



## **EFFECTS OF COMPUTER COMPONENTS ON KISWAHILI WRITING ACHIEVEMENTS AMONG SECONDARY SCHOOLS IN NAKURU COUNTY, KENYA**

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### **Abstract:**

The MoEST (2006) initiated the application of computer components in the instruction of Kiswahili writing skills so as to heighten the performance on the following Kiswahili writing aspects: communicate fluently in functional and creative compositions, apply diverse sentence structures proficiently, use correctly diverse components of paragraphs, punctuate their writing compositions appropriately and summarize the data in a required number of words correctly. Though, this has not been achieved as witnessed by learners' poor learning achievements on Kiswahili writing achievements CATs over years among senior learners in learning institutions in Nakuru County, Kenya. The objective of the Paper was to Find out the relationship between students taught Kiswahili writing skills using computer aided instruction and those students taught Kiswahili writing skills using traditional teaching methods on performance on Kiswahili writing achievements. This Paper used a causal-comparative design. 750 student participants were sampled from a study population of 12900 students. Purposive, stratified and simple random sampling techniques were employed to sample the study participants. Students' questionnaires were used to collect quantitative data. Piloting was pre-tested in three learning institutions to establish the validity and reliability of the study items in two weeks before the beginning of the actual research, whereby the research agreed that the research items were valid and reliable; the reliability of students' questionnaires was calculated using Cronbach's

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Alpha Formula. Students' alpha coefficient resulted, an alpha of 0.74 which was regarded adequate for the research. Descriptive statistics such as means and standard deviations were used to analyze quantitative data while an independent T-test were used to test the hypothesis so as to establish out the differences between the two means on Kiswahili writing achievements between the two groups. Quantitative data was presented and interpreted using frequency tables, bar graphs and pie-charts. The research results found that computer components increased Kiswahili writing achievements. The t- test results found that there was a significant statistical difference in favour of the computer components group students, it was concluded that the employment of computer components in the teaching of Kiswahili writing skills heightened Kiswahili writing achievements.

**Keywords:** computer components, Kiswahili writing achievements, secondary schools in Nakuru County, Kenya

## 1. Introduction

Mwangi, Nozaki, Ejima and Umeda (2013) confirmed that computer devices are used in classroom activities for education purposes. The computer devices for education purposes are specified into two components: computer tools for education which are used for instruction purposes, and computer devices in education which comprise integration of computer components for classroom instruction tasks more particularly in capacitating teachers on integrating computer components for classroom instruction activities of all subjects including language writing skills.

UNESCO (2014) pointed out that the government of China has tremendously initiated the integration of computer devices in the teaching of all subjects in all learning institutions throughout the county. The ministry of education has supplied all learning institutions with computers so as to improve quality of teaching in classrooms. Furthermore, most schools are connected with the internet so as to enable integration of computers for classroom teaching activities. More so, in the year 2009, the department of curriculum authorized schools to integrate computer components in the instruction of all subjects including languages. The integration of computer devices in the instruction of Chinese and Foreign languages improved students' learning achievements on English writing skills.

The Ministry of Education, MOE (2006) Kenya implemented its computer integration initiation in the year 2006 with the aim of integrating computers in the instruction of school curriculum so as to improve learning achievements on Kiswahili

composition writing. The Ministry has been supporting by supplying at least five learning institutions with computer gadgets since the year 2008. In addition, tutors tutoring languages including Kiswahili essay writings have been capacitated on employing computers in the instruction of Kiswahili writing skills so as to improve Kiswahili writing techniques. Kenya Institute of Curriculum Development, KICD (2013) pointed out that the computer writing software team have implemented the multimedia CDs responsible for the instruction of Kiswahili writing essays discs and have prepared compacted discs (CDs) for all the other secondary school subjects including the tutoring Kiswahili composition writing from Form One to Four; and all learning institutions have been equipped with multimedia discs. Therefore, this research perceived that computer components are integrated by tutors of Kiswahili language in the instruction of Kiswahili writing skills.

The Kenya Institute of Curriculum Development (KICD) (2013) implemented Kiswahili language syllabus which presents the content for tutoring Kiswahili writing skills in a cyclic approach. These writing essays include functional and creative. These Kiswahili essays are instructed from Form One to Form Four. Furthermore, the KICD recommended that the instruction of Kiswahili writing skills be integrated with the instruction of both creative and functional essays. Nevertheless, presently, Kenya as a country is receiving secondary school leavers who are not competent in Kiswahili writing skills. As a result, majority of secondary students perform poorly on Kiswahili writing essays.

