Perceptions of Secondary School Students with Hearing Impairment towards Integrating ICT in Enhancing Story Grammar Achievement in Selected Counties, Kenya

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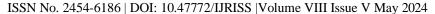
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ABSTRACT

The study investigated the perceptions of secondary school students with hearing impairments on the integration of ICT to improve story grammar achievement in selected Kenyan Counties using a combination of descriptive survey design and quasi-experimental study design. TPACK, or Technological Pedagogical Content Knowledge, theory served as the foundation for this investigation. Two secondary school for students with HI were purposively selected from the two Counties. The sample size consisted of all students (40), two teachers teaching English, and the principals of the two schools that were sampled. Students Story Grammar Achievement Tests (SSGAT) were given to students as a pre- and post-test. Additionally, while principals participated in an open-ended interview, questionnaires were utilised to collect additional data from students and teachers teaching English. The results of the study showed that nearly all (89.0%) students with hearing impairments believed that integrating ICT boosted their story grammar achievement. This study may draw the conclusion that secondary school students with hearing impairments in the selected Counties view ICT integration favourably as a means of improving their achievement in story grammar. The researcher recommends for creation of digital versions of story grammar tools for students with hearing impairments.

Keywords: Traditional instructional pedagogies, learner perceptions, and ICT integration

BACKGROUND

Technology in education has the potential to impart the knowledge, skills, and values that students in the twenty-first century need. This means that traditional pedagogies must be transformed into rich, interactive, and learner-focused learning environments in order to improve the learning processes and guarantee high academic achievement for all students at all learning levels (Abobo, 2019). Research has demonstrated that having a favourable attitude towards ICT among teachers and students has a positive effect on how ICT is integrated into instruction. According to Teo (2008), students' constructive attitudes regarding the use of technology in the classroom have a beneficial direct impact on their innovative ICT use.It was noted by Woodrow (1991) that "knowing students' attitudes towards computers is a critical factor in assessing computer courses as well as construction of a computer-based curriculum." The results of Teo et al. (2019) demonstrate a connection between students' behaviour and perceptions. The results of the study showed that students' perceptions of the usefulness and simplicity of technology had a significant impact on how they actually used it. The technology's trialability and complexity had a significant impact on perceptions of its

simplicity of use. Additional important components of students' behavioural goals included attitudes and perceived behavioural control.

In general, literature on students' opinions of ICT integration has generally produced a variety of conclusions. For example, research by Sad and Ozhan (2012) found that students' perceptions of Interactive White Boards (IWBs) as useful tools for instruction were positive, and this positively affected their learning, particularly due to the effective presentation, contextualization, visualisation, and motivating elements of the IWBs. In agreement, South African students were surveyed by Hartley & Treagust (2014) to learn their opinions regarding the use of CAI in maths lectures. The results showed that students perceived CAI as a helpful intervention since it increases their interest in mathematics, allows them to rehearse solving mathematical puzzles, and allows them to assess their own development. While Sad and Ozhan conducted a qualitative phenomenological study with elementary school students as the target, the current study used a mixed research approach to study secondary school students with HI. Nevertheless, the current study was grounded in English story grammar, whereas Hartley & Treagust conducted their research in mathematics.

According to Adekunle (2016), Nigerian students showed a positive attitude on the use of computers in teaching/learning. Tolbert's (2015) study, however, revealed that there was no appreciable distinction in students' attitudes when teaching/learning was facilitate using computers or through the conventional methods. Students' responses in Tolbert's study shown an absence of any statistically significant variation on how students perceived CAI. These two studies provide somewhat contradictory results regarding students' perceptions of ICT integration. As a result of the contradictory findings, and the fact that majority of prior research on this topic has come from hearing students, it is necessary to determine the current position as well as hear from secondary school students who have hearing loss.

