

Information Communication Technology Use and Its Accessibility Motivation on the Enhancement of Student Centered Learning among Public Secondary School Students in Bungoma County, Kenya

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Abstract- The objective of this study was to establish the extent to which Information and Communication Technology (ICT) use and its accessibility motivation had enhanced student centred learning (SCL) skills among public secondary school students in Bungoma County, Kenya. Therefore the study hypothesis was derived from the study objective. The target population was 742 respondents in 71 schools and sample size was 272 respondents selected from 19 schools. The tools used for data collection were questionnaire and an interview guide. Cronbach's alpha for reliability test was 0.713. Descriptive statistics such as frequencies, percentages and means were employed while inferential statistics that is correlation and regression analyses were used. Data was analyzed with the help of the Statistical Package for Social Sciences (SPSS). Qualitative data was analyzed through content analysis. The simple linear stepwise multiple regression results indicated that ICT accessibility and its motivation had a significant impact on SCL. The study's recommendations were: school managers to improve on ICT accessibility motivation by enhancing anytime anywhere accessibility through use of portable technologies. The findings of this study may be used to guide the school managers on the need to improve ICT accessibility requirements necessary in the enhancement of SCL.

Index Terms- Information Communication, Technology, Motivation, Student Centred Learning, Accessibility Motivation, anytime anywhere.

I. INTRODUCTION

The purpose of this study was to evaluate the extent to which ICT accessibility for learning had motivated learners and led to the enhancement of Student Centred Learning (SCL) skills in public secondary schools in Bungoma County, Kenya. The emphasis of the study was on the evaluation and distribution of the available tools used and how they had impacted on learner motivation and achievement of SCL. The study adopted mixed methods research design. Data was collected through questionnaires and interview schedules. Results revealed that ICT was accessible to learners, however it was least applied by teachers in teaching due to lack of the technical knowhow. Computers were the main tool accessed in most schools. The study recommended for the improvement of anytime anywhere accessibility through portable technologies.

II. BACKGROUND TO THE STUDY

Accessibility motivation is the one derived from the learner access to various technologies for learning. The accessing of relevant ICT infrastructure for learning in schools has motivational potential that can drive learners to achieve their educational goals and self efficacy. In most schools that offer ICT in Bungoma County Kenya, learner access to the tools is inadequate and students end up giving up on technology use for learning (Shihundu, 2014). A study in Malaysia on the extent of ICT use among students in secondary schools revealed that there was access of technology among all learners; however teachers expressed a lot of difficulties in handling technology for learning. The most common tools that were accessed were projectors and computers whose distribution was challenging due to their inadequacy (Bee & Chia, 2014).

It is therefore a basic requirement for school managers to consider the type of technologies to use before installation of ICT use for learners in schools of all levels and categories. It is important for teachers and school managers to ensure that learners have easy and quick access of the appropriate technologies. This would motivate learners as they find the tools they want easily. This was however found to be a challenge in most developing countries where accessibility of certain tools and essential online services were lacking (White *et al.*, 2010).

Gender has ever emerged as a critical issue in ICT accessibility, where girls are said to have less access of ICT use and limited opportunities because of lack of education, time mobility and poverty; while boys have more access than girls to ICT use especially computers both at school and home (United Nations, 2008). Gender disparities in ICT access have continued to widen and disadvantage girls in Uganda and Ghana. Lack of motivation from teachers was also cited as another barrier to ICT use and access among learners (United Nations, 2008).

Teachers who are anti-ICT use for learning believe that their long experience in traditional methods may have yielded better results than use of the expensive and problematic technologies which some of teachers are reluctant to embrace due to time constraints and lack of resources. The ratio of computers to learners in the developed world was 1:15 compared to 1:150 in the developing countries and this may have limited ICT accessibility among all learners (Kiptalaam *et al.*, 2010 & Mwanaszumbah & Magoma, 2016). Technology enhanced instruction should motivate and engage students deeply in their work, resources and allow them to collaborate across time and space for better SCL skills practice to be realized (US Department, 2010).

According to Alam & Islam (2008), mobile devices use is like no other ICT before in terms of accessibility. It is an interactive and motivational media with capabilities which are basic and affordable. It is easy to operate and is portable, making SCL skills effective and achievable. It is unfortunate that in most schools that prohibit mobile technologies use among students, 54 % of students still report sending texts during school day and remain connected and use cell phones outside the school (Lenhart, 2010).

