial literacy outcomes [16–31]. Additionally, Neuman et al. (2010) [32] noted that “this also minimized the gap in languages and literacy between high and low poverty learners.” According to Harris and Hodges (1995) [20], ECE “is infant school, early childhood, daycare, nursery school, and other educational programs typically for learners before they enter primary grades.”

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Digital tools refer to communication media encoded in digital form, including various forms such as text, images, audio, and video. In the field of educational technology, digital tools are regarded as innovative teaching tools that combine multimedia elements such as text, images, sound, and video to enhance the learning experience. [33–43] The constructivist learning theory, which asserts that learners build knowledge through interactions with the environment, underpins the application of digital tools in learning (Yuqi, [44] 2025). In teaching environments, digital tools such as interactive whiteboards, such as the Seewo Whiteboard 5 platform, which offers features such as a math whiteboard, screen mirroring, magnifier, and spotlight, enhance interaction. For instance, facilitators in the Tamale Nanton District can use the spotlight to gradually reveal parts of an animal image, prompting learners to guess, “What’s this? Can you guess?” This interactive approach makes vocabulary learning engaging and adds a sense of mystery to capture learners’ interest (Rogow, [36] 2014). Furthermore, digital tools greatly enhance the interactive sessions. In traditional classrooms, displaying learner work relies on physical platforms, but with the Seewo Whiteboard, facilitators can quickly project learners’ work and provide real-time feedback. This approach helps learners understand their strengths and weaknesses while enabling facilitators to offer timely, accurate feedback, improving facilitator-learner interaction, unlike traditional assessment [12].

Digital tools pair words with images, employ audio for pronunciation, and incorporate videos for dialogue, creating a relaxed learning environment. Tang J. (2020) [45] highlighted that digital media may also be employed in how the facilitators measure and record the development, documents, plans, and sharing of information with parents, families, and communities, as indicated in the article by Tang et al. (2020) [45]. Kilag et al. (2023) [24] stated that “facilitators may use digital portfolios that include photographs, as well as audio and video recordings, to document, archive, and share the child’s accomplishments and literacy developmental progressions with families in face-to-face conferences or through communication and social media tools.” According to Saima (2025) [2] “displaying photos in the classroom of learners’ drawings or block buildings, along with narratives dictated by the learners or explanations of why these types of play are important, can help families understand the significance of play in early child language development.”

Ghana developed an Information and Communication Technology in Education Policy Framework in 2015. This policy aims to train teachers in ICT skills and integrate ICT as a subject from the primary school level onwards [43]. One Teacher, One Laptop is a recent development aimed at improving lesson preparation, teaching, and learning [19]. This target group included all government-employed teachers from kindergarten to senior high school. This was done to shape facilitators’ and learners’ ability to succeed in the global marketplace and provide a better quality of life for Ghanaian citizens. Despite the significance of integrating digital tools in assessing learners’ language development, integrating digital practices in Northern Ghana has emerged as a promising solution to improve learners’ literacy and language development. The implementation of these practices depends on several critical factors, such as the lack of internet connectivity.

The successful implementation of digital learning initiatives is hampered by the fact that many early childhood schools in the Northern Region still lack reliable internet connections and energy [4]. For instance, during my teaching internship at Chahayili Primary School, the school did not have electricity, making it very difficult for teachers to integrate digital tools in assessing learners’ language development. The availability and accessibility of digital devices are necessary for assessing learners’ language development [4, 34]. Meanwhile, during the researcher’s school visits in the Nanton District, the researcher did not see digital tools in the school, and most of the facilitators did not have their personal computers. However, Aparicio et al. (2021) [9] indicate that learners’ vocabulary improves through self-regulated learning, but shows minimal change, highlighting the importance of integrating digital tools in assessing their vocabulary improvement, device selection, and the challenge of promoting self-regulated learning in

digital education. For facilitators to effectively utilize digital technology to support students' learning process, they require a foundation of knowledge in advance, as outlined in the TPACK framework [30]. Furthermore, the lack of research focusing specifically on the use of digital tools for assessment in early childhood classrooms within the Northern Ghana context means facilitators and policymakers have little guidance. This lack of research and practical guidance creates a critical gap. Therefore, this paper aims to explore facilitators' use of digital tools in assessing language and literacy development of learners in early childhood centers in the Tamale Nanton District, investigate their impact on teaching effectiveness, identify practical challenges, and propose solutions.