Studies show that pupils think far more highly of online learning than they do of traditional teaching approaches. Previous studies by Tamara (2018) and Sachiko (2016) show that students who engage in online learning and teaching report feeling more at ease throughout the process due to the activities that make them post their answers to discussion questions after studying, comment on other students' posts of their answers, complete online quizzes, and turn in their answers to their facilitator for a self-reflection on their learning at the end of the course. The findings of Bali and Liu (2018) offer more proof that students feel at ease with online learning since it gives them the freedom to use computer-based technology creatively. Students can also apply the learning process at any time and from any location with e-learning. Mamattah (2016) found that e-learning allows students the flexibility and comfort of completing the course material at their own pace. The integration of ICT into educational practices facilitates increased interaction between students and their classmates, hence improving the relationship between students and their peers (Asad et al., 2020).

Henderson et al. (2017) listed a number of advantages that students believed came with using technology. Afterwards, several academics have verified their work. For example, students' perceived benefits of using technology included flexibility in terms of time and place, ease of managing and organising study tasks, the ability to review teaching materials through replay, and the chance to learn in more visual forms, according to studies by Chuang et al. (2018), Soffer et al. (2019), Shih & Tsai (2017), and Güney (2019). While university students were the subjects of the aforementioned investigations, secondary school students with hearing impairments were the focus of the current investigation.

According to Gravenstede (2009), hearing impairment makes it extremely difficult to interact with students who are deaf and hard-of-hearing. According to the International Federation of Hard of Hearing Persons (2009), students with hearing loss whose primary form of communication is speech are classified as hard of hearing. World Health Organisation (2015) defines hard of hearing as having a hearing loss ranging from mild to severe but yet being able to communicate vocally. However, according to the WHO, a person is considered deaf if they predominantly communicate using sign language and have a severe hearing loss.

Unlike their hearing counterparts, learners with hearing loss have more difficulties while utilising traditional teaching and learning pedagogies because of their limited auditory input. For these learners, information and communication technology (ICT) offers a new avenue that can offer both visual and audio (for the hard of hearing) input (Taylor et al., 2020). ICT has had a profound impact on education, changing both how students study and how teaches present content. According to Taylor et al. (2020), software and computer-based hardware have historically had a highly favourable impact on how learners—especially those with disabilities—acquire and retain knowledge, skills, values, and attitudes. This demonstrates unequivocally that ICT is crucial to meeting the special educational needs of students with hearing loss (Fitzpatrick &Theoharis, 2010).

The urgent need to conduct this research to determine how students with HI perceive the integration of ICT in improving story grammar proficiency stems from the paucity of literature on their perceptions of this integration. The opinion that hearing students—primary, secondary, and university students—perceive ICT integration and its benefits favourably for their education is supported by the majority of the examined literature. But in order to find out if they view ICT integration positively or adversely, especially in the context of learning story grammar, it was necessary to speak with students who have hearing problems. Furthermore, this survey was encouraged to ascertain the status of students with HI due to contradictory findings from the literature analysis about students' views towards ICT integration.

PURPOSE

The purpose of this study was to ascertain how secondary school students with hearing impairments perceived the use of ICT to improve story grammar achievement in the selected Kenyan Counties. The main research questions included;

1. Does integrating ICT in teaching/learning encourage students with HI to actively engage in the teaching and learning of story grammar?
2. Does ICT integration in teaching/learning story grammar drive students with HI to think critically?
3. Does ICT Integrationhelp students with HI perform better on their English exams?
4. Does ICT use in teaching/learning story grammar encourage students with HI to collaborate with their peers in the learning process?

METHOD

In order to obtain detailed data that would aid in answering the important questions, this study used a mixed methods approach in which a quasi-experimental design (QED) was paired with a descriptive survey design. This was necessary due to the need for data complementarity that requires methodological plurality in education research (Loeb et al., 2017). To gather information about how the students with HI felt concerning the use of ICT to improve story grammar achievement, a questionnaire was administered to each student.

Setting

In the two chosen schools, 40 secondary school students with hearing impairments participated in a quasi-experiment for this study. A questionnaire was also utilised on students to gather descriptive data on their perceptions of ICT integration in L/T of story grammar.

