



COMPUTER INSTRUCTION EDUCATION AND PERFORMANCE ON KISWAHILI READING COMPREHENSION AMONG SECONDARY SCHOOLS IN NAKURU COUNTY, KENYA

Abobo Francisⁱ

Doctorate Student, School of Education,
Department of Educational Management, Policy and Curriculum Studies,
Specialising in Curriculum Development,
Kenyatta University, Kenya
Senior Tutor – Tambach TTC

Abstract:

The MoEST (2006) introduced the integration of computer aided instruction into teaching of Kiswahili reading comprehension so as to enhance the following language aspects: read fluently and comprehend the passage, and increase performance on Kiswahili reading comprehension. However, this has not been realized as evidenced by students' low performance on Kiswahili reading comprehension CATs over years among Sub-County secondary schools in Nakuru County, Kenya. The objective of the Paper was to determine the differences between students taught Kiswahili reading comprehension using CAI and those students taught the same content using TMs on Kiswahili reading comprehension. This Paper employed a causal-comparative design. A sample of 839 participants was drawn from a target population of 13290 subjects. Stratified, purposive and simple random sampling methods were used to select the study sample. Questionnaires, Interview Schedules and Document Analysis Guide were used to collect quantitative and qualitative data. Piloting was done in three schools to determine the validity and reliability of the instruments in two weeks before the commencement of the actual study, whereby the study confirmed that the instruments were valid and reliable; the reliability of teachers' and students' each was computed separately using Cronbach's Alpha Formula. Teachers' alpha coefficient yielded alpha of 0.77 and students' alpha coefficient yielded an alpha of 0.79 which were considered reliable for the study. Mean and standard deviations were used to

ⁱ Correspondence: email abobofrancis@yahoo.com

analyze quantitative data while independent T-tests were used to test the hypothesis so as to find out the differences between the two means on performance on Kiswahili reading comprehension between the two groups. Quantitative data was presented and interpreted in frequency table distributions, bar graphs and pie-charts while Qualitative data was summarized into similarities and differences and analyzed in themes and text. The findings of the study established that computer aided instructions improve performance on Kiswahili reading comprehension. The t-test findings also indicated that there was a significant statistical differences in favour of the CAI group students' it was concluded that the use of CAI in teaching Kiswahili language enhances performance on Kiswahili reading comprehension.

Keywords: computer instruction education, performance, Kiswahili reading comprehension, among secondary schools, Nakuru County, Kenya

1. Introduction

Demirei (2003) as cited in Salem (2011) noted that computer aided instruction comprises guided drill and practice which visualize objects and ease interaction between students and teachers. Furthermore, there are several computer devices that aid teaching in classrooms in the form of text and in multimedia programme which comprises pictures, sounds, videos, animation, speech and simulation. The guided drill is a computer software that presents questions to students and gives them the feedback, selects the content to be taught through the computer software. Computers can also aid learners to visualize objects that are complex and difficult to view. Computer components such as word processors, spread sheets and databases gather information, organise and transmit it. Presently, modern systems such as visualization and simulated components are purely controlled by the students and teachers as teaching aids to supplement the curriculum delivery in schools.

The South Korean Ministry of Education and Technology as cited in Wochun (2015) pointed out that the South Korea government initiated the integration of computer assisted instruction in 2007 to improve the quality of instruction in schools. The government of South Korea has expanded computer instruction education in all schools so as to increase the use of computer instruction education in teaching of all subjects including instruction of languages. In addition, the government of South Korea has equipped many of the schools with computer devices so as to assist teachers and learners to integrate computer components into teaching of school subjects. The employment of computer instruction education in the instruction of English language

could heighten the proficiency on grammar, reading comprehension and writing skills in local and foreign languages.