Research Objectives

1. This study analyzed the extent to which early childhood facilitators use digital tools to assess language and literacy development among learners in the Tamale Nanton District of Ghana.
2. This study examines the factors influencing facilitators' effective use of digital tools in language and literacy assessment in early childhood classrooms in the Tamale Nanton District of Ghana.

Researcher Questions

1. To what extent do early childhood facilitators use digital tools to assess language and literacy development among learners?
2. What factors influence facilitators' effective use of digital tools in language and literacy assessment in early childhood classrooms?

METHODOLOGY

Research Design

According to Sayibu (2022) [46], research design refers to a procedural technique for data collection and analysis of the research problem. To investigate the facilitators' (teachers') use of digital technologies for evaluating the development of language and literacy in early childhood learners in the Tamale Nanton District, the study employed a descriptive survey research design and qualitative research approach.

Participants

The study participants were early childhood facilitators from selected early childhood centers in the study area. A total of 119 participants, consisting of 41 males and 78 females, were selected from a population of 160 using a simple random sampling technique. Simple random sampling is effective when the study's goal is to obtain a generalized result that can be applied to the entire population. One of the most notable drawbacks of simple random sampling is that it cannot be used in situations where the population units are heterogeneous.

Data Collection Instruments

In this study, the primary instrument for data collection was a self-developed, structured, closed-ended questionnaire to obtain data on early childhood facilitators' use of digital tools in assessing language and literacy development among learners, and the factors influencing the effective use of these tools in assessing learners' language and literacy development in early childhood classrooms. According to Sreejesh (2014) [39], a questionnaire is "basically a set of questions that is presented to the respondents during an interview with a set of guidelines that explain the sequence and selection criteria." Structured questionnaires primarily serve quantitative research needs, enabling the collection of numerical data across diverse survey formats, such as postal, electronic, face-to-face, and telephone. These questionnaires, whether self-completed or administered by interviewers, play crucial roles in collecting factual information, understanding behaviors, gauging group attitudes, measuring customer satisfaction, and establishing baseline data for longitudinal analysis [25]. This is because the format enables respondents to answer more questions in a reasonable time. The items were rated on a 5-point Likert scale, from never = 1, rarely = 2, sometimes = 3, often = 4,

and very often = 5. The questionnaire will be scored based on the following: per item: 1–5 (higher = more frequent use). Mean score: 1.00–1.99 = very low use, 2.00–2.99 = low use, 3.00–3.49 = moderate use, 3.50–4.29 = high use, and 4.30–5.00 = very high use.

Data Collection Procedure

According to Creswell (2014) [14], it is crucial and ethical for researchers to respect the location of the study and obtain permission before approaching the study area. Thus, the heads of the selected early childhood schools where the study was conducted received a formal introduction letter from the University of Education, Winneba, Department of Early Childhood Education, Winneba. To gather more pertinent data that would improve the study, copies were also submitted to the statistical division of the Ghana Education Service (GES), Nanton District.

The questionnaire used for the participants aimed to collect data on two major issues: the degree to which early childhood facilitators use digital tools in assessing learners' language and literacy development, and the factors that influence the effective use of digital tools in language and literacy assessment by the facilitators. The questionnaire was administered over a month.

Data Analysis

The methodical process of gathering and assessing quantifiable and verifiable data is known as quantitative data analysis [18]. A statistical process is used to evaluate or interpret quantitative data [14]. Following the fieldwork, the Statistical Package for the Social Sciences (SPSS) version 26.0 was used to compile and evaluate all the data gathered from the respondents. Both descriptive and inferential analyses were used in the analysis. The frequency and proportion of the total population in the demographic backdrop were examined using descriptive analysis.

Additionally, it was used to calculate the mean, standard deviation, frequency, and percentage to determine the degree to which teachers incorporate ICT for students' learning as well as the obstacles influencing the efficacy of ICT integration in instruction in the early childhood centers in the Nanton District. Tables, charts, and graphs were employed to display the results and make the analysis easier to understand. Data are presented in an easily comprehensible quantitative format using descriptive statistics, a type of quantitative data analysis [22]. In other words, this data analysis process assists researchers in summarizing and clarifying observations.

RESULTS AND DISCUSSION

Response Rate

All 119 sampled respondents were given a questionnaire, of whom 113 completed and returned it, while six did not respond (Table 1). Therefore, 113 respondents successfully completed and returned the questionnaire and were included in the final analysis.