### **1.1 The Art of Literature Review**

Concerning the effects of computer components on performance on Kiswahili writing skills, Muhammed (2016) determined the relationships between computer components and students' performance on English writing essays among secondary schools in Southern in AL-Mazar, Jordan. A Sample consisting of 100 subjects from junior secondary school grades were randomly selected from three learning institutions. The sample was also randomly classified into treatment and control group students. The treatment group students were tutored English writing skills using computer writing instruction software while the control group students were instructed English writing essays applying ordinary lecture strategies. The treatment and control group students were both pre-tested and post-tested to measure the effectiveness of computer components on students' performance on English composition writing. The research findings pointed out that the treatment group students outperformed the control group students on English writing essays. This implied that computer components increased learners' performance on English writing skills.

Muli and Manna (2016) determined the effectiveness of computer components on English Essay writings among learning institutions in Howassa. The research used a quasi-experimental design. A sample of 80 subjects was assigned into treatment and control group learners. The treatment group learners tutored English writing skills applying computer devices while the control group learners were taught the same content employing traditional instruction strategies. The treatment and control group learners were both pre-tested and post-tested to establish the influence of computer components on learners' performance on English composition writing. The research results indicated that the treatment group learners scored higher marks than the control group learners on English writing essays. This meant that the computer components improved performance on English composition writing.

Maftoon, Birjandi and Phalavan (2014) established the effectiveness of computer components on learners' performance on English composition writing among learning institutions in Iran. The learners were classified into treatment and control group learners. The treatment group learners were instructed English essay writing integrating computer components while the control group learners were tutored on the same English composition writing employing conventional instruction approaches. The treatment and control group learners were both pre-tested and post-tested to measure the effects of computer components on learning achievements on English essay writing. The research results indicated that the treatment group learners outscored the control group learners on English composition writing. This implied that computer devices increased performance on English essay writing.

Ogott and Odera (2012) established the level to which tutors used computer components in the teaching of Kiswahili language among learning institutions in Siaya County, Kenya. The research employed descriptive survey design. A sample of 38 subjects from 41 secondary schools was picked applying simple random sampling methods. The research employed questionnaires and an observation checklist to gather data. The research results indicated that most of the secondary schools had inadequate computers. Finally, the research recommended that the Ministry of Education should equip all secondary schools with computer components for classroom teaching. Akinyi (2010) determined the extent to which tutors of Kiswahili language employ computer components in the instruction of Kiswahili language among two secondary schools in Kenya. A sample of 120 learners and eight teachers was selected from two secondary schools applying stratified and simple random sampling techniques. The research used teachers' and students questionnaires and observation checklists were used to both collect quantitative and qualitative data. The research analysed data using both quantitative and qualitative methods. The research results indicated that a few teachers

and students used computer components in the teaching of Kiswahili language in secondary schools.

## **2. The Statement of the Problem**

Despite the integration of computer components in the tutoring of Kiswahili essay writing so as to improve the instruction of Kiswahili essay writing so as to enable students' master Kiswahili essay writing among all learning institutions in Nakuru County. The computer components were integrated in the instruction of Kiswahili composition writing so as to improve the following Kiswahili writing skills such as writing Kiswahili essays fluently, use diverse sentence structures proficiently, use different paragraphs appropriately in essay writing and punctuating their Kiswahili composition writing correctly. Though, until then, little was known about the effects of computer components on students' performance on Kiswahili essay writing among sub-county secondary schools in Nakuru County as witnessed by learners' in-proficiency in Kiswahili essay writing and low performance on Kiswahili composition writing over years. Learners' in-proficiency in Kiswahili essay writing and low performance on Kiswahili composition writing was an issue of great concern among all stakeholders; in education sector and it left a lot to be desired about, what needed to be done so as to enhance learners' proficiency on Kiswahili essay writing? This implied that some students were not mastering Kiswahili essay writing proficiencies as required by KICD (2015). Previous empirical studies indicated good learning achievements on English writing skills has been deduced to the use of computer components in the teaching of English essay writing while poor learning achievements on English essay writing has been attributed to using conventional instruction approaches in the instruction of English essay writing. Until then, however, little was known about the effects of computer components on performance on Kiswahili essay writing among learning institutions in Nakuru County.

## **3. The Purpose of the Study**

The purpose of this study was to compare students' performance on Kiswahili essay writing between students taught Kiswahili essay writing integrating computer components and those students taught Kiswahili essay writing employing traditional instruction strategies among junior secondary students in Nakuru County, Kenya. The main objective was to find out the relationship between students tutored Kiswahili essay writing integrating computer components and those learners instructed Kiswahili essay writing applying conventional instruction methods on learning achievements on

Kiswahili essay writing among public junior secondary students in Nakuru County. The research also tested the following hypothesis: There is no significant difference on Kiswahili essay writing between learners tutored Kiswahili essay writing integrating computer components and those learners instructed Kiswahili essay writing employing traditional instruction strategies on learning achievements on Kiswahili essay writing among public secondary junior students in Nakuru County.