Participants

Participants in this study were 40 form four students with Hearing impairment, 2 teachers teaching English, and the two principals of the selected schools. This made a participant total number to be 44. Whole group sampling is advised by Ary et al. (2014) in situations where the population is limited, which is why the

research examined every learner—a crucial risk factor for QEDs—thus helping reduce selection bias. This demographic information has been provided on table 1.

Table 1: Demographic Information.

School	Target population	Sample size	Percentage %
A	14 students	14 students	100%
	1 principal	1 principal	100%
	1 teacher of English	1 teacher of English	100%
B	26 students	26 students	100%
	1 principal	1 principal	100%
	1 teacher of English	1 teacher of English	100%
Grand total		**40 students**	**100%**
		2 principals	**100%**
		2 teacher of English	**100%**

RESULTS

The key objective of this study was to find out the perceptions of studentswith HI towards ICT integration in enhancing story grammar achievement. Using a pre-designed questionnaire, students' perspectives, opinions, attitudes, and viewpoints regarding the use of ICT in boosting story grammar achievement were recorded in the sampled schools. Guided by the research questions, the data was examined per school, gender, and level of hearing impairment before an overall review of the data was completed. Following tabulation, the results are shown in tables 2, 3, 4, and 5. A summary of these findings based on the questionnaire item has been provided after each table.

Students' Perception from Different Schools

The perceptions of students by school were recorded, and the results were tallied and presented in table 2 that follows.

Table 2: Students' perceptions of ICT integration in every school

General Statement on ICT integration	School A (N = 13)			School B (N = 22)		
	Agree	Neutral	Disagree	Agree	Neutral	Disagree
ICT use encourages me to actively engage in the teaching and learning of story grammar.	12 (92.3%)	1 (7.7%)	–	20 (90.9%)	2 (9.1%)	–
ICT use drives me to think critically.	9 (60.2%)	3 (23.1%)	2 (15.4%)	15 (68.2%)	5 (22.7%)	2 (9.1%)

Using ICT helps me do better on my English exams	12(92.3%)	1 (7.7%)	–	16(72.7%)	5 (22.7%)	1 (4.5%)
ICT makes it possible for me to work with other students.	10 (76.9%)	3 (23.1%)	–	12 (54.5%)	8(36.4%)	2 (9.1%)
ICT helps me comprehend ideas more fully.	9 (69.2%)	2 (15.4%)	2 (15.4%)	15 (68.2%)	6(27.3%)	1 (4.5%)
I find learning to be more enjoyable when a teacher uses ICT to teach story grammar.	13 (100%)	–	–	18 (81.8%)	4(18.2%)	–
I'm not proficient enough with computers to use them for learning.	10 (76.9%)	2 (15.4%)	1 (7.7%)	9 (40.9%)	3(13.6%)	10 (45.5%)

According to data gathered from each school (table 2 above), nearly all students—92.3% (12) in school A and 90.9% (20) in school B—agreed with the statement that using ICT encourages students to actively participate in the teaching and learning of story grammar, while just 7.7% (1) and 9.1% (2) in school A and B expressed no opinion. When it came to the claim that using ICTs helps students think critically, 60.2% (9) of students in school A and 68.2% (15) of students in school B agreed with it. Only 15.4% (2) of students in school A and 9.1% (2) in school B disagreed with the claim that ICT use fosters critical thinking.

92.3% (12) of students in school A and 72.7% (16) of students in school B agreed that ICT helps them perform well on English exams. In contrast, just 7.7% (1) and 22.7% (5) of students in school A and B, respectively, were undecided about the statement, and 4.5% (1) in school B disagreed. These findings show that the majority of students with hearing impairments concur that using ICT to teach and learn story grammar improved their performance on English tests. This conclusion is consistent with the study's posttest results, which demonstrated that students' mean scores increased to 8.825 from 6.3 prior to ICT integration (pretest) following ICT integration. The presence of a statistically significant increase in achievement as a result of ICT inclusion was shown by a t value of 2.415 and a p value of 0.0180.