Demographic Characteristics

From Figure 1, the data obtained from the questionnaire reveal that 12 respondents out of the total participants of 113 are between 18 and 29 years of age, representing 10.6%. 23 respondents were between the ages of 30 and 39 years, representing 20.4%. The majority of the respondents (42, 37.2%) were between 40 and 49 years of age. Also, 36 of the respondents were 50 years and above, representing 31.8%. From the above data, the researcher can confidently say that the majority of participants in the sample are middle-aged and older, and many of them probably have a lot of life and work experience. Because respondents may draw from a wider range of personal and professional experiences, such a demographic profile could improve the study's depth and the reliability of the insights.

It is evident from Figure 2 that the respondents in the study hold a range of academic qualifications falling between certificate level and above degree level. Out of the total of 113 respondents, 36 of the respondents, representing 31.9%, were certificate holders, and 27 of them had a diploma certificate qualification, representing 23.9%. Also, the majority of the respondents, 31, representing 27.4%, were degree holders, while 19 of the respondents, representing 16.8%, were master's holders. The above data clearly indicate that the majority of respondents are degree holders. This suggests that although higher academic qualifications are present, a substantial share of employees possess mid-level academic credentials, which could influence their use of digital tools in assessing learners' literacy and language development.

The length of service of the respondents is presented in Figure 3. The results of the study showed that 29 of the respondents, representing 25.7%, had 1–10 years of working experience; the majority of the respondents, 41, representing 36.3%, had 11–20 years of working experience, and 18 of the respondents, representing 15.9%, had 21–30 years of working experience. The remaining 22. 1%, representing 25 respondents) had been in the service for 30 years or more. The results suggest that most participants possessed substantial practical knowledge and professional exposure, which could enhance the reliability and depth of the information they provided for this study.

The data shown in Table 2 indicate that nearly half of the teachers (48.7%) reported never using digital devices to assess learners' vocabulary, with 27.4% reporting rarely. The mean of 1.78 suggests that digital vocabulary assessment is underutilized. Also, 40.7% never and 45.1% rarely use digital tools for early writing tasks. The mean score of 1.76 indicates that digital assessment in early writing is infrequent. Again, 28.3% never, 40.7% rarely, and 25.7% sometimes use digital tools for listening assessment. With a mean of 2.10, this is the most commonly used digital assessment practice, though still relatively low. Furthermore, 55.8% never and 27.4% rarely track learners' language and literacy progress digitally. The mean of 1.65 reflects minimal use of digital tracking tools. In addition, 69% of facilitators never generate or view digital progress reports, with a mean of 1.36. This shows that digital reporting is largely absent in classroom practice. While 71.7% never share digital feedback with parents. The mean of 1.33 indicates very limited digital communication regarding learners' literacy progress. Across all assessment activities, the mean scores were low, ranging from 1.33 to 2.10, indicating that facilitators rarely use digital tools for language and literacy assessment. Standard deviations (0.60–1.01) suggest moderate consistency in responses, with slightly more variability in items related to audio/video listening assessments.

The results in Table 2 clearly reveal the low level of utilization of digital tools for the assessment of language and literacy among teachers/facilitators. In all the assessment activities, the mean scores ranged from 1.33 to 2.10, indicating that the use of digital tools for assessing learners' language and literacy development in the Tamale Nanton District is very low. The findings of the present study are in line with Adu-Gyamfi [4] (2019), who asserted that many teachers in the Northern Region still do not use ICT tools in their teaching despite Ghana's standards-based curriculum promoting the integration of ICT [4]. Ibrahim et al. (2022) [21] also highlighted that in Ghana, there is a lack of ICT training opportunities, therefore, limiting teachers' use of ICT tools in teaching to enhance digital skills and integrate technology into teaching practices [21]. Ferede et al. (2022) [17] noted that many ICT tools remain underutilized by teachers. However, Abedi et al. (2024) [3] contradict these views, noting that in Ghana, teachers and school leaders reported using technology to enhance lesson preparation, reduce workload, and improve presentations, thereby making instruction more engaging and efficient. According to Aliyu et al. (2023) [7], teachers use computers, tablets, and cellphones to create dynamic learning environments. In a similar vein, Stratigos and Fenech (2021) [40] reported that to capture and share every facet of learners' lives and facilitators' practice as part of evaluation, parents, community members, and facilitators have been utilizing digital applications, particularly mobile apps.