The Kenya Institute of Education KIE, (2007), the curriculum centre in Kenya plays an important role of initiating National goals of Education in Kenya. The KIE initiated its policy on applications of computer instruction education (multimedia programme) in the instruction of several subjects in Kenyan secondary schools. More so, the objective was to involve learners fully in the lesson development so as to establish their individual talents and develop them. The Kenya Institute of Education KIE, (2008) assert that the Kiswahili curriculum has been integrated in computer instruction education (CDs) and has availed the CDs to all secondary schools in Kenya so as to aid teachers apply computer components to focus on the basics of the subject matter, teaching strategies and lesson development.

The Kenya Education Sector Support Programme KESSP (2010-2013) pointed out that some higher learning institutions in Nakuru County have been provided with computer components and instruction software for all school curriculum including Kiswahili reading comprehension. More so, Kiswahili language teachers have been trained through workshops by KIE on how to apply computer instruction education in the teaching of Kiswahili language. Besides availing the Kiswahili language skills CDs, Kiswahili language tutors are integrating computer instruction education through text, audio-visual video programme, animation, simulation, graphics and Power Point Projectors to heighten Kiswahili language skills through engaging the learners throughout in the learning process. That is why, this study sought to compare students' performance in Kiswahili reading comprehension between students taught Kiswahili language skills using computer aided instruction and those taught Kiswahili reading comprehension using traditional teaching methods among secondary schools in Nakuru County.

Chambers, Shavin, Madden, Tucker and Cheung (2008) pointed out that one of the concerns among education stakeholders in United States of America is students' low proficiency in English reading comprehension in higher learning institutions. A specific aspect of concern is low learning achievement in reading English comprehension, whereby the students enter higher learning institutions with low literacy competencies in reading comprehension face more difficulties. They often have difficulties in reading and comprehending the text. Students have difficulties in grasping context-dependant vocabulary, concept development and graphical information. This also implies that students would not be able to progress with much easiness in higher grades and in their workplace. The current traditional teaching approaches in secondary school curriculum do not offer an opportunity to students to equip themselves with adequate English

comprehension skills. Evidently, effective instruction strategy capable of motivating learners to read and understand the most complex texts is required at secondary school language curriculums. Their previous studies concluded that language tutors should apply computer apply computer instruction education which offer rich learner interactive teaching strategies so as to improve performance in English reading comprehension skills.

The Kenya National Examination Council (KNEC) (2014) pointed out low competencies and inconsistent performance on Kiswahili language. The lowly performed skills are: reading comprehension and summary. These KNEC reports confirmed that more than half of the candidates scored less than half of the total score of (30) mark. More so, learners have continued to experience low competencies in reading comprehension and summary. Furthermore, the low performance was also noted on Kiswahili reading comprehension, whereby the learners proved insufficient by showing cases of inability to answer questions on comprehension, applications, analysis, and on vocabulary inference. Hence the students have no alternative; but to master competencies of reading fluently, comprehending the passage and performing well in comprehension questions.

2. The Art of Literature Review

Regarding the influence of computer instruction education on students' learning achievements on Kiswahili reading comprehension. Chen, Wang and Chen (2014) studied the learning outcomes of computer instruction education (CIE) on learning achievements on English reading comprehension between those students instructed English reading comprehension using computer instruction education and those taught English reading comprehension using traditional teaching methods among higher learning institutions in South Korea. The study categorized the learners into treatment and control group learners. The treatment group learners were taught English reading comprehension using computer instruction education while the control group students were instructed English reading comprehension using traditional teaching methods. Both the experimental and control group students were pre-tested and post-tested at the beginning and at the end of the treatment to ascertain the impacts of computer instruction education on students' learning achievements on English reading comprehension. The study outcomes revealed out that the treatment group learners outperformed the control group learners in English reading comprehension. This meant that computer instruction education heightened learners' learning achievements on English reading comprehension.

Bhatti (2013) established the effects of computer instruction education software and traditional instruction strategies on learning achievements on English reading comprehension among secondary schools in Miri's Sindr in Pakistan. The study sample was classified into treatment and control groups. The treatment group learners were taught English reading comprehension using computer instruction education software while the control group learners were instructed English reading comprehension using traditional teaching methods. Both the treatment and control group learners were tutored 24 English reading comprehension lessons using either didactic teaching methods or computer instruction education software. Both the experimental and control group learners were pre-tested and post-tested at the start and at the end of the experiment to establish the effectiveness of computer instruction education software on students' learning achievements on English reading comprehension. The study findings revealed that the treatment group candidates outscored the control group learners with 35% marks more in English reading comprehension. This meant that computer instruction education software increased learners' learning achievements on English reading comprehension.