Additionally, table 2 data shows that 76.9% (10) of students in school A and 54.5% (12) of students in school B agreed with the statement that using ICT helps them collaborate with other students, while 23.1% (3) and 36.4% (8) of students in school A and B, respectively, were undecided about the statement and only 9.1% (2) in school B disagreed. These findings show that the majority of hearing-impaired students in the chosen schools agree with the claim that ICT integration helps them to work together with other students.

When asked whether using ICT helps students understand concepts better, 69.2% (9) of students in school A and 68.2% (15) of students in school B agreed with the statement. Only 15.4% (2) of students in school A and 4.5% (1) in school B disagreed with the statement. The remaining 15.4% (2) and 27.3% (6) of students in school A and B, respectively, were neutral about the statement. These findings show that the majority of hearing-impaired secondary school pupils in the chosen Counties concur that using ICT into the classroom helps them comprehend story grammar ideas more fully.

Further analysis revealed that 81.8% (18) of students in school B and 100% of students in school A felt that they enjoyed learning when their teachers used ICT to teach story grammar. Merely 18.2% of students in school B had no opinion about the remark. These findings show that almost all of the HI students at each of the two schools in the sample have a positive learning experience when a teacher utilises ICT to teach story grammar.

In terms of computer proficiency, data gathered from each school showed that the majority of students in school A, 76.9% (10) and almost half in school B, 40.9% (9), admitted they did not have enough computer

proficiency to use for studying story grammar. Just 7.7% (1) of students in school A and 45.5% (10) in school B disagreed with the statement, indicating that they felt they had adequate computer skills to use in learning story grammar. 15.4% (2) and 13.6% (3) of students in school A and B, respectively, maintained neutrality towards the statement. These results from each of the two sample schools point to a disparity in students' computer proficiency. Most students in School A believed they lacked the computer skills necessary to use story grammar lessons. Perhaps this was brought about by the apparent lack of ICT resources and infrastructure at this school, which prevented students from getting any practice.

Students' Perception by Gender

The perceptions of students by gender were recorded, and the results were tabulated and presented in table 3;

Table 3: Opinions of Students Regarding ICT Integration by Gender

General Statement on ICT integration (N = 35)	Gender	Agree	Disagree	Neutral	χ^2 value	P value
ICT use encourages me to actively engage in the teaching and learning of story grammar.	Female	18(90%)	0(0.0%)	2(10%)		
	Male	14(93.3%)	0(0.0%)	1(6.7%)	0.122	0.727
ICT use drives me to think critically.	Female	14(70.0%	3(15%)	3(15%)		
	Male	10(66.7%)	0(0.0%)	5(33.3%)	3.524	0.172
Using ICT improves my performance on English tests	Female	17(85%)	1(5.0%)	2(10.0%)		
	Male	11(73.3%)	1(6.7%)	3(20.0%)	0.788	0.675
ICT makes it possible for me to work with other students.	Female	12(60%)	1(5.0%)	7(35%)		
	Male	10(66.7%)	1(6.7%)	4(26.7%)	0.292	0.864
ICT helps me comprehend ideas more fully.	Female	13(65.0%)	1(5.0%)	6(30.0%)		
	Male	11(73.3%)	2(13.3%)	2(13.3%)	1.823	0.402
I find learning to be more enjoyable when a teacher uses ICT to teach story grammar.	Female	17(85.0%)	0(0.0%)	3(15.0%)		
	Male	14(93.3%)	0(0.0%)	1(6.7%)	0.588	0.443
I'm not proficient enough with computers to use them for learning.	Female	12(60.0%)	5(25.0%)	3(15.0%)		
	Male	7(46.7%)	6(40.0%)	2(13.3%)	0.911	0.634