Table 3 indicates that most respondents disagreed that they had adequate access to digital devices, representing 67.3%, with a mean score of ($M = 1.48$) and a standard deviation of ($SD = 0.79$). This indicates a significant lack of access to digital tools among facilitators, which limits their integration into teaching practices. This finding is supported by Ntorukiri et al.'s [33] (2022) study, which emphasizes that in many developing countries, such as Ghana, and even in underserved regions, such as Tamale in developing nations, digital tools are often inadequate or absent. According to several studies [41], another substantial obstacle that makes facilitators want to avoid incorporating emerging technology into the classroom environment is a lack of access to facilities, especially home access. Ghavifekr et al. (2016) [47] found that the biggest obstacles to using ICT resources in schools were inadequate accessibility and network connectivity. In a similar vein, Malekani (2018) [48] found that poor PCs (18.8%) and slow internet speed (19.3%) were the most common barriers to the effective integration of ICT in the delivery of content in the classroom. According to Joseph (2021) [23], in Tanzania, “lack of appropriate ICT equipment, particularly projectors, software, computers, scanners, and printers, is the largest barrier to ICT integration in Tanzanian schools.”

Again, as shown in Table 3, 61.1% strongly disagreed, and 23.9% disagreed with the statement that “schools provide enough digital tools for assessment,” with a mean and standard deviation of ($M = 1.58$, $SD = 0.86$). This confirmed that schools do not provide digital tools to facilitators, reinforcing the challenge of limited resources. This supports Malekani's (2018) [48] results that poor computers (18.8%) and slow internet speeds (19.3%) were the most common barriers to the effective integration of ICT in the delivery

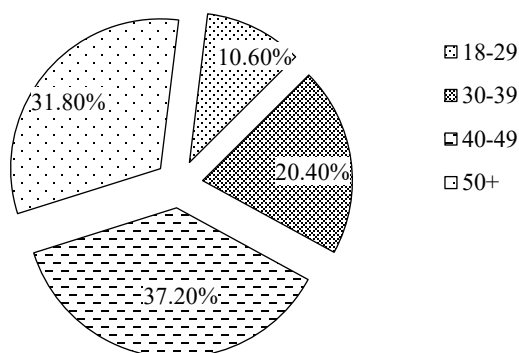


Figure 1. Presents age distribution of respondents.

Source: Field survey, 2025.

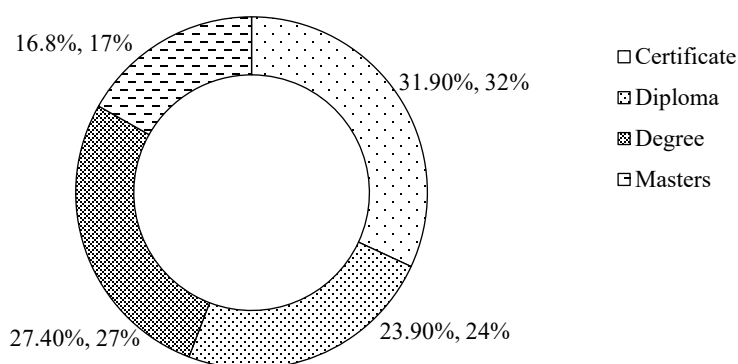


Figure 2. Presents academic qualifications of respondents.

Source: Field survey, 2025.

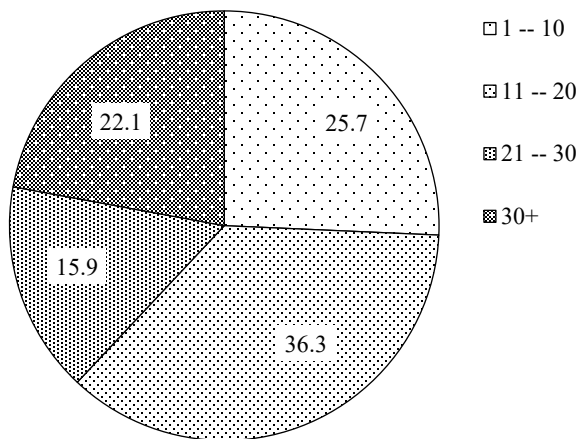


Figure 3. Presents respondents' duration of service.

Source: Field Survey, 2025.

Table 1. The rate of responses.