Students need proper facilitation to be able to benefit positively from the new information technology for the enhancement of SCL skills. As mobile technologies become more powerful and more affordable, their potential for enhancing SCL skills come into clearer consideration. Social platforms provide room for creativity enabling students to design projects using words, music, photos and videos. Instead of limiting the use of mobile technologies the stake holders should limit their abuse by learners. One way of limiting the abuse is by focusing on the positive use such as enhancing SCL skills in schools. Educational stake holders should not talk of digitalization if they fear technology use and access in our school system. An education system that denies students use and access of social media tools prepares students well for the past, but not for their future (US Department of Education, 2010).

III. STATEMENT TO THE PROBLEM

Learner accessibility of ICT use is a basic requirement for SCL to take off. In Africa and most developing countries learners have difficulties in accessing particular essential technologies like internet use through portable technologies. In Bungoma county Kenya, lack of access to internet among learners has greatly undermined learner online activities which are necessary for the enhancement of SCL (Shihundu, 2014).

IV. OBJECTIVE OF THE STUDY

The specific objective of the study was to establish the influence of ICT accessibility motivation on the enhancement of SCL skills among public secondary school students in Bungoma County.

2.0 Hypothesis of the study

The hypothesis of the study was derived from the specific objective of the study:

HO: ICT accessibility motivation has no significant influence on the enhancement of SCL skills among public secondary school students in Bungoma County, Kenya.

2.1 Methodology

This study adopted both qualitative and quantitative research methods where descriptive survey and inferential research designs were used to increase the validity of the findings and for the purposes of achieving optimal results (Saunders, Lewis & Thornhill, 2009). Descriptive survey design enabled the researcher to define new relationships between variables without manipulating them while the inferential design enabled the researcher to investigate population characteristics and also test the hypothesis of the study. Data was collected through questionnaires and interview guide and analyzed through SPSS.

2.2 Target Population

The target population of this study was all the 600 form 3 students, 71 ICT teachers and 71 school managers in all the 71 public secondary schools that offer computer studies in Bungoma County. The total target population was therefore 742. Table 1.1 shows the target population of the study.

Table 1.1 Target Population

Category	Population	Percentage
Students	600	100
Teachers	71	10
Managers	71	100
Total	742	100

Source: Ministry of Education Bungoma County (2018)

2.6 Sampling Techniques and Sample Size.

From a list of 71 public secondary schools offering computer studies in Bungoma County, the researcher purposively selected schools that meet the minimum population and sample size of 10 respondents systematically. According to Research Advisors (2006), minimum population and sample size of 10 respondents is acceptable threshold for any study. Saturated sampling technique was used to sample 2 national schools. The target population of 600 form three students drew a sample size of 234 respondents through simple random sampling technique. The first 19 schools on the list with minimum sample size of (10) and above were purposively selected for the study. For schools with a population of 10 respondents, saturated sampling technique was used, while schools with population of more than 10 respondents were sampled through simple random sampling technique. Therefore 19 ICT teachers and 19 school managers were selected. Table 1.2 shows the sample matrix.

Table 1.2: Sample Matrix

Category	Population	Sample size	Percentage
Students	600	234	39
ICT teachers	71	19	26.76
School principals	71	19	26.76
Total	742	272	36.65

Sources: Field Survey (2018)

V. RESULTS AND DISCUSSIONS

This section focused on response rate, respondents’ demographic background, distribution of types of schools and ICT teachers’ level of training

3.0 Response Rate

The researcher distributed 234 copies of questionnaire to student respondents, 19 copies of questionnaire to ICT teachers and also conducted interviews through interview guides with 19 school managers. Two schools which had participated in the piloting phase were excluded from the main study. The students’ response rate was 234 (100 %). The ICT teachers’ and school managers’ response rate was 19 (100 %) each respectively. The overall response rate for research tools used was acceptable as the proportion represented over 50 % of the research tools used in the study which according to Rogelberg (2006), is sufficient.

3.0 Respondents’ Demographic Background

The study sought to establish characteristics of the respondents that are ICT student respondents and ICT teacher respondents. The student characteristics were based on age, gender, type of school and level of the school while the teacher characteristics were based on the age, sex, level of qualification and experience of the teachers.