Dundar and Akcayir (2012) studied the effectiveness of computer instruction education on students' English reading comprehension skills. The study randomly assigned learners into treatment and control group learners. The treatment group learners were instructed English reading comprehension applying computer instruction education while the control group learners were tutored English reading comprehension employing didactic teaching strategies. Their study outcomes pointed that there was no significant differences on learning achievements on English reading comprehension between the treatment group learners and control group learners. These study outcomes meant that both computer instruction education and traditional teaching methods did not improve students' learning achievements on English reading comprehension.

Ndungu (2015) studied the computer instruction education software used by tutors in the instruction of Kiswahili language among secondary schools in Bungoma South District, in Bungoma County, Kenya. The study sample comprised 8 teachers, 8 HODs and 8 principals. The study issued questionnaires to respondents and interviewed the respondents to gather data. The data was analysed qualitatively and quantitatively. The study results revealed that many of the higher learning institutions lacked sufficient computer components for the instruction of Kiswahili language; more so, the study outcomes pointed out that majority of the higher learning institutions were instructing Kiswahili language using traditional teaching methods. Finally, the study recommended that the KICD (Kenya Institute of Curriculum Development)

should equip higher learning institutions with the computer instruction software and also capacitate tutors on how to integrate the computer instruction education software for teaching in schools.

Turuthi (2015) established the level to which computer instruction education software were integrated in the teaching of Kiswahili language among secondary schools in Nakuru in Nakuru County, Kenya. The study gathered information using semi-structured interviews, observation guide and focus groups. The qualitative data was narrated around major themes and text. The study results confirmed that a few Kiswahili language tutors were integrating the computer instruction education software in the instruction of Kiswahili language. However, the study outcomes noted that many teachers were employing didactic teaching methods in the teaching of Kiswahili language. This meant that the integration of computer instruction education software increased learners' learning achievements on Kiswahili language among secondary schools. The same could apply to the tutoring of Kiswahili reading comprehension skills.

3. The Statement of the Problem

Despite the integration of computer aided instruction into instruction of Kiswahili language so as to enhance teaching of Kiswahili language skills so as to enable learners' master Kiswahili reading comprehension among in all secondary schools across the country. The computer aided instruction was integrated into teaching Kiswahili language so as to enhance the following Kiswahili language aspects such as read fluently, comprehend the text extract, improve learner's' score recall, comprehension, application, vocabulary inferences and analysis questions, and summarize the information in a given number of words. However, until then, it was not yet clear about the effects of computer aided instruction on Kiswahili reading comprehension among sub-county secondary school students in Nakuru County as evidenced by students' weak proficiency and low performance on Kiswahili reading comprehension competencies among sub- county secondary schools in Nakuru County over years. Students' weak performance on Kiswahili reading comprehension competencies was an issue of great concern among students, teachers, parents and stakeholders; and it left a lot to be desired about, what needed to be done so as to improve students' proficiency in Kiswahili reading comprehension abilities? This means that some secondary school learners were not mastering Kiswahili reading comprehension competencies as expected by KICD (2015). Pre-survey observations revealed that revealed that high performance on English reading comprehension has been attributed to the application

of computer aided instruction in classrooms while low performance on English language has been blamed on employment of traditional teaching methods in the teaching of English reading comprehension. Until then, however, little was known about the effects of computer aided instruction on Kiswahili reading comprehension among public secondary school students in Nakuru County.