Response rate	Frequency	Percentage (%)
Replied	113	95
Not replied	6	5
Total	119	100

Table 2. The extent to which early childhood facilitators use digital tools in assessing language and literacy development among learners.

Items	Never	Rarely	Sometimes	Often	Very often	M	SD
I use a digital device to assess learners' vocabulary development.	55 (48.7%)	31 (27.4%)	16 (14.2%)	3 (2.7%)	0 (0.0%)	1.78	0.91
I use digital tools to assess early writing skills, such as name writing.	46 (40.7%)	51 (45.1%)	13 (11.5%)	3 (2.7%)	0 (0.0%)	1.76	0.82
I use audio or video features in digital tools to assess listening.	32 (28.3%)	46 (40.7%)	29 (25.7%)	4 (3.5%)	2 (1.8%)	2.10	1.01
I use digital tools to track learners' progress in language and literacy.	63 (55.8%)	31 (27.4%)	15 (13.3%)	4 (3.5%)	0 (0.0%)	1.65	0.89
I generate or view a digital progress report for learners' language and literacy skills.	78 (69.0%)	29 (25.7%)	6 (5.3%)	0 (0.0%)	0 (0.0%)	1.36	0.62
I share digital feedback or reports with parents about their child's literacy progress.	81 (71.7%)	27 (23.9%)	5 (4.4%)	0 (0.0%)	0 (0.0%)	1.33	0.60

Note. Scale: 1 = Strongly Disagree to 5 = Strongly Agree.

Source: Field Survey, 2025.

of content in the classroom. Similarly, Joseph (2021) [23] found that a lack of appropriate ICT equipment, particularly projectors, software, computers, scanners, and printers, was the largest barrier to ICT integration in Tanzanian schools. According to research on indigenous elementary schools, facilitators frequently lack computer laboratories, LCD projectors, and even the time to set up a session in which they would use this technology. These problems and comments from the respondents have been exacerbated by a lack of ICT tools in the classroom and insufficient technical assistance for ICT-integrated facilitators.

Table 3. Factors influencing facilitators' effective use of digital tools in language and literacy assessment in early childhood classrooms.

Items	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	M	SD
I have adequate access to digital devices for language and literacy development	76 (67.3)	24 (21.2)	9 (8.0)	4 (3.5)	0 (0.0)	1.48	0.79
The school provides enough digital resources for assessment purposes	69 (61.1)	27 (23.9)	13 (11.5)	3 (2.7)	1 (0.9)	1.58	0.86
I believe that digital tools improve the quality of language and literacy assessment	12 (10.6)	6 (5.3)	15 (13.3)	31 (27.4)	49 (43.4)	3.88	1.31
My school leadership supports the use of digital tools for assessment	21 (18.6)	29 (25.7)	16 (14.2)	39 (34.5)	8 (7.0)	2.86	1.27
Large class size makes it difficult to use digital tools effectively	7 (6.2)	13 (11.5)	22 (19.5)	28 (24.8)	43 (38.0)	3.77	1.24
The high cost of devices limits my use of digital tools in assessment	9 (8.0)	11 (9.7)	11 (9.7)	29 (25.7)	53 (46.9)	3.94	1.29

Note. Scale: 1 = strongly disagree to 5 = strongly agree.

Source: Field Survey, 2025.

Regarding the perceived benefits of digital tools in Table 3, it was found that the majority of the respondents, which accounted for 70.8% of the total, agreed/strongly agreed with the statement that digital tools improve the quality of learners' assessment, with a mean and standard deviation of ($M = 3.88$, $SD = 1.31$). This indicates that despite the absence of digital tools in the district, facilitators believe in the benefits of digital tools for assessment. This confirms study, which was particularly designed to examine the difficulties that instructors face in using ICT tools in their classes. This was achieved by assessing instructors' familiarity with ICT tools and the obstacles they faced in this regard. It was found that while the majority of instructors frequently use ICT tools, they admit that they know little about using them to deliver education effectively.

Several individuals confirmed their perception that their fellow educators lacked proficiency in utilizing ICT resources for teaching. The Technology Acceptance Model and constructivist learning theory served as the foundation for Murithi and Yoo's (2021) [31] inquiry, which looked at teachers' capacity to incorporate technology into their lesson delivery. Most teachers stated that they had received only basic computer literacy training. Consequently, teachers found it difficult to incorporate technology into their class plans, even though they felt that using computers was crucial.