3.1 Age Distribution of the Student Respondents

The study sought to investigate the respondents' age distribution. The results are presented in table 3.3

Table 1.3 Age Distribution of the Student Respondents

	Age	Frequency	Percentage
Valid	10 -14 yrs	11	4.7
	15 – 18yrs	193	82.5
	19 – 21yrs	30	12.5
Total		234	100

Source: Survey Data (2018)

Table 1.3 shows age distribution of the student respondents as follows: 10-14 years (4.7 %), 15-18 years 193 (82.5 %), 19-21 years (30 %), and above 21 (0 %). Majority of the student respondents were in the age bracket of (15-18) years. This constituted mature and suitable respondents for the study because they deemed to be familiar with ICT use and its motivation on learning and therefore may have given the best responses for this study. Respondents aged (10-14) years, constituted 4.7 % of the respondents. These may have been young and not well experienced in technology use for motivation, while respondents aged above 21 did not exist.

3.2 Gender Representation of Student Respondents

The study sought to investigate the gender representation of the student respondents. Table 1.4 presents the results.

Table 1.4 Gender Representations of Student Respondents

	Gender	population	percentage
Valid	Male	136	58.1
	Female	97	41.5
	Total	233	99.6
	Missing System	1	.4
	Total		234

Source: Survey Data 2018

Table 1.4 shows that most of the student respondents 136 (58.1 %) were males. The females constituted 97(41.6 %), and 1 (0.4 %) was missing in the system. This implies that more boys than girls participated in the study and therefore the expected results would favor more boys than girls in terms of participation.

3.5 Distribution of Types of Schools

Respondents were asked to indicate the types of their schools basing on day, boarding, mixed, boys and girls. The results are presented in table 1.5

Table 1.5 Distributions of Types of Schools

	School Type	Frequency	Percentage
Valid	Boys' Day	-	-
	Girls' Day	-	-
	Mixed Day	23	9.83
	Boys' Boarding	114	48.7
	Girls Boarding	96	41.03
	Mixed boarding	1	.4
Total		234	100

Source: Survey Data 2018

Table 1.5 shows the distribution of sample size with respect to type of schools as follows: mixed day 23 (9.83 %), boys' boarding schools 114 (48.7 %), girls' boarding schools 96 (41.03 %) and mixed boarding schools 1 (0.4 %). Single sex boarding schools gave the highest proportion of the sample size (boys boarding 48.7 % and girls boarding 41.03 %) compared to mixed day and boarding schools (mixed day 9 % and mixed boarding 0.4 %). Boys' boarding schools had the highest number of student respondents 48.7 %. This implies therefore that boarding schools were more involved in the study than any other type of schools.

3.6 Gender representation of ICT Teachers

The study sought to establish the gender representation of the teacher respondents. The results are presented in table 1.6

Table 1.6: Gender Distribution of ICT Teachers

	Gender	Frequency	Percentage
Valid	Male	12	75
	Female	4	25
	Total	16	100

Source: Field Survey 2018

Table 1.6 shows that male ICT teachers constituted 12 (75 %) while female ICT teacher respondents were 4 (25 %) in the study. Therefore this implies that more male teachers than female teachers participated in the study.

3.7 Age distribution of ICT teachers

The study investigated the age distribution among the teacher respondents. Table 1.7 presents the results

Table 1.7 Age Distribution of ICT Teachers

	Age	Frequency	Percentage
Valid	25 – 30	7	43.8
	31 – 35	6	37.5
	36 – 40	2	12.5
	46 and above	1	6.2
Total		16	100

Source: Field Survey 2018

Table 1.7 shows the distribution of the sample size with respect to age for the ICT teachers as follows: 25-30 years (43.8 %), 31-35 years (37.5 %), 36 – 40 (12.5 %) and 40 and above (6.2 %). Majority of the ICT teacher respondents were in the age bracket of (25 - 30 years). This implies that majority of the teacher respondents were fairly young and were expected to be aware of technology use for motivation and current trends in education hence suitable to meet the objectives of the study.