#### **4. Research Methodology**

This research employed a causal-comparative research design to establish the relationship between independent and dependent variables after the task has already occurred. The main reason of using causal-comparative design was to determine whether independent variables (computer components and conventional instruction approaches) influenced dependent variable (performance on Kiswahili essay writing). According to this study, independent variables such as computer components while traditional instruction approaches were evaluated on how they affected the dependent variable (writing Kiswahili essays proficiently, employ variety of sentence structures correctly and apply different paragraphs correctly in composition writing among public secondary junior learners as cited in Salkind (2010).

Concerning the research locale: This research was carried out Nakuru junior secondary learners so as to establish the cause of in-proficiency essay writing and low performance on Kiswahili essay writing CATs among junior secondary students in Nakuru County. A total of 12900 students from 130 junior secondary schools was targeted. A sample of 750 subjects was picked using stratified, purposive and simple random methods whereby 350 learners were tutored Kiswahili essay writing integrating computer devices and 350 students instructed Kiswahili composition writing using traditional instruction strategies while 30 form two students' class documentary analysis guides containing CATs scores for both term one and two in the year 2016, comprising 15 form two classes taught Kiswahili essay writing integrating computer components and 15 form two classes tutored Kiswahili essay writing using conventional teaching approaches from the 30 sampled secondary schools.

Regarding study instruments: This research used Students' Questionnaires, and form two learners' 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) scores on Kiswahili essay writing for term one and term two of the year 2016. Piloting for questionnaires for 24 students was done in three different target junior secondary schools from a different County but with

similar features to the 30 sample secondary schools, purposively picked in two weeks before conducting the actual research and which were not included in the actual research. Piloting helped this research to correct mistakes in the instruments before carrying out the actual research. The validity of students' questionnaires was improved by employing content validity whereby by the researcher and University research experts validated the content of students' questionnaires with regard to, the relevance of the items to content, its consistency to research objective and null hypothesis. Questionnaires for learners were administered once to learners to check for its reliability. Learners' reliability coefficient was calculated using Cronbach's Alpha Formula for Internal Consistency and learners' reliability coefficient resulted an alpha coefficient of 0.74 which was considered adequate for the research to be conducted. This is because Cronbach's Alpha reliability coefficient is regarded as acceptable to compute internal consistency of performance test when study items evaluate a unidimensional trait when it is scored by ratings such as (1-5) scoring procedure. The reliability from document analysis guide was not calculated because the data to be collected was already in existence in the 30 selected junior secondary schools.

Regarding data gathering: This research sought consent from the County Education Director before visiting the secondary schools listed for this research to seek permission to conduct the research. This research also made appointments with the 30 principals of the sample secondary schools to notify them about intention to carry out the research in their learning institutions. This research further sought confirmation of dates of conducting the research so as to make out timetable schedules when the research would start and when it would end. The research then explained the purpose and significance of being involved in the research. The research administered students' questionnaires to learners and also gathered information from documentary analysis on Form Two classes' students' progressive records on Continuous Assessment Tests (CATs) scores for term one and term two in the year 2016 at the same time.

Regarding the data analysis: The data was analysed quantitatively so as to establish the difference between students taught Kiswahili essay writing integrating computer components and those students tutored Kiswahili essay writing using traditional teaching methods on performance on Kiswahili essay writing. Means and standard deviations described and summarized data statistically from closed ended items and likert scale items. The data analysis was presented and interpreted using frequency distribution tables, bar graphs and charts. Document analysis guide data from form two students' Kiswahili CATs marks indicating students' performance scores in Kiswahili essay writing was also analysed using means and standard deviations so as to compare the two means of the two different groups for each of the Kiswahili

composition writing quantitatively so as to determine the effects of computer components and traditional instruction approaches on performance on Kiswahili essay writing.

The data analysis was presented and interpreted in the descriptive statistic table so as to support or contradict the result yielded from learners' questionnaires so as to determine the differences or relationships on means between the two groups tutored by either integrating computer components or conventional instruction approaches on performance on Kiswahili essay writing. Independent t-tests were used to compare the means for the two form two groups (one group taught Kiswahili essay writing integrating computer components and the other group tutored Kiswahili essay writing using traditional teaching approaches on documentary guide analysis data of form two Kiswahili CATs marks for term one and two in the year 2016 to test the hypothesis so as to determine whether significant relationships or differences existed between students taught Kiswahili essay writing integrating computer components and those students tutored Kiswahili essay writing using traditional instruction strategies on performance on Kiswahili essay writing.