4. Purpose of the Study

The purpose of this study was to compare students' performance on Kiswahili reading comprehension between students taught Kiswahili reading comprehension using computer aided instruction and those students taught Kiswahili reading comprehension using traditional teaching methods (TTMs) among public secondary schools in Nakuru County, Kenya. The study objective was to: Establish the differences between students taught Kiswahili reading comprehension using computer instruction education and those students taught Kiswahili reading comprehension using traditional teaching methods on performance on Kiswahili reading comprehension among public secondary schools and the hypothesis was to: Ho₂. There is no significant difference on Kiswahili reading comprehension skills between students taught Kiswahili reading comprehension using computer instruction education and those students taught reading comprehension using traditional teaching methods on performance on Kiswahili reading comprehension among public secondary schools.

5. Research Methodology

This study adopted a causal- comparative research design to determine the cause and effect relationships between independent and dependent variables after an action has already happened. The purpose of employing causal-comparative design was to establish whether independent variables (computer instruction education and traditional teaching methods) affected the dependent variable (learning outcomes on Kiswahili reading comprehension). In relation to this study, independent variables: computer instruction education such as text, audio, video, graphics, animations, simulations and PowerPoint presentations while traditional teaching methods such as: lecture methods, textbook; and chalk and talk were both measured in relation to their influence on dependent variable (Kiswahili reading comprehension such as reading comprehension among public secondary schools in Nakuru County) as cited in Salkind (2010).

Regarding the study locale: This study was conducted in Nakuru Public Sub County secondary schools so as to determine the cause of low proficiency and weak performance on Kiswahili reading comprehension CATs among Public Sub- County secondary schools in Nakuru County. The study targeted 12900 form two students, 260 teachers teaching Kiswahili language and 130 principals spread out in the 130 sub-county secondary schools in Nakuru County. The Paper employed stratified, purposive and simple random sampling techniques to sample 839 key informants comprising 750 students, 59 teachers and 30 principals spread out in the 30 secondary schools using either CIE or TTMs to teach Kiswahili reading comprehension while 30 form two students classes' documentary analysis guides containing CATs marks for both term one and two in the year 2016, comprising 15 form two classes which taught Kiswahili reading comprehension using CIE and 15 form two classes taught Kiswahili reading comprehension using TTMs from the 30 sampled secondary schools.

Concerning the research instruments: This study used Teachers and Students' Questionnaires, Principals' interview schedules and form two students CATs Document analysis guide to collect quantitative and qualitative data. The study interviewed 30 principals to explore more issues in depth on the effects of CIE and TTMs on performance on Kiswahili reading comprehension while Document analysis guide from the 30 Form Two secondary schools' Students' Progressive Records provided quantitative data on trends of Form Two students' Continuous Assessment Tests (CATs) performance on Kiswahili reading comprehension both term one and term two of the year 2016. Piloting of questionnaires for six teachers and 24 students; and three principals' interview schedule were pre-tested in three different target public Sub-County secondary schools from a different County but with similar characteristics to the 30 sample secondary schools, purposively selected in two weeks before conducting the actual study and which were not included in the actual study. Piloting helped this study to make necessary changes in the instruments before carrying out the actual study. The validity of teachers and students' questionnaires and principals' interview schedules were enhanced by employing content validity whereby by the researcher himself and curriculum experts validated the content of teachers and students' questionnaires; and principals' interview schedules with regard to three research instruments instructions, the relevance of the items to content, its suitability to study objectives and null hypothesis. Questionnaires for both teachers and students were administered once to and null hypothesis. Questionnaires for both teachers and students were administered once to teacher and student respondents to check for its reliability. Both teachers' and students' reliability coefficient was computed separately using Cronbach's Alpha Formula for Internal Consistency and teachers' responses

yielded an alpha Coefficient of 0.77 while students' reliability coefficient yielded an alpha coefficient of 0.79 which were both considered adequate enough for the study to be conducted. This is because Cronbach's Alpha reliability coefficient is considered as the most appropriate to compute internal consistency of an attitude scale or an achievement test when a research tool measures a unidimensional trait when it is scored by ratings such as (1-5) scoring procedure. The reliability from interview responses was tested on three principals; and thereafter, it was grounded and compared with the responses from teachers and students' questionnaires to ensure reliability of the three instruments. The reliability from document analysis guide was not computed because the data to be collected was already in existence in the 30 sample secondary schools.