3.8 ICT Teachers' Level of Training

The study sought to establish the respondents' level of training. The results are presented in table 1.8

Table 1.8 ICT teachers' level of training

	Frequency	Percentage
Valid Certificate	1	6.2
Diploma	11	68.8
Graduate	4	25
Total	16	100

Source: survey data (2018)

Table 1.8 shows the educational level of the ICT teacher respondents distributed as follows: untrained (0 %), certificate 1 (6.2 %), diploma 11 (68.8 %), and degree 4 (25.4 %). Majority of teacher respondents were therefore diploma holders 11 (68.8 %). This therefore implies that there was a qualified workforce personnel in the ICT teaching fraternity in public secondary schools who were expected to deliver on ICT use motivation and enhancement of SCL skills among learners.

3.9 Distribution of ICT Teachers' by Teaching Experience

The study sought to establish the respondents' teaching experience. The results are presented in table 1.9

Table 1.9: ICT Teachers' Teaching Experience

	Frequency	Percentage
Valid 1 – 5yrs	10	62.5
6 – 10yrs	4	25.0
11 -18yrs	2	12.5
19 and above-	0	
Total	16	100

Source: Survey Data (2018)

Table 1.9 shows ICT teachers' experience in the use of ICT for learning, distributed as follows: 1-5 years (62.5 %), 6-10 years (25 %), 11-18 years (12.5 %) and 19 and above years (0 %). Majority of the workforce (62.5 %) had teaching experience of between (1-5) years only. This could be attributed to the fact that the subject had not been taught for many years in most schools that embraced it especially the county and sub county schools.

3.10 The Results for Accessibility Motivation

ICT accessibility motivation was anchored on the availability of the tools, distribution and time for exposure among the learners. Data on accessibility motivation was obtained through administration of questionnaire to students.

3.10.1 Students' responses on the Extent to which ICT Accessibility Motivation had Enhanced SCL skills

The study sought to establish the extent to which ICT accessibility motivation had motivated learners and led to the achievement of SCL skills. The results are presented in Table 1.10

Table 1.10 Students’ Responses on the Extent to which ICT Accessibility Motivation Enhanced SCL skills

	Extent	Frequency	Percentage	Mean
Valid	Very Lowly	27	11.5	0.23
	Lowly	20	8.5	0.85
	Moderate	96	41.0	1.23
	Highly	46	19.7	0.788
	Very highly	45	19.2	0.96
	Total			
	Aggregate score			0.812

Key: Very Lowly - 1, lowly - 2, moderately - 3, highly - 4 and very highly - 5 Source:

Survey Data (2018)

Table 1.10 shows responses on the extent to which ICT accessibility motivation among learners had enhanced SCL, as follows: very lowly 27 (11.5 %), lowly 20 (8.5%), moderately 96 (41 %), highly 46 (19.7 %) and very highly 45 (19.2 %). The aggregate score was 0.812 which was a very low extent.

3.10.2 Students’ Questionnaire responses on ICT Accessibility Statements

Respondents were asked to indicate their level of agreement or disagreement to statements on ICT accessibility on likert scale. Table 1.11 presents the results.

Table 1.11: Students’ responses on the Degree of Agreement or Disagreement on ICT Accessibility Statements

Statement	Strongly Agree		Agree		Undecided		Disagree		Strongly Disagree	
	F	%	F	%	F	%	F	%	F	%
Time allocated for learner interaction with technology is not enough to motivate me practice SCL skills adequately	77	33.3	66	28.6	12	5.2	44	19.0	32	13.9
The ratio of computers to students is low hence I’m not motivated to practice technological skills well	51	22.1	58	25.1	15	6.5	56	24.2	51	22.1
I’m unable to use technology anytime anywhere in school	75	32.5	61	26.4	16	6.9	39	16.9	40	17.3

Source: Survey Data 2018

Table 4.11 indicates the following student responses on the questionnaire statement, ‘time allocation for learner interaction with technology is not enough to motivate me practice SCL skills adequately: strongly agree 77 (33.3 %), agree 66 (28.6 %), undecided 12 (5.2 %), disagree 44 (19.0 %) and strongly disagree 32 (13.9 %). Therefore over 61% of the respondents strongly agreed and agreed to the statement while 32 % strongly disagreed and disagreed to the statement.