The data gathered from both schools and broken down by gender (table 3) reveals that while a small minority—10% (2) of the girls and 6.7% (1) of the boys—were neutral about the statement, the majority—90% (18) of the boys and 93.3% (14) of the girls—agreed that using ICT encourages students to actively participate in the teaching and learning of story grammar. An x2 value of 0.122 and a p value of 0.727 from a chi-square test clearly show how using ICT motivates students with hearing loss—boys and girls alike—to actively participate in the study of story grammar. Of the respondents, 70% (14) of girls and 66.7% (10) of boys agreed that utilising ICTs fosters critical thinking. Only 15% (3) of females disagreed with the statement, while 15% (3) of girls and 33.3% (5) of boys were unsure. A p value of 0.172 and an x2 value of 3.524 from further analysis clearly show that using ICT helps both male and female students with hearing loss develop critical thinking skills.

Regarding the assertion that ICT improves students' performance on English exams, 85% (17) of the girls and 73.3% (11) of the boys agreed with it, while 10% (2) of the girls and 20% (3) of the boys had no

opinion, and only 5% (1) of the girls and 6.7% (1) of the boys disagreed. An x2 value of 0.788 and a p value of 0.675, which came from further analysis, provide compelling evidence that students with hearing loss gain equally from ICT integration in terms of their performance on English tests—boys and girls both.

Additional research reveals that 60% (12) of females and 66.7% (10) of boys thought that utilising ICT facilitated their ability to work together with other students. Only 5% (1) of the females and 6.7% (1) of the boys disagreed with the statement, compared to 35% (7) of the girls and 26.7% (4) of the boys who were neutral about it. Additionally, a chi-square test analysis revealed an x2 value of 0.292 and a p value of 0.864, which unequivocally indicates that secondary school students with hearing impairment in the chosen Counties collaborate with other students equally when using ICT in the learning and teaching of story grammar, regardless of gender.

When asked if using ICT helps them understand concepts better, 65% (13) of girls and 73.3% (11) of boys agreed, while 30% (6) of girls and 13.3% (2) of boys expressed no opinion, and only 5% (1) of girls and 13.3% (2) of boys disagreed. Additional analysis revealed an x2 value of 1.823 and a p value of 0.402, indicating that secondary school students with hearing impairment in the chosen Counties understand concepts better when ICT is used in the study and teaching of story grammar equally for both boys and girls.

The majority of students, 85% (17) of the girls and 93.3% (14) of the boys, according to gender-specific findings, felt that they learn best when a teacher uses ICT to teach story grammar. Just 3.5% of the girls and 1.7% of the boys expressed no opinion on this. Boys and girls with hearing impairment in the chosen secondary schools for students with HI enjoy learning equally when the teacher uses ICT during learning and teaching of story grammar, according to a chi-square test analysis that revealed an x2 value of 0.588 and a p value of 0.443.

Additionally, the results reveal that 46.7% (7) of boys and 60.0% (12) of girls acknowledged not having sufficient computer skills for use in learning. 25% (5) of the girls and 40% (6) of the boys disagreed with the statement, indicating that they had sufficient computer abilities to be used in teaching and learning. 15% (3) of the girls and 13.3% (2) of the males were neutral towards the statement. Additional investigation revealed an x2 value of 0.911 and a p value of 0.634, indicating that students' individual computer skills were unaffected by their gender. In the chosen secondary schools, both girls and boys with hearing impairments believed they lacked sufficient computer skills for use in learning and teaching of story grammar.

Students' Perception by Degree of Hearing Impairment

When providing their opinions about the use of ICT in the teaching and learning of story grammar, students were classified as either deaf or HH in an attempt to determine whether the degree of hearing impairment had an impact on their perceptions. The results are summarised and presented in Table 4 below.