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Concerning data analysis: Quantitative and qualitative methods were used to analyse data so as to determine the difference between students taught Kiswahili reading comprehension using computer aided instruction and those students taught Kiswahili reading comprehension using traditional teaching methods approximately at the same time to complement one another so as to elaborate upon the results of one another (findings from both quantitative and qualitative) in order to understand which between the two teaching methods that is: CAI and traditional teaching methods enhance performance on Kiswahili reading comprehension by connecting qualitative data with quantitative data to build upon each other whereby descriptive statistics such as means and standard deviations were applied to describe and summarize data statistically from closed ended items and Likert scale items. The analysed data was presented and interpreted using frequency table distributions, bar graphs and charts

while qualitative data from open-ended items and principals' interview schedules were summarised into similarities and differences and were analysed thematically and narrated in words around the similarities and differences derived from participants' responses so as to verify differences between students taught Kiswahili reading comprehension using computer aided instruction and those students taught Kiswahili reading comprehension using traditional teaching methods on performance on Kiswahili reading comprehension.

Quantitative data from document analysis guide from form two students' Kiswahili CATs marks indicating students' performance scores in Kiswahili reading comprehension was analysed using descriptive statistics such means and standard deviations so as to compare the two means of the two different groups for each of the Kiswahili reading comprehension separately at the same time quantitatively so as to measure the influence of both CAI and TTMs on performance on reading comprehension. The analysed data was presented and interpreted in each of the descriptive statistics tables separately so as to support or contradict the results yielded from teachers and students' questionnaires; and principals' interviews schedules so as to determine the differences or relationships on means between the two groups taught by either using CAI or TTMs on performance on reading comprehension. Inferential statistics such as independent t-tests were used to compare the means for the two form two groups (one group taught Kiswahili reading comprehension using CAI and the other group taught the same content using TTMs) on quantitative data received from documentary guide analysis of form two Kiswahili CATs marks for two terms (term one and two, 2016) to compute the three hypothesis at significance level of 0.05 (95% confidence interval) so as to demonstrate whether significant relationships or differences existed between students taught Kiswahili reading comprehension using computer aided instruction and those taught Kiswahili language skills using traditional teaching methods on performance on Kiswahili reading comprehension.

6. Discussion and Findings

The questionnaires given to the teacher respondents were all filled and returned for analysis. The same case was also witnessed among the principals who were interviewed represented a 100% response rate. However, the student questionnaires were not all filled and returned as expected. Out of the 750 students targeted by the study, 710 students managed successfully to fill and return the questionnaires. This presents a response rate of 94.667% of the 750 target student population. The response rate was

deemed as sufficient for the study as Orodho (2017) confirmed that a response rate of 70% and above is reliable enough to validate the results of a study.

Regarding the influence of computer instruction education on performance on Kiswahili reading comprehension. The objective of the study was to establish the difference between students taught Kiswahili reading comprehension using computer aided instruction and those students taught the same content using traditional teaching methods on student's performance on Kiswahili reading comprehension. In achieving this objective, the study issued student respondents with questionnaires with statements and questions of various aspects of CIE and its possible effects on Kiswahili reading comprehension. The principals were also interviewed and the findings are discussed below.

Teachers and students were required to indicate whether they thought that computer instruction education enhance learners' learning achievements performance on Kiswahili reading comprehension as compared with those learners tutored using didactic teaching approaches. Their responses are as indicated in figure 4.1.

Tutors and learners were asked to indicate whether they thought that computer instruction education heighten learners' performance on Kiswahili reading comprehension as compared with those learners instructed using conventional teaching methods. Their responses are as indicated in figure 4.1.