Student responses on the questionnaire statement ‘the ratio of computers to students is low hence I’m not motivated to practice technological skills well’ were as follows: strongly agree 51 (22.1 %), agree 58 (25.1 %), undecided 15(6.5%), disagree 56 (24.2 %) and strongly disagree 51(22.1%).

Student responses on the questionnaire statement ‘I’m unable to use technology anytime anywhere in school’ were as follows: strongly agree 75 (32.5 %), agree 61(26.4 %), undecided 16 (6.9 %), Disagree 39 (16.9 %) and strongly disagree 40 (17.3 %).

3.11 Diagnostic tests for regression analysis on ICT Accessibility Motivation and SCL

Diagnostic tests were performed on ICT accessibility motivation and SCL to check for normality, linearity and multicollinearity. Linearity of the relationship between ICT accessibility motivation and SCL was determined by the inspection of correlation coefficients of the variables. Thus the results were as follows: Pearson correlation ($r = 0.267$, $p < 0.05$) at 2 tailed and significance level 0.05. It was a positive and linear relationship

Multicollinearity test was conducted to determine tolerance and Variance Inflation Factors (VIF). The coefficients were as follows: tolerance = 1.00 and VIF = 1.00. Therefore ICT accessibility motivation had a VIF of less than 10 and a tolerance value greater than 0.1, annulling any possibility of multi-co linearity, hence the level of multicollinearity in the model could be tolerated (Field, 2009). The linear regression was thus suitable for estimation in this study, and hence the proposed regression models could be accurately estimated.

3.12 Regression Analysis of ICT Accessibility Motivation on SCL skills

Simple linear and stepwise regression was conducted and the corresponding results are shown in tables 3.16 (a- c). The following null hypothesis H_{02} was tested:

H_0 : ICT Accessibility Motivation has No Significant Influence on the Enhancement of SCL Skills among Public Secondary School Students in Bungoma County

Table 1.12 a) Goodness of Fit for ICT Accessibility Motivation and SCL

Sample	R	R Square	Adjusted R2	Std. Error of the Estimate
1	.267a	.071	.067	8.721

a. Dependent Variable: SCL skills

b. Predictors: (Constant), accessibility motivation

Source: Survey Data (2018)

Table 1.12 a) indicates that the adjusted R square was (0.067) meaning that ICT accessibility motivation accounted for only (6.7) percent of the variations in the SCL. This had a low explanatory power on SCL. The explanation for the result is that learner accessibility of technology had a relationship with SCL and was significant

Table 1.12 b) ANOVA for the Regression of Accessibility Motivation on SCL skills

Model	Sum Squares	Degrees of Freedom	Mean Square	F	Sig.
1 Regression	1221.637	1	1221.637	16.064	.000b
1 Residual	15970.179	210	76.048		
Total	17191.815	211			

a. Dependent Variable: SCL skills

b. Predictors: (Constant), accessibility motivation

Source: Survey Data 2018

Table 1.12 b) presents an ANOVA summary of $F(1, 210) = 16.064$, $P = 0.000$ where $p < 0.05$. This implies that the influence of ICT accessibility motivation on SCL was statistically significant on the changes in the SCL. This confirms that the regression model is significant at ($P < 0.05$).

Table 1.12 c) Significance of the Regression of ICT Accessibility Motivation on SCL

Model B	Unstandardized Coefficients		Standardized Coefficients	T	Sig
	B	Std. Error	Beta		
Constant	19.933	1.635		12.188	.000
ICT accessibility Motivation	.545	.136	.267	.006	.000

Dependent Variable: SCL skills

Predictors: (Constant), accessibility motivation

Source: Survey Data (2018)

Table 1.12 c) shows the coefficients of ICT accessibility motivation and SCL at $\beta = 0.267$, $p = 0.000$, < 0.05 . This implies that the influence of ICT accessibility motivation on SCL was statistically significant. Based on the analysis in the tables 4.44 (a-c), the following model was formulated:

$$SCL = 19.993 + .067x_2 + e_2$$

Where 19.993= Y intercept; constant

.067 = Estimate of expected increase in SCL.

The regression coefficient of .067 implies that a unit increase in ICT accessibility motivation leads to 6.7 % increase in SCL.