## **5. Discussions and Findings**

Regarding the discussions and findings of effects of computer components on learning achievements on Kiswahili essay writing. The questionnaires issued to the student respondents, only 710 out of 750 learners filled and successfully returned the responses for data analysis which presented a response percentage of 94.667% of the 750 targeted learners. The response percentage was considered as adequate for the research to be conducted according to Orodho (2017) observed that a response percentage of 70% and onwards is adequate to validate the results of a research.

The research objective was to find out the relationship between learners instructed Kiswahili essay writing integrating computer components and those learners tutored the Kiswahili essay writing applying traditional instruction approaches on learning achievements on Kiswahili essay writing among junior secondary students in Nakuru County. Questionnaires with likert scale questions were provided to learner respondents to establish their views on differences between these two instruction strategies. The learners' responses are displayed in table 4.1.



**Table 4.1:** Learners' views on Differences between Computer Components and Performance on Kiswahili Essay Writing

	N	Minimum	Maximum	Mean	Std. Deviation
Computers improve performance in Kiswahili writing skills in this school.	710	1	5	3.57	1.14
Computers enable students to spell words correctly in this school.	710	1	5	3.38	1.29
Computers enable students to use punctuation marks correctly in writing in this school.	710	1	5	3.11	1.23
Computers enable students to construct diverse sentence structures in writing appropriately in this school.	710	1	5	3.09	1.35
Computers enable students to develop diverse paragraphs using different devices in this school.	710	1	5	3.09	1.26
Computers improve students' use of grammar correctly in writing in this school.	710	1	5	3.38	1.18
<b>Average</b>	<b>710</b>	<b>1</b>	<b>5</b>	<b>3.27</b>	<b>1.24</b>

Table 4.1 illustrates that many of the learner respondents accepted or disaccepted the research opinions whereby many of the learner respondents were undecided with some of the research views in table 4.1.. Nevertheless, these views were highly dispersed as all the maximum and minimum values were represented in each statement. Moreover, with the mean average, ( $m=3.27$ ) it can be deemed that many of the learner respondents generally accepted the views, but still the variation was high. This displays the disparity on views concerning the differences between learner respondents between learners tutored Kiswahili essay writing integrating computer components and those learners taught Kiswahili essay writing employing conventional instruction approaches on learning achievements on Kiswahili essay writing. One example is witnessed on the opinion that, 'Computers enhance learning achievements on Kiswahili composition writing,' whereby many of the learner respondents, ( $m=3.57$ ) just accepted that computer components increase learners' learning achievements on Kiswahili essay writing. The responses were highly dispersed as evidenced in the variation rates whereby the mean standard average was computed to be ( $SD= 1.24$ ). This meant that despite the mean average displaying that the learner respondents just accepted the research views, many of the learner respondents had high disperse views on the effects of computer components on performance on Kiswahili essay writing due to the

differences on opinions and possibly performance results from the learners who integrate computer components and those who do not in the teaching of Kiswahili essay writing. These discussions and findings are in agreement with Maftoon, Birjandi and Phalavan (2014) whose study findings pointed out that those students taught Kiswahili essay writing integrating computer components outscored those students instructed Kiswahili essay writing employing traditional instruction strategies on Kiswahili essay writing.

In addition, the research also conducted a documentary guide analysis on form two Kiswahili CATs scores for term one and two, in the year 2016 to determine whether the performance on Kiswahili essay writing was high between the form two learners tutored Kiswahili essay writing integrating computer components and those form two learners instructed Kiswahili essay writing employing traditional instruction strategies on performance on Kiswahili essay writing and there was a statistically significant difference. Descriptive statistics displaying performance on Kiswahili essay writing are shown in table 4.2.

**Table 4.2:** Descriptive Statistics on Performance Kiswahili Essay Writing

	Computer Use	N	Mean	Std. Deviation	Std. Error Mean
Performance on Essay Writing	Using computers in Kiswahili essay writing	322	22.9519	7.24709	.40386
	Not using computers in Kiswahili essay writing.	345	13.0652	3.53976	.19057

The results indicate that learners whose tutors integrated computer components in the teaching of Kiswahili essay writing scored a mean grade of 22.95 out of 30 in Kiswahili essay writing while those whose tutors used traditional instruction strategies in the instruction of Kiswahili essay writing scored a mean grade of 13.07. Though, the variation for those whose tutors integrated computer components was higher (SD=7.25) compared to those whose tutor employed traditional teaching methods (SD=3.54). An independent samples test on performance are illustrated in table 4.3

**Table 4.3:** Independent Samples Test on performance on Kiswahili Essay Writing

		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 Essay Writing	Equal variances assumed	22.614	665	.000	9.88665	.43719	9.02821	10.74508
	Equal variances not assumed	22.139	458.648	.000	9.88665	.44657	9.00907	10.76422

T-test findings display that there was a statistically significant difference on learners' performance on Kiswahili essay writing ( $p=0.000<0/05$ ) at 95% confidence interval. The results indicate that the integration of computer components in the teaching of Kiswahili essay writing was deduced to the increased score on Kiswahili essay writing.

