International Journal of Innovative Research and Advanced Studies (IJIRAS)
Volume 6 Issue 8, August 2019

ISSN: 2394-4404

Senior High Schools' Students' Perception Of Computer-Aided Instruction In North East Region Of Ghana

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Abstract: ***We live in a digitized world. Presently, globally, technology drives almost all aspects of human endeavors. For instance, in the field of education, Computer-Aided Instruction (CAI) which is grounded on the principle of programmed instruction facilitates the effective learning of concepts, generates interest and curiosity of learners, fosters critical thinking, and provides learners with immediate feedback. CAI help Social Studies students develop problem-solving skills, collaborative learning, communication, emotional intelligence, problem-solving, and creativity. However, the effective implementation of CAI in schools depends on several variables including students' perception of the CAI as tools for teaching and learning. This study was therefore conducted to investigate Senior High Schools students' perception of CAI as tools for teaching and learning, and whether gender and school location influence students' adoption of CAI during learning of Social Studies. The quantitative research design was adopted for the study. The data for the research was collected from 3 Junior High Schools randomly sampled from the North East Region of Ghana using Slovin's formula for sample size determination. Two research questions and two hypotheses were formulated to direct the study. Data were collected using structured questionnaires administered to 270 students from the 3 randomly sampled schools. The questionnaire was designed with a 5-point Likert scale using closed-ended questions. To determine the reliability of the questionnaire, a pilot study was conducted. The test-retest method was used to determine the reliability of the instrument. This was carried out among 20 respondents who were not included in the research sample. The value of the coefficient of correlation "r" was found to be 0.78, which implied that the instrument was reliable. Data were analyzed using descriptive and inferential statistics. Frequencies were used to analyze data on students' perceptions of Computer-Aided Instruction, the extent of integration. Pearson's Chi-square was used to test the hypothesis to determine whether there was a significant difference between male and female students and young and old teachers' application of CBI in learning of Social Studies. The study found that students' perception of CAI was positive, however, their application of technology in learning was limited. Also, male students were using technology to learn than female students. There was no statistically significant difference between rural and urban students integration of CAI in learning. The study recommends the supply of schools with relevant digital infrastructure, training, and supply of laptops to female students, and allowing Senior High Schools students to use phones in schools purposely for learning to increase students' performance.***

Keywords: Social Studies, Instruction, Computer, Gender, Digital divide, Computer-Aided Instruction, Policy, and Hypothesis.

I. INTRODUCTION

Social Studies is a discipline that focuses on the holistic development of man. This is mainly predicated on its perceived potency in promoting proper understanding of man and his environment, the problems of the society and how to equip the learner with skills and knowledge to deal with those problems. Social Studies, according to Nwaubani (2010) is a value-laden subject. It is a course of study which imbues in the learner the relevant knowledge, values, skills, and attitudes

required for effective citizenship role in the society. The subject, therefore, helps learners in the process of understanding problems associated with everyday living which they are likely to encounter in their respective communities (Mezieobi & Onyeanusi, 2012). Recognizing the positive impact CAI could have on learners' acquisition of relevant knowledge, skills, and attitudes, Social Studies students need to transform their learning strategies from the traditional to the 21st Century learning strategies that incorporate technology. However, the application of technology in learning depends on several factors including students' perceptions of technology. Besides, the Government of Ghana over the years has invested in the supply of ICT resources in schools to enable teachers and students to use them to enhance students' learning outcomes. Notwithstanding the huge investment made in ICT in education, the literature reviewed showed a limited application of technology by some Senior High School teachers and students especially, in Northern Ghana. Little work has been done on students' perception of CAI and the extent to which Senior High Schools in the North East Region of Ghana use technology for learning. It was against this background that this study was conducted to fill the gap in the literature and to examine Senior High Schools students' perception of CAI as tools for learning, and whether gender and school location influenced students' use of CAI during Social Studies learning.

RESEARCH QUESTIONS

Three questions were formulated to guide the study.

- ✓ What is Senior High School students' perception of CAI as tools for Social Studies learning?
- ✓ To what extent do students integrate CAI into the learning of Social Studies?

HYPOTHESIS

The following null hypotheses were formulated and tested at 0.10 level

Ho_1 There is no significant difference between male and female students' use of Computer-Aided Instruction during Social Studies learning.

Ho_2 There is no significant difference between rural and old urban students' integration of Computer-Aided Instruction in the learning of Social Studies.