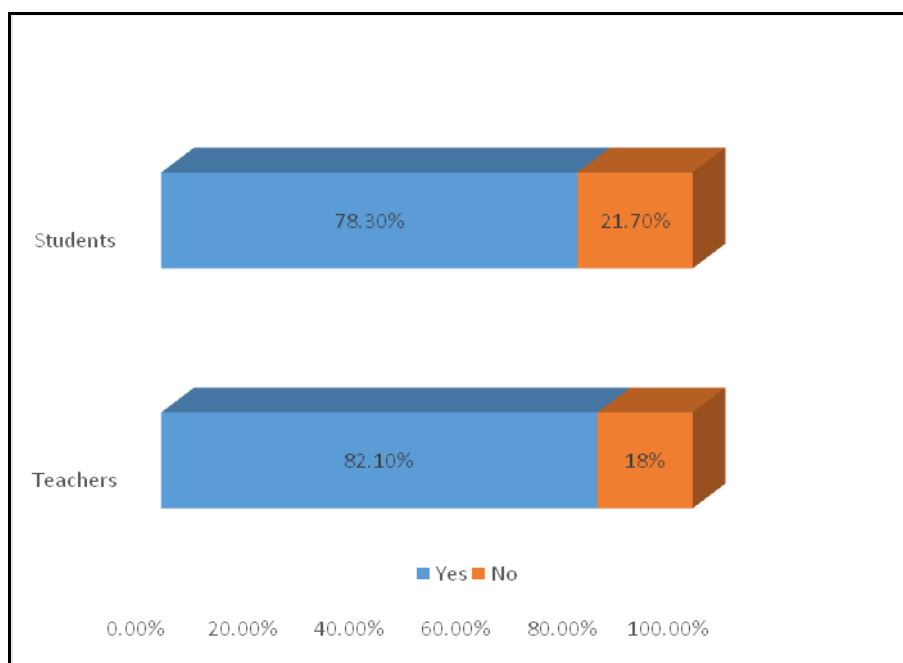


Figure 4.1: Student Learning Achievements

As shown in figure 4.1, many of the teachers and learners (82.1% and 78%) respectively agreed that the integration of computer instruction education improve learners'

learning achievements on Kiswahili reading comprehension. The students were also asked to indicate the extent to which learning improved when CIE is integrated in the instruction of Kiswahili reading comprehension. The responses are as displayed in table 4.1.

Table 4.1: Level of Learning Achievement Improvement

Extent	Frequency	Percent
Very great	46	7.9
Great	202	40.6
Undecided	56	9.3
Little extent	61	11.4
Very little extent	189	30.8
Total	556	100.0

As shown in table 4.1 many of the learner respondents agreed that learning achievement improved to a great extent, (40.6%) while 7.9% agreed that it positively enhanced learning achievements to a very great extent. However, 9.3% of the learner respondents were undecided while 11.4% and 30.8% accepted that it increased learners' learning achievements to a little and very little extent.

The learner respondents were then issued with a variety of statements on a likert scale where they were required to indicate their opinions on a scale of 1-5. Their responses are as provided in table 4.2.

Table 4.2: Learners' Statements on Influence of Computer Instruction Education on Performance on Kiswahili Reading Comprehension

	N	Minimum	Maximum	Mean	Std. Deviation
Computers enable students to read fluently and efficiently in your school.	710	1	5	3.07	1.30
Computers improve students' performance on reading comprehension in your school.	710	1	5	3.33	1.20
Computers enable students to read and comprehend literary and non-literary reading materials in this school.	710	1	5	3.82	1.20
Computerized- documents enable students to construct diverse new sentence structures correctly in this school.	710	1	5	3.01	1.40
Computers improve students' performance on vocabulary inference in this school.	710	1	5	3.44	1.20

Computers increase students' performance on: recall, comprehension, application, and analysis; and summary questions in this school.	710	1	5	3.12	1.44
Average	710	1	5	3.30	1.28