3.13 Correlation analysis of ICT accessibility Motivation and SCL skills

The correlation analysis of ICT Use and SCL Skills was performed through SPSS to establish the strength and direction of the relationship between ICT Accessibility Motivation and SCL skills. The results are presented in table 1.13

Table 1.13: Correlation Analysis of ICT accessibility Motivation and SCL

ICT Accessibility motivation	Pearson correlation	.267
	Sig 2 (tailed)	.01
	N	234

Source: Survey Data (2018)

Table 1.13 shows the correlation analysis of ICT accessibility motivation and SCL. The relationship between ICT accessibility motivation and SCL was at ($r = .267$, $p = .01$). The relationship between ICT accessibility and SCL was strong implying that learner access of technology motivated them and led to SCL.

3.14 School managers' Responses on ICT accessibility Motivation and Enhancement of SCL skills.

Qualitative data on ICT accessibility motivation was obtained through conducting interviews for the school managers. The results revealed that majority of the school managers (80 %) had stated that learners' use of internet had not picked up due to financial constraints. Few school managers indicated that internet services were yet to be installed.

The discussions on the above findings on ICT accessibility motivation would provide deeper insights into students' problems with regard to ICT accessibility and use of technology for learning and motivation. There was accessibility of ICT use in most schools where both teachers and learners were exposed to technology use. However a number of challenges were emerged from the current study: Most of the respondents 96 (41 %) indicated moderate extent of ICT accessibility with the overall mean of (3.293). The aggregate mean however show very low extent (0.812). This therefore was much far below the expectation of the researcher given that over 60 % of the respondents were drawn from extra county and national schools. Several factors may have impeded learner accessibility of technology such as lack of adequate time, few tools, lack of anywhere anytime exploitation of technology and unsupportive environments. This has also escalated to policy level where school managers seem not to have understood ICT motivation and SCL.

The gender disparity in terms of student access of technology was emerged in the current study. There were more boys than girls who accessed technology at 58.1 % and 41.5% respectively. The gender disparities noted in the study in terms of ICT accessibility should be ironed out through proper policies and programs for girls such as increase of boarding facilities to accommodate most of them and free them from domestic workload back in their homes.

Regarding student questionnaire statements, the finding of this study indicates that time allocated for learner interaction with technology was not enough to adequately motivate learners acquire technology skills and lead to the achievement of SCL skills. In this study most of the learners accessed technology up to a maximum of 4 hrs per week mostly in national schools. Learner exposures to ICT use allow them make discoveries and practice the skills. More time is needed for learner exposure especially out of class hours due to therigidity of most timetables. More exposure of technology would also motivate the students to embrace it positively.

On the ratio of computers to students, national schools and extra county schools enjoyed more access than county and sub county schools. This may have been attributed to the fact that Extra County and national schools are well established schools in terms of ICT infrastructure where learners easily accessed ICT. However on accessibility of the tools anytime anywhere, the study findings indicate that over 58 % of respondents were unable to use technology anytime anywhere in school while 34.2 % used technology anytime anywhere. This could be attributed to the fact that computers were mainly accessed in computer rooms and there were either few or no portable technologies to facilitate technology access anytime anywhere. Other possible reasons may include lack of appropriate tools and faulty facilitation of the learning process.

Finally lack of policies on ICT use in various schools was an impediment for accessibility of ICT anytime anywhere. This means that few girls' schools may have offered the subject and also low enrolment of students in ICT class. It is believed that computer science is one of the competitive courses with limited facilities hence girls are not motivated as well as being aggressive like boys for such courses. Girls in most African countries have extra domestic duties to perform after school especially none boarders.

In the current study, 41.03 % of the girls were in boarding schools compared to 48.7 % of boys in boarding schools who accessed internet. This suggests that efforts have been made to provide boarding facilities to girls hence reducing the gap of ICT accessibility gender disparities. Mixed day schools posted only 9.8 % in the current study.