Table 4: Perceptions of ICT integration among students according to the severity of hearing impairment

Statement on ICT integration (N = 35)	Degree of HI	Agree	Disagree	Neutral	χ² value	P value
ICT use encourages me to actively engage in the teaching and learning of story grammar.	Deaf	23(92.0%)	0(0.0%)	2(8.0%)		
	Hard of hearing	9(90.0%)	0(0.0%)	1(10.0%)	0.036	0.849
ICT use drives me to think critically.	Deaf	18(72.0%)	2(8.0%)	5(20.0%)		
	Hard of hearing	6(60.0%)	1(10.0%)	3(30.0%)	0.496	0.780

Using ICT improves my performance on English tests	Deaf	20(80.0%)	2(8.0%)	3(12.0%)		
	Hard of hearing	8(80.0%)	0(0.0%)	2(20.0%)	1.120	0.571
ICT makes it possible for me to work with other students.	Deaf	15(60.0%)	2(8.0%)	8(32.0%)		
	Hard of hearing	7(70.0%)	0(0.0%)	3(30.0%)	0.923	0.630
ICT helps me comprehend ideas more fully.	Deaf	17(67.0%)	3(12.0%)	5(20.0%)		
	Hard of hearing	7(70.0%)	0(0.0%)	3(30.0%)	1.517	0.468
I find learning to be more enjoyable when a teacher uses ICT to teach story grammar.	Deaf	22(88.0%)	0(0.0%)	3(12.0%)		
	Hard of hearing	9(90.0%)	0(0.0%)	1(10.0%)	0.028	0.867
I'm not proficient enough with computers to use them for learning.	Deaf	12(48.0%)	8(32.0%)	5(20.0%)		
	Hard of hearing	7(70.0%)	3(30.0%)	0(0.0%)	2.646	0.266

The majority of students with deafness, 92.0% (23), and students with hard of hearing, 90.0% (9), agreed that using ICT allows them to actively participate in the learning and teaching of story grammar. However, only a small minority of students with deafness and hard of hearing, 8.0% (2) and 10.0% (1), respectively, remained neutral about the statement. A clear indication that the degree of hearing impairment has no substantial impact on ICT use is provided by the x2 and p values of 0.036 and 0.849, respectively. This means that both deaf and hard of hearing students actively participate in the teaching and learning of story grammar when using ICTOnly 8.0% (2) and 10.0% (1) of those with deafness and those who were HH, respectively, disagreed with the statement that using ICT to learn and teach story grammar causes them to think critically. 72.0% (18) of students who are deaf and 60.0% (6) of students with HH agreed with the statement. 20.0% (5) of deaf students and 30.0% (3) of students with HH were neutral about the statement. A clear indication that the level of hearing impairment has no bearing on students' use of ICT is provided by x2 and p values of 0.496 and 0.780, respectively. As a result, using ICT in story grammar L/T makes both students, deaf and HH, in the selected schools think critically.

When asked if ICT improves their performance on English exams, the majority of HI students—80.0% (20) who are deaf and 80.0% (8) who are hard of hearing—agreed with the statement. In contrast, 12.0% (3) of deaf students and 20.0% (2) of students with HH conditions expressed neutrality towards the statement, with only 8.0% (2) of deaf students disagreeing. Because the degree of hearing impairment has no discernible effect on the use of ICT by the hearing impaired, using ICT to teach and learn story grammar improves performance for both students across all hearing loss levels (x2 value of 1.120 and p value of 0.571).

Additionally, results indicate that 60.0% (15) of students with deafness and 70.0% (7) of students with HH condition agreed that using ICT helps them collaborate with other students, while only 8.0% (2) of deaf students disagreed with the statement and 32.0% (8) of deaf students and 30.0% (3) of students with HH condition were neutral about it. A chi-square test analysis yielded an x2 value of 0.923 and a p value of 0.630, indicating that the degree of hearing impairment has no bearing on the application of ICT among the hearing impaired students in the chosen schools. As a result, integrating ICT into the teaching and learning of story grammar allows both deaf and hard of hearing students to work collaboratively with other students.