As shown in table 4.2, the statements of learners on influence of computer instruction education on learning achievements on Kiswahili reading comprehension were diverse and biased towards agree and disagree statements as indicated in the minimum and maximum values which were showing that learners' statements were highly diverse. The mean average (m=3.30) also show confirm that many of the learner respondents disagreed, agreed and sometimes were undecided in their statements concerning with the influence of CIE on learners' learning achievements on Kiswahili reading comprehension. For instance, the students whose teachers employ computer instruction education in teaching of Kiswahili agreed that, *"Computer instruction education make learners read fluently and comprehend literary and non-literary reading materials,"* (m=3.82). However, as witnessed from the high varied (SD=1.20) it can be interpreted that learner respondents whose tutors do not teach Kiswahili reading comprehension applying computer instruction education strongly disagreed and disagreed with the statements. The learner respondents accepted the statement that state that traditional teaching methods did not assist them in reading fluently and comprehending the texts as did those who employed CIE. Learners who used TTMs; entirely depended on their own knowledge of grammar, which, on their opinion was limited.

Additionally, the learners collectively disagreed that *"Computer components make learners read proficiently,"* (m=3.07) however the statement had a higher diverse as shown with the highest standard deviation of (SD= 1.29). This meant that some of the learners held the view that computer components make learners read proficiently, findings which are supplemented by Bhatti (2013) who established that computer instruction education increased learners' learning achievements on Kiswahili reading comprehension. The teachers were also provided with opinions on a Likert scale and asked to give their views. The table 4.3 shows the findings.

Table 4.3: Teacher’s Responses on Influence of Computer Instruction Education on Learning Achievements on Kiswahili Reading Comprehension

	N	Minimum	Maximum	Mean	Std. Deviation
Computers enable students to read fluently and efficiently in your school.	59	1	5	3.56	1.16
Computers enable students to comprehend the passage efficiently in your school.	59	1	5	3.7	1.20
Computers enable students to read and comprehend literary and non-literary materials in your school.	59	1	5	3.72	1.07
Computers enable students to perform well on recall comprehension questions in your school.	59	1	5	3.86	1.01
Computers enable students to develop other language skills like listening, speaking and writing in your school.	59	1	5	3.88	1.02
Computers increase students’ vocabulary inference.	59	1	5	3.5	0.77
Computers enable students’ to construct new sentence structures correctly in your school.	59	1	5	3.24	0.74
Computers enable students to answer comprehension and analysis questions correctly in your school.	59	1	5	3.7	0.84
Computers enable students to summarize the passage appropriately in your school.	59	1	5	3.86	0.99
Computers make students improve their language use in diverse contexts in your school.	59	1	5	3.42	0.73
Average	59	1	5	3.6	0.95

The table 4.3 shows teachers’ views concerning the influence of computer instruction education on learners’ learning achievements on Kiswahili reading comprehension. Table 4.3 shows the maximum and minimum values which were all represented in all the opinions meaning that the responses were highly dispersed. The mean average (m=3.64) can be interpreted to imply that many of the teacher respondents collectively agreed with the study opinions however these opinions were diverse. For instance, many of the teacher respondents strongly agreed, (m=3.86) that “Computers enable

students to summarize the passage proficiently." This meant that the teachers integrating computer instruction education accepted that using computer components in teaching of Kiswahili language made learners to summarize the passages proficiently. This is also supported by the low dispersion (SD=0.99) whereby the responses were skewed towards agree.

The tutors, the same as learners, also accepted that, *"Computer components make learners read proficiently,"* (m=3.70) and the tutors collectively accepted that, *'Computers make learners read proficiently,'* (m=3.56). From the measurements of dispersion, it is widely witnessed that the opinions of the tutors were slightly dispersed in comparison to the learners. The mean standard deviation for the teacher's responses was (SD= 0.95) meaning that many of the tutors agreed with the opinions and that many of these views were not highly diverse. For instance, the teachers collectively accepted that, *"Computers enable students' to construct new sentence structures appropriately",* (SD=0.74) meaning that the integration of computer instruction education increases the capability of learners to construct new sentence structures proficiently.

Nonetheless, not all opinions were generally accepted the same as the opinion that 'Computers enable learners to read and comprehend the passage appropriately' received diverse views among the tutors (SD=1.20). The tutors who did not integrate computer instruction education in teaching of Kiswahili generally disagreed with this opinion while those who employed computer instruction education strongly accepted this opinion that computers enabled the learners to read and comprehend the passage appropriately. These results were also confirmed by Chen, Wang and Chen (2014) who noted that computer instruction education increased learners' learning achievements' on Kiswahili reading comprehension.