Regarding regression analysis for ICT accessibility motivation, the R2 square was (0.067) meaning that ICT accessibility motivation accounted for only (6.7) percent of the variations in the SCL. This had a low explanatory power on SCL however it was significant. The ANOVA summary was $F(1, 210) = 16.064$, $P = 0.000$ where $p < 0.05$. This implies that the influence of ICT accessibility motivation on SCL was statistically significant on the changes in the SCL. Therefore the study rejects H_0 at $\alpha = 0.05$ and concludes that ICT accessibility motivation had a significant influence on SCL. Technology enhanced instruction should motivate and engage students deeply in their work, resources and allow them to collaborate across time and space for better SCL skills practice to be realized (US Department, 2010). Where learners lacked access of internet meant they had failed to exploit the internet resources which are abundant and rich source of SCL activities. The correlation results between ICT accessibility motivation and SCL were at ($r = .267$, $p = .01$) being the strongest relationships between the variables, and whose direction was also positive. Although it was positive it was very low and could be strengthened through creation of online environments and improving anytime anywhere use among learners.

The discussions above address ICT use issues which are supported by several authorities. The finding on the availability and extent of ICT accessibility motivation agrees with the finding of Ghavifkr & Rosdy (2015) who conducted a similar study in Malaysia, and found that teachers and students used technology for learning to a moderate extent. This finding also agree with the BECTA report (2009) on use of web technologies among learners in European countries which indicated that there were high levels of student access of internet and many web technologies: 98.4% of participants had access to computer and 96.6 % had access to the internet. Virtually all schools were found to have a few individuals who reported lack of access of technology. It was reported that both teachers and learners were motivated towards ICT use for teaching and learning, with average use of internet among learners and teachers. The ICT accessibility motivation in the current study results have been greatly affected by none use of internet as compared to the BECTA report (2009) which has shown that (96.6 %) of the students accessed internet in the European countries. It was noted that timetabling problems were present in most schools where learner exposure to technology within the school was limited to only a few hours per week.

The finding of the current study on the ratio of computers also concurs with the finding of Bee & Chia (2008) and Kiptalaam *et al.* (2010) who established that the level of distribution of tools and time for exposure impacted on the accessibility of technology to learners. This finding cited high ratio of student to technologies, inadequate time, inadequate tools and lack of appropriate programs and policies. The finding is also supported by Mwanaszumbah & Magoma, (2016) on availability of time, ratio of computers to learners and space (anywhere anytime). It was confirmed that the ratio of computers to learners and time for learner exposure was too low in the developing countries and this limited ICT accessibility motivation among all learners. Lack of adequate access to technology therefore undermined ICT accessibility motivation and enhancement of SCL skills.

The findings on gender disparities in terms of ICT accessibility among the teacher and student respondents agree with UN Report (2008) on gender factor in ICT use among secondary schools in sub Saharan Africa, especially in Uganda and Ghana. The report identified lack of adequate time for female learners to expose themselves to technology use after school, domestic chores at home for day scholars' and stiff competition over limited facilities which discourage girls from embracing technology for learning.

The finding on age distribution of the respondents was supported by the finding of Ghavifkr & Rosdy (2015) who found out that most student respondents were young. However the teacher respondents who were old with high qualifications utilized technology well. According to BECTA Report (2009) it was found that mature students were more engaged in computer browsing and word processing while young individuals preferred gaming and fun.

VI. CONCLUSION

The objective of the study sought to investigate the influence of ICT accessibility motivation on SCL among students in public secondary schools in Bungoma County, Kenya. The descriptive statistics indicate that to a very low extent (aggregate mean 0.812) ICT accessibility motivation had influenced SCL among students in public secondary schools in Bungoma County, Kenya. The hypothesis of the study stated that: ICT accessibility motivation has no significant influence on SCL among students in public secondary schools in Bungoma County, Kenya. The regression results recorded a significant influence of ICT accessibility motivation on SCL among students in public secondary schools in Bungoma County, Kenya. The correlation results of ICT Accessibility motivation and SCL was ($r = 0.267$, $P = 0.001$ where $p < 0.05$). This was a moderate correlation and whose direction was positive. The variance for accessibility motivation influence on SCL was at $\beta = 0.267$, $p = 0.000$, < 0.05 (6.7 % variance). The study therefore rejects the null hypothesis H_0 .

VII. RECOMMENDATIONS

The objective of the research study recommends for more student access to technology especially anytime anywhere through portable technologies like tablets and handheld laptops. Accessibility through online environments is much faster with digital tools. Learners will derive more satisfaction with easy access of tools hence the quick acquisition of SCL skills. Learners can have a choice of tools they can easily work with and achieve maximum satisfaction, motivation and achievement of SCL Skills

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