Responses to the question of whether school leadership supports the use of digital tools in assessment were mixed ($M = 2.86$, $SD = 1.27$), with 34.5% agreeing, 25.7% disagreeing, and 18.6% strongly disagreeing (Table 3). These findings could help explain why the district has very little access to digital technologies. These results may explain why access to digital tools remains very low in the district. According to Yunus et al. (2019) [49], some of the obvious difficulties facing the use of ICT for remote education include inadequate supply of ICT facilities, such as computers and copies of applications, by school management, making it difficult to include ICT in instruction, and a lack of teacher time to prepare for classes. This study's findings are supported by Kalra, who indicated that school managers are responsible for providing digital tools for ICT-integrated programs. She emphasizes that they need to be ready to develop an information and communication technology policy that addresses the needs of classroom facilitators. Teachers' ability to use and teach using ICT in the classroom will be bolstered by the policy's requirements for the increased provision of ICT tools for implementation and integration. Cheok et al. (2017) also found that administrators play a pivotal role in ensuring that teachers have adequate access to appropriate ICT tools and technologies.

Again, with class size as a barrier, 24.85% agreed, and 38.0% strongly agreed that a large class size makes it difficult to use digital tools, while 6.2% and 11.5% disagreed, and 19.5% were neutral to the statement ($M = 3.77$, $SD = 1.24$). This confirms that overcrowded classrooms are a significant barrier to the effective integration of digital tools in the classroom. A study of Eastern Cape schools in South Africa found that typical class sizes exceeded 40 students, while computer labs had a capacity for only 25 learners. This highlights how overcrowding severely restricts equitable access to ICT resources for students. Joseph (2021) [23], in Tanzania, also emphasizes that overcrowded classrooms impede the use of assistive technologies for visually impaired students, with a lack of materials and dense class environments diminishing effectiveness.

Considering the cost of digital tools, 25.7% and 46.9% of the respondents agreed/strongly agreed with the statement that “cost of devices limits my use of digital tools in assessment,” while 8.0% and 9.7% strongly/disagreed, and 9.7% responded neutral to the statement ($M = 3.94$, $SD = 1.29$). This clearly shows that the high cost of digital tools remains one of the strongest barriers to digital tool adoption in the classroom. As supported by Aidoo et al. (2024) [8], in Ghana, research notes that despite national ICT policies, the cost of ICT tools, including computers and internet data bundles, remains prohibitively high for both teachers and students, hindering their ability to integrate technology effectively in education.

Additionally, asserts that how well technology is incorporated into training and education depends in large part on how easily accessible ICT digital tools are and how they are used in the classroom. Pen et al. (2024) [35] highlighted teachers’ personal experiences in their research on technology integration in Cambodia: “I cannot afford to buy a laptop just for work because it is quite expensive compared to my salary.” Furthermore, owing to insufficient government funding, many schools struggle to acquire the necessary technologies for effective teaching and learning [42].

CONCLUSION

This study explored the facilitators’ use of digital tools to assess language and literacy development in early childhood learners in the Tamale Nanton District of Ghana. The study findings revealed that a significant majority of the facilitators never used digital tools in assessing learners’ literacy and language development in their teaching practices, and a few of the respondents agreed to sometimes use digital tools in assessing learners’ literacy and language development in their teaching practices.

Furthermore, the study found that despite the lack of digital tools in the district, a majority of facilitators still believe strongly in the value of digital tools in assessing learners’ literacy and language development and still want to implement them. However, a significant majority of them agreed that there is a significant lack of access to digital tools among facilitators, schools do not provide digital tools to facilitators, the high cost of digital tools, and overcrowded classrooms are significant barriers to effective digital tool integration in their teaching practices in the Tamale Nanton District. Despite these limitations, the Ministry of Education still mandates educators to use ICT in their pedagogy to teach the computing curriculum, frequently necessitating the creation of resources based on their personal experiences. Based on these results, the researcher can confidently state that the Tamale Nanton District’s use of digital technologies for evaluating students’ language and literacy growth is extremely poor.

Therefore, the study recommends that the Tamale Nanton District Education Service ensure proper monitoring and evaluation of early childhood facilitators’ teaching processes to ensure that they are integrating digital tools in their teaching processes. Again, the GES, in collaboration with the Tamale Nanton District, should make adequate provisions for digital tools in the various schools to facilitate the integration of these tools in the teaching and learning process.

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