In addition, the Paper carried out a documentary guide analysis of form two Kiswahili CATs marks for two terms (term one and two, 2016) to determine whether computer there was statistical significant differences on performance on Kiswahili reading comprehension between learners taught Kiswahili reading comprehension using CIE and those learners tutored the same content using TTMs. To test the hypothesis; an independent t-test was employed to test the hypothesis: whether the form two learners who were taught Kiswahili reading comprehension using CIE and those learners who were instructed Kiswahili reading comprehension using TTMs had the same performance on Kiswahili reading comprehension. The results are shown in table 4.4 and 4.5.

Table 4.4: Descriptive Statistics on Performance on Kiswahili Reading Comprehension

	CIE Use	N	Mean	Std. Deviation	Std. Error Mean
Performance on Reading	Using CIE on Reading	322	21.09	2.02533	.11287
	Not Using CIE on Reading	345	10.80	2.75810	.14849

As shown in table 4.4, the mean score of form two instructed Kiswahili reading comprehension using CIE was 21.09 out of 30 marks while the mean score of those form two learners tutored Kiswahili reading comprehension using TTMs was 10.80. Thus indicate that the form two learners taught Kiswahili reading comprehension using CIE outscored those form two learners taught Kiswahili reading comprehension using TTMs.

Table 4.5: Independent Sample Tests on Performance on Kiswahili Reading Comprehension

		t-test for Equality of Means					95% Confidence Interval of the Difference	
		t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Performance in reading comprehension	Equal variances assumed	54.617	665	.000	10.29286	.18846	9.92282	10.66290
	Equal variances not assumed	55.185	630.705	.000	10.29286	.18652	9.92659	10.65913

The findings in table 4.16: indicate that there is a statistical significant difference on Kiswahili reading comprehension performance as a result of using CAI ($p=0.000<0.05$). The results mean that integration of CIE in the teaching of Kiswahili reading comprehension is likely attributed to the difference since other factors were held constant.

The Paper discussions revealed findings on neutrality concerning the influence of CIE on learning achievements on Kiswahili reading comprehension which were very likely attributed to; due the fact that almost half of the form two student respondents were not taught Kiswahili reading comprehension using CIE in their secondary schools, hence their responses were basically negative compared with those learners whose schools had implemented teaching of Kiswahili reading comprehension using CIE. The same responses were also received from teachers. However, teacher respondents whose secondary schools had integrated CIE in instruction of Kiswahili reading

comprehension had positive responses, whereby many of the respondents accepted that different components of CIE had increased learners' learning achievements on Kiswahili reading comprehension. Furthermore, the findings in the hypothesis testing indicate that there was a statistical significant difference on learning achievements of learners whose tutors integrated CIE in the tutoring of Kiswahili reading comprehension compared with those learners whose tutors never employed CIE in the tutoring of Kiswahili reading comprehension. The results indicate that integration of CIE had enhanced students' learning achievements on Kiswahili reading comprehension as revealed from the secondary schools where the CIE was employed as teaching strategy.

7. Conclusions and Recommendations

The Paper concluded that computer instruction education was attributed for the statistical significant difference performance witnessed on Kiswahili reading comprehension whereby the form two learners whose tutors integrated CIE significantly outperformed form two learners whose tutors never integrated CIE in the teaching of Kiswahili reading comprehension. CIE was attributed to the increased learning achievements experienced on: reading fluently, reading, comprehending appropriately, and enhanced students' performance on: recall, comprehension, application, analysis and summary.

7.1 Recommendation

The Paper recommended that all the stakeholders in the ministry of education should ensure that teachers and students in secondary schools are integrating CIE in the teaching of Kiswahili language so as to enhance the learning achievements on Kiswahili language skills such as: grammar, reading comprehension, writing and language use in general.

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