67.0% (17) of deaf students and 70.0% (7) of students with HH condition agreed that using ICT helps them understand concepts better. In contrast, 20.0% (5) of deaf students and 30.0% (3) of students with HH

condition were neutral about the statement, with only 12.0% (3) of deaf students disagreeing. A closer look revealed an x2 value of 1.517 and a p value of 0.468, indicating that the level of hearing impairment has no statistically significant impact on ICT application among students with hearing loss. In other words, using ICT to teach story grammar improves conceptual understanding for both deaf and hearing students in the chosen schools.

Results according to the severity of hearing loss also showed that most students, 88.0% (22) of deaf students and 90.0% (9) of students with HH condition, agreed that they learn best when teachers utilise ICT to teach story grammar. Merely 10.0% (1) of students with HH condition and 12.0% (3) of deaf students had no opinion about the statement. The results of a chi-square test analysis revealed an x2 value of 0.028 and a p value of 0.867, indicating that the level of hearing impairment has no bearing on how well hearing impaired students use ICT. As a result, both deaf and HH students in the chosen schools benefit from learning when their teachers uses ICT.

Further research reveals that 70.0% (7) of pupils with HH condition and 48.0% (12) of deaf students acknowledged that they lacked sufficient computer abilities to use technology for studying. While 32.0% (8) and 30.0% (3) of the deaf students and those who are HH, respectively, disagreed with the statement, 20.0% (5) of the deaf students expressed no opinion. The degree of hearing impairment has no statistically significant impact on the computer abilities that students with hearing impairment possess, according to an x2 value of 2.646 and a p value of 0.266.

Students' Overall Perceptions on ICT Integration in Enhancing Story Grammar Achievement

The study further sought to determine how students generally thought about ICT integration as a means of enhancing story grammar accomplishment. The results are summarised in Table 5 and are shown as follows.

Table 5: Overall Students' Perception on Integration of ICT

Statement on ICTs integration	Students' opinion (N = 35)		
	Agree	Neutral	Disagree
ICT use encourages me to actively engage in the teaching and learning of story grammar.	32 (91.2%)	3 (8.6%)	0(0.0%)
ICT use drives me to think critically.	24 (68.6%)	8 (22.9%)	3 (8.5%)
Using ICT improves my performance on English tests	28 (89.0%)	6 (17.1%)	1 (2.9%)
ICT makes it possible for me to work with other students.	22 (62.9%)	11 (31.4%)	2 (5.7%)
ICT helps me comprehend ideas more fully.	15 (42.9%)	8 (22.9%)	3 (8.6%)
I find learning to be more enjoyable when a teacher uses ICT to teach story grammar.	31 (88.6%)	4 (11.4%)	0(0.0%)
I'm not proficient enough with computers to use them for learning.	19 (54.3%)	5 (14.3%)	11(31.4%)

The majority of HI students in the chosen schools, or 91.2% (32), agreed with the statement that using ICT encourages them to actively participate in the learning and teaching of story grammar, while just 3 (8.6%) disagreed. In a similar vein, the majority, 68.6% (24), concurred that using ICT for L/T story grammar encourages critical thinking, while only 8.5% (3) disagreed and 22.9% (8) remained neutral. The majority, 89.0% (28), responded positively when asked if using ICT improves their performance in English, whereas just 17.1% (6) remained neutral and only 2.9% (1) disagreed. These results on how students with hearing impairments perceive the integration of ICT in L/T and how using ICT helps them do well on English exams align with the study's posttest results, which indicate that after ICT integration (posttest), students'

mean scores increased to 8.825 from 6.3 before ICT integration (pretest). A statistically significant increase in achievement was observed upon the integration of ICT, as indicated by a t value of 2.415 and a p value of 0.0180.