THEORETICAL FRAMEWORK

This study was grounded on the Theory of Planned Behaviour (Ajzen, 1976) and Social Development Theory (Vygotsky, 1978). The Planned Bahviour model argues that for an individual to adopt new technology, he/she must demonstrate the willingness to use the said innovation to improve on performance than before. The theory outlines three dependent variables that could impact the adoption of CAI innovation in the learning process. The first variable is the perceptions or attitudes of individuals towards the new technology and the extent to which he/she is for or against the innovation in question (Ajzen, 1976) cited in (Mwunda, 2014). The second variable is the subjective norm which is the perceived social pressure to apply or not to apply the new technology. Finally, the model outlines perceived behavior control as the third variable. This has to do with the ease or difficulty of using the new technology. This is greatly influenced by the environment. The model's independent variables directly connect into the dependent variables in this study such as students ICT competencies, availability of ICT facilities in schools, and technical support. Student computer skills determine whether he/she is willing to apply CAI in the learning of Social Studies in schools. The Government of Ghana and other stakeholders in the education has provided Senior High Schools ICT infrastructure and facilities to aid teachers and students make good use of them during instructional processes. This puts some responsibility on the students to demonstrate the intended behavior which is the application of the technology to enhance effective learning. Technical support enables students to gain confidence in the integration of Computer-Aided Instruction and therefore connects into the third independent variable of perceived behavior control.

The second theory that guided this research was Social Development Theory (Vygotsky, 1978). Vygotsky observed that humans are inherently social; therefore, learning and development originate from experiences relating to others. Adults serve as a critical source of children's cognitive development by demonstrating and transferring methods of intellectual processing that children internalize. This study views student learning through Vygotsky's Social Development Theory (SDT) (1978) in which social interaction is fundamental for cognitive development and learning is a product of society and socialization. Vygotsky identified three main tenets of SDT: social interaction, more knowledgeable other, and zone of proximal development. The connections between people and their sociocultural environment are foundational to SDT. A more knowledgeable person is a person or program that contains greater ability than the student around a given concept or skill. The zone of proximal development exists in the space between what a student can do on their own and what they can do with assistance. This aligns with Bandura's Social Cognitive Theory (1986) in that learning is socially manifested, and students gain and process information from social interaction. Through this lens, we observe student-teacher, student-student, student-technology relationships are necessary for effective learning. As such, students learn with the teacher as the primary facilitator within the social classroom environment (Arievitch & Haenen, 2005). With the introduction of CAI, the learning environment is positioned to shift, leading to a transformation in student-teacher, student-student, and student-technology interactions that affect learning.

INTEGRATION OF COMPUTER-AIDED INSTRUCTION INTO TEACHING AND LEARNING

Studies on students' application of CAI into learning globally have produced varied results. For instance, Kvavik (2005) carried out a study of 4,374 students to determine their integration of CAI in learning in school. The study found that students often use ICT for messaging, sending emails, internet surfing and word processing. Similarly, Yukhymenko and

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Brown (2009) conducted a study to investigate the use of ICT for learning among 122 Ukrainian Secondary School students. The results from the study indicated that 53.3% of the students used computers in school once a week while 33.5% showed that they never used a computer in school. Compare with advanced countries, the application of CAI in education in developing countries especially in Africa is relatively limited. In Ethiopia for example, a survey by Woreta, Kebede, and Zegeye (2013) cited in (Charles & Yidana, 2015) shows that 33% of students used a computer once a week, and almost 41% of the students used a computer for learning once a month. And nearly half of the students (47%) never get the opportunity to use ICT to learn in school. In Ghana, Sarfo and Anshong-Gyimah (2011) surveyed to examine access to ICT tools and experiences in the use of ICT among 300 Senior High School students. The findings discovered that a small percentage of the students had access to computers which could be used to support learning. However, the study was silent on whether students' gender and school locations significantly influence their use of ICT in the learning process.

Charles and Yidana (2015) surveyed on the implementation of ICT in learning among 3,380 Senior High School students in Southern Ghana. The results show that most of the students used ICT to chat with friends more than other types of ICT tools and that students' pedagogical use of ICT was low. Again, that students in public schools pedagogically use ICT more than students in private schools. In terms of location, the findings show that urban schools students pedagogically used ICT more than peri-urban and rural school students. However, the study did not indicate as to whether gender significantly influences students' pedagogical use of CAI in learning. Finally, Bariham, Ayot, Ondingi, Kiio, and Nyamemba (2019) carried out a quantitative study to assess Social Studies teachers' application of Computer-Based Instruction in teaching in West Mamprusi Municipality in Northern Ghana. The study found that although teachers had a positive attitude towards CAI, they do not apply CAI in their instructional processes due to a limited number of computers, lack of internet, lack of technical support among other factors. Teachers' variables such as age, gender, and location of schools significantly influenced their level of CAI application in pedagogy. However, teachers' qualifications did not significantly influence the extent to which they incorporated CAI in Social Studies instructions. The above study was limited to basic schools and not senior high schools. Also, the study focuses on teachers and not students. Finally, the study was confined to only one Municipality out of 5 districts in the North East Region.