Concerning research findings, generally, a large number of the learner respondents accepted that the integration of computer components heightens learning achievements on Kiswahili essay writing among junior secondary learners. A good percentage of learners whose institutions had not integrated computer components in the teaching of Kiswahili essay writing also agreed that computer components could enhance their scores Kiswahili composition writing and other writing essays. Furthermore, those whose tutors integrated computer components in the teaching of Kiswahili composition writing largely attributed them to the increased score on their Kiswahili essay writing continuous assessment tests (CATs).

Furthermore, the actual score performance gathered from form two document analysis guide score marks indicated that there was a statistical significant difference on learning achievement on Kiswahili essays writing between students whose tutors integrated computer components and those students whose tutors never employed computer components for instruction purposes. The independent t-test findings indicate that learners whose tutors integrated computer components for teaching purposes outperformed those learners whose tutors used traditional instruction approaches in the instruction of Kiswahili essay writing. This meant that the integration of computer components in the tutoring of Kiswahili essay writing was attributed to the statistical significant difference on performance on Kiswahili essay writing.

## 6. Conclusion and Recommendation

The research paper concluded that computer components has a statistical significant relationship with learning achievements on Kiswahili essay writing such as: writing Kiswahili composition proficiently, apply variety of sentence devices correctly, employ different paragraphs correctly in other essay writings and punctuating their Kiswahili written essays fluently. Learners whose secondary schools had initiated the integration of computer components in the teaching of Kiswahili composition writing significantly outscored those learners whose secondary schools used traditional instruction strategies in the instruction of Kiswahili essay writing.

### 6.1 Recommendation

The research paper recommends that tutors and learners should integrate computer components in the tutoring of Kiswahili essay writing so as to increase the scoring performance on Kiswahili essay writing.

## References

1. Akinyi J., A. (2010). Kiswahili Usage in ICT in NEPAD Schools in Kenya. *Journal of Language Technology and Entrepreneurship in Africa*. Vol. No. 1. 2010. ISSN. 1998-1279.
2. Maftoon, P., Birjandi, P. & Phalavani, P. (2014). The Impact of using Computer aided Argument Mapping (CAAM) on the Improvement of Writing Achievement of Iranian Learners of English. *Theory, Practice in Language Studies*, Vol 4, No, 5. Pp. 982-988, May 2014.
3. Muhammad, A., M. (2016). The Effects of using Web-Quests on Improving Seventh Grade Female Students' Writing Skills in Southern AL-Mazar. Directorate of Education.
4. Muli, G & Manna, O. (2016). The Impact of Blended Learning in Developing Students' Writing Skills: Hawassa University in Focus. *African Educational Research Journal* Vol, 4 (2), pp.49-68, May 2016. ISSN: 2354-2160.
5. Mwangi, K., S; Nozaki, H.; Ejima, T & Umeda, K. (2013). Integration of Computer Assisted Learning in Teaching and Learning in Secondary Schools in Kenya. *Computer Technology and Application* 4 (2013) 505-511.

6. Ogott, G., O. & Odera, F., Y. (2012). Integration of Media and Technology in Teaching of Kiswahili Language Schools in Siaya County, Kenya. International Journal of Communication Technology Research. <http://www.csjournals.org>.
7. Orodho, A.J. (2017). Techniques of Writing Research Proposals and Reports in Education and Social Sciences, Kanezja Publishers & Enterprises. Nairobi, Kenya. ISBN: 9966-7350-0-3
8. Republic of Kenya: Kenya Institute of Curriculum Development (2013). ICT Integration User Guide: A handbook for Integration of ICT in Teaching and Learning. Nairobi, Kenya. Government Printer.
9. Republic of Kenya: Kenya Institute of Curriculum Development (2013). Secondary School Kiswahili Teacher's Guide Handbook. Nairobi. KIE. Government Printer.
10. Salkind, N., J. (2010). Encyclopedia of Research Design Volume 1. Thousand Oaks, California: United States of America. Sage Publications.

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