Regarding the assertion that using ICT helps them collaborate with other students, 62.9% (22 students) agreed with it, 11 (31.4%) stayed neutral, and just 2 (5.7%) disagreed. Of those surveyed, 15 (42.9%) felt that ICT integration helps them understand concepts better, 8 (22.9%) were indifferent, and only 3 (8.6%) disagreed. Additionally, just 4 (11.4%) of the students expressed neutrality about the claim that they enjoyed learning when the teacher used ICT to teach story grammar, while 31 (88.6%) of the students said they enjoyed learning. Of those who responded to the statement, "My computer skills are inadequate for use in learning story grammar," 19 (54.3%) said they did not have the necessary skills, 5 (14.3%) said they were neutral, and 11 (31.4%) disagreed with the declaration thereby confirming that they have computer abilities to support their use of ICT in the teaching and learning of story grammar. The results of this study, which focused on the opinions of students with hearing impairments regarding the use of ICT in the teaching and learning of story grammar, appear to support those of other earlier studies that mostly used hearing students in various educational settings and covered different topics.

DISCUSSIONS

The discussions is hereby presented following the order of the study questions;

According to Jogezai et al.'s (2018) findings, for example, teachers who included ICT into their pedagogical approaches saw an improvement in their students' participation in learning activities because ICT created an environment that inspired them and kept them engaged in class activities. Findings by Jogezai et al corroborate the current study findings.

Liu et al.'s (2021) study discovered that integrating ICT into learning-teaching methods helps students overcome academic challenges and keeps them actively involved in the process of learning and teaching, findings which are similar to the current study findings.

Muhammad (2016) discovered in his research that students who learned English writing skills using computer-assisted instruction software performed better than those who learned the same skills using conventional teaching methods. In a similar vein, Hooley and Thorpe's 2017 study found that students who received instruction using CBI did better than those who received instruction using outmoded methods for the same subject. The results of Mwiluli (2018) and Abobo (2019) similarly concluded that ICT integration improves academic attainment in a variety of learning domains. Findings of studies by Muhammad, Hooley and Thorpe, Mwiluli, and Abobocorroborate the findings of the current study.

Furthermore, Liu et al. (2021) concluded that incorporating ICT into teaching and learning procedures enables students to keep in touch with their teachers and peers. ICT technologies allow students to present their work to an external audience, which allows them the ability to collaborate on assignments with stakeholders both inside and outside of a learning environment. Tarus (2015) has previously reported findings along these lines. These findings by Liu et al and Tarus are similar to the current study findings

The results of the current study on how students perceive ICT integration are different from those of Tolbert's (2015) study, which found that there was no statistically significant difference in students' perceptions of CAI when compared to the usage of traditional methodologies.

Overall, the research's statistics have made it abundantly clear that, similar to their hearing peers, as previously shown by studies, ICT integration in teaching/learning also encourages students with HI to actively participate in the learning of story grammar, helps them think critically, enables them perform well

in English exams and collaborate with other students. This is true regardless of the gender, school attended, or level of HI.

CONCLUSIONS

This study looked into how secondary school students with hearing impairment perceive the use of ICT to improve their comprehension of story grammar. The primary goal of the study, for which the data were gathered and examined, was to ascertain whether secondary school students with hearing impairments had favourable or unfavourable opinions on the use of ICT to improve their comprehension of story grammar.

Consequently, this study may draw the conclusion that secondary school students with hearing impairments in the selected Counties view ICT integration favourably as a means of improving their achievement in story grammar. This can be explained by the fact that ICT integration gives students who are hearing impaired an opportunity to interact both visually andauditorily with the course material.

RECOMMENDATIONS FOR RESEARCH

1. Although the focus of this study was story grammar, further research is still needed in other English-related fields, including grammar, writing, oral literature, and other topics.
2. Research of a similar nature on the integration of ICT among students with HI in secondary schools may also be carried out in other subject areas, including science, mathematics, and the humanities.

RECOMMENDATION FOR POLICY

The study suggests that story grammar materials be made available digitally to students with hearing impairments. These students face difficulties reading and comprehending texts designed primarily for hearing students. In order to make this feasible, these students must rely on the assistance of sign language interpreters, some of whom simply translate the text without taking into account the dynamics of the story grammar context.

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CONFLICT OF INTEREST

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