STUDENTS' PERCEPTION OF COMPUTER-AIDED INSTRUCTION

Perceptions refer to the understanding and attitudes that influence individual construction of reality. Students' perceptions of CAI mean the understanding, knowledge, and skills that influence the constructions of their reality as to whether CAIs are useful tools for Social Studies learning or not. Successful application of Computer-Aided Instruction in the learning of Social Studies is strongly influenced by students' perceptions of CAI. Positive perceptions of CAI will enhance the effective integration of CAI into learning and the reverse is true. Globally, the literature on students' perception of CAI has been and will continue to produce varied results. For instance, Adekunle (2016) conducted a survey involving 7500 secondary school students in Nigeria to determine their perception of computer education in Abuja. The results show that students had a positive attitude towards the use of computers in education. Male students were found to have a positive attitude towards the use of ICT in education than female students. Finally, there was a significant difference between public and private schools' students' perception of CAI use in education. Notwithstanding the above, the context of the study was Abuja which is predominantly urban. Also, the study did not take into account the extent to which students pedagogically used CAI in their learning processes. Tolbert (2015) carried out Quasi-Experimental research to assess the impact of Computer-Aided Instruction on students' performance, and students' perception of CAI. In all, 56 students were sampled and were placed into two categories of equal numbers (n=28). The control group was taught with traditional methods of instruction and 20 minutes daily remedial traditional instruction. The treatment group was taught with a traditional method of instruction and 20 minutes daily remedial Computer-Aided Instruction. The findings revealed no statistically significant difference between the two methods of instruction. The students' perception was no statistically significant difference in the feelings about Computer-Aided Instruction (CAI).

In contrast, in Ghana, Atta (2015) conducted a Quasi-Experimental study involving 40 students in the Central Region to explore the impact of Computer-Based Instruction on basic school students' performance in Mathematics. The findings revealed that students had a positive attitude towards CBI, and students who were taught with CBI scored higher marks than those taught with the traditional methods of instruction. Finally, Bariham (2019) carried out a quantitative study to examine the influence of teachers' gender and age on the integration of CBI in Social Studies instructions among basic school teachers in Tamale metropolis, Ghana. In all, 60 teachers were sampled for the study. The results found that the majority of Social Studies teachers had a positive attitude towards CBI, but few were using CBI due to a plethora of challenges. There were no statistically significant differences between young and old teachers' use of CBI during Social Studies instructional processes. However, the study was focused on the teachers and not students. Again, the study did not take into account the influence of other variables such as the location of the schools and how they impact teachers' application of technology in instructional processes. This study has therefore filled those gaps in the literature by providing the extent to which teachers variables impact the integration of CAI in Social Studies learning and teaching.

II. RESEARCH METHODOLOGY

A. RESEARCH DESIGN

The study employed a descriptive survey research design. This design was adopted to enable the researcher to collect

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relevant data on the respondents' (students) perception of CAI, and the extent to which the students incorporate technology into the learning of Social Studies.

B. THE POPULATION OF THE STUDY

The population for the study consisted of all the 8 public senior high schools form 3 students within the North East Region of Ghana. According to the Regional Education Directorate, in 2018/2019 academic year, there were 8 senior high schools in the North East Region.

C. SAMPLING AND SAMPLING TECHNIQUES

As at the time data were collected, there were 8 public Senior High Schools in the North East Region of Ghana. 3 schools representing (37.5%) were randomly sampled for the study. This sample was good enough for the research because it was far above the minimum of 10% recommended by Amedahe (2002), Nwana (1992) and Sudman cited in Israel (2009). Hut lottery technique was adopted to randomly select the 3 schools out of 8 for the research. At the planning stages of fieldwork, 3 YES and 5 NO were written on pieces of paper, shuffled and kept on a basket. Research assistants and other supporting staff were asked to pick one each. All those who picked YES with the corresponding schools were sampled for the study.

D. INSTRUMENTS FOR DATA COLLECTION

Questionnaires were the main instruments used to collect data for the research. Five points Likert scale questionnaires were designed with closed-ended items. The questionnaires were categorized into two main parts. Section A had 10 items and was designed to elicit information on students' perception of CAI. Section B also had 10 items constructed to determine the extent to which students use technology in learning Social Studies.

E. VALIDATION OF INSTRUMENTS

The research instruments (Questionnaires) were validated through expert judgment offered by the main researcher's supervisors who happened to be the co-authors to establish both content and face validity and relevant corrections were made. Additionally, test re-test was adopted to determine the reliability co-efficient at 4 weeks intervals and it yielded r=0.78. This was considered reliable and as a result suitable for use in this study.

F. DATA ANALYSIS

Data collected from the field were categorized and coded for analysis using Statistical Package for Social Sciences software (SPSS) version 22. Descriptive and inferential statistics were used to analyze the data. Frequencies and percentages were used to analyze the data on students' perceptions of CAI and the extent to which they use technology in learning Social Studies. T-test was employed to determine students differ in their use of technology based on gender and the location of schools.

G. ETHICAL ISSUES

Ethical considerations and ethical behavior are as useful in research as they are in any other field of human endeavor (Welman, Kruger, Mitchell & Huysamen, 2005). As a result, the researchers obtained a research permit from the Northern Regional Director of Education, and heads of sampled schools before proceeding to collect the data from the respondents. Participants' rights and privileges were respected throughout the study. Informed consent was obtained from all the respondents before allowing them to take part in the research. Participants were not forced nor induced to participate in the study. Instead, they participated freely and had the right to pull out of the study at any time. Data collected from the respondents were kept confidential and applied for research purposes only.

III. FINDINGS AND DISCUSSIONS

STUDENTS' PERCEPTIONS OF COMPUTER-AIDED INSTRUCTION

The students' perceptions of CAI as tools for teaching and learning were established. In this regard, they were asked to indicate the extent to which they agreed or disagreed with the following statements on five-point Likert scale such as SA-Strongly Agree, A-Agree, N-Neutral, D-Disagree, SD-Strongly Disagree as can be seen in Table 1 below.

General Statement on CAIs Strategies	SA	A	N	D	SD
Computer-Aided Instruction make me participate actively in the teaching and learning process.	160 (59.3%)	58 (21.5%)	3 (1.1%)	12 (4.4%)	37 (13.7%)
My school lacks enough digital resources to support Computer-Aided Instruction	69 (25.6%)	49 (18.1%)	12 (4.4%)	53 (19.6%)	87 (32.2%)
Use of Computer-Aided Instruction in teaching helps me to perform well in class	121 (44.8%)	82 (30.4%)	16 (5.9%)	26 (9.6%)	25 (9.3%)
Computer-Aided Instruction promotes cooperative learning among students in a Social Studies class	97 (35.9%)	77 (28.5%)	20 (7.4%)	37 (13.7%)	39 (14.5%)
Computer-Aided Instruction promotes better understanding of concepts and easy application of knowledge gained in Social Studies	154 (57.1%)	80 (29.7%)	12 (4.4%)	12 (4.4%)	12 (4.4%)

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Computer-Aided Instruction helps students to assess their own learning	142 (52.6%)	88 (32.6%)	8 (3.0%)	10 (3.7%)	22 (8.1%)
Our teacher does not allow us to use computers and therefore I have no idea on how to use it	76 (28.1%)	60 (22.2%)	15 (5.6%)	46 (17.0%)	73 (27.1%)
Computer-Aided Instruction helps me to access authentic and current information on issues in Social Studies	147 (54.4%)	76 (28.1%)	18 (6.7%)	19 (7.0%)	10 (3.7%)
Computers scare me and therefore I do not follow the instructions when my teacher uses them in Social Studies instruction	46 (17.0%)	19 (7.0%)	11 (4.2%)	70 (25.9%)	124 (45.9%)
I do not have enough skills to use during Computer-Aided Instructions	68 (25.2%)	65 (24.1%)	19 (7.0%)	48 (17.8%)	70 (25.9%)

Source: Filed Survey (2018)

Table 1: Students' Perceptions of Computer-Aided Instruction (CAI)

Results in Table 1 shows that students' perceptions of CAI vary. For instance, the assertion that CAI makes me participate actively in the instructional processes, 218 students representing (80.8%) agreed to the statements. The above results concur with a study by (Rickey, 2003) which concluded that technological devices, when integrated into the teaching and learning environment engage the participants actively and improve their attainment level. About the statement that my school did not have enough digital resources to support Computer-Aided Instruction, nearly half of the respondents 118 (43.7%) agreed to the statement. Lack of ICT tools in schools has been cited as one of the barriers to the smooth application of CAI in the teaching and learning process. In agreement, Becta, 2004) mentioned lack of access to ICT resources as a significant barrier to the effective application of technology in instruction. The use of CAI helps me to perform well in class, 203 informants representing (75.2%) agreed with the statement. This implies that the government should support schools with a digital infrastructure to enable teachers to make good use of computer technology during instructional processes to improve students learning outcomes. The application of CAI foster better understanding of concepts and easy application of knowledge gained in Social Studies, 234 respondents (86.8%) agreed with the assertion. This strongly justifies the need for Senior High School teachers to incorporate CAI in their instructional process to enhance effective learning.

CAI helps students to assess their own learning, 230 students (85.2%) agreed to the statement. These findings concur with (Bariham et al, 2019) who concluded that computer-supported instruction helps students to assess their learning, and enhance the acquisition of knowledge and skills that will empower Social Studies students' lifelong learning. CAI helps me to access authentic and current information on issues in Social Studies, 223 learners (82.5%) go with the assertion. Therefore, teachers should make good use of technology during instruction to sharpen the research skills among their learners. I do not have enough skills to use during Computer-Aided Instructions, almost half of the students 133 (49.3%) agreed with the statement. The above results confirm with those of (Omariba, 2016) whose study discovered a lack of students' ICT skills, insufficient ICT resources, limited time, power fluctuations, and lack of enough teachers as challenges students encounter in their attempt to learn with technology. In conclusion, the above results have demonstrated the majority of the senior high students sampled for the study had a positive attitude towards CAI. This contradicts Adekunle (2016) whose study concluded that secondary school students had a negative perception of Computer Assisted Instruction.

THE EXTENT TO WHICH STUDENTS USE TECHNOLOGY IN SOCIAL STUDIES LEARNING

Respondents were asked how often they used the following technology during Social Studies learning. Table 2 gives detailed information about the issue.

S/N	ICT Tools	Every Day	Several times per week	Once a week	Rarely	Not at all
1	Use computers to learn concepts in Social Studies	3 (1.2%)	6 (2.2%)	16 (5.9%)	6 (2.2%)	239 (88.5%)
2	Use of multimedia eg educational CDs such as a set of books	17 (6.2%)	14 (5.2%)	15 (5.6%)	21 (7.8%)	203 (75.2%)
3	Use of instructional simulations to enhance learning	29 (10.7%)	45 (5.9%)	40 (14.8%)	45 (16.7%)	140 (51.9%)
4	Use of video for Social Studies learning.	5 (1.9%)	8 (3.0%)	10 (3.7%)	15 (5.6%)	232 (85.9%)
5	Use of computer intelligent tutoring systems	35 (13.0%)	18 (6.6%)	24 (8.9%)	35 (13.0%)	158 (58.5%)
6	Use of PowerPoint presentation with animations during Social Studies instructions	5 (1.9%)	9 (3.3%)	21 (7.8%)	25 (9.3%)	210 (77.8%)
7	Use of WhatsApp, and YouTube to support the learning of	11 (4.1%)	7 (2.6%)	5 (1.9%	12 (4.4%)	235 (87.0%)

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	concepts during Social Studies lessons					
8	Use of Mobile phones to support learning in class	10 (3.7%)	6 (2.2%)	11 (4.1%)	25 (9.3%)	218 (80.7%)
9	Use of computers and the internet for Social Studies assignments	15 (5.5%)	10 (3.7%)	19 (7.0%)	27 (10.0%)	199 (73.8%)
10	Use of computers to prepare for examination	41 (15.2%)	14 (5.2%)	12 (4.4%)	39 (14.4%)	164 (60.8%)

Source: Field Survey (2018)

Table 2: The extent to which students incorporated Technology in Social Studies Learning

The results from Table 2 show varied responses given by students on the extent to which they used technology in learning Social Studies. For instance, on the statement that use computers to learn concepts in Social Studies, 239 respondents (88.5%) of students said Not at all. This could be due to a limited number of computers in schools. On the issue of Use of video for Social Studies learning, as many as 232 respondents (85.9%) indicated they did not use video at all and only 13 students (4.9%) indicated they used video in learning Social Studies. Maybe more research should be conducted to find out why. Concerning the use of WhatsApp and YouTube in learning Social Studies, 235 students (87.0%) indicated Not at all, and only 18 participants (6.6%) indicated they used them to learn.

The use of mobile phones to support learning in class, 218 students (80.7%) indicated that they did not use phones at all to learn in school. The ban on the use of phones by students in schools could have been responsible for the low application of phones for learning by the students. There is a need for the managers of education to take a second look at the ban. Concerning the use of computers and internet for Social Studies assignments, as many as 199 students (73.8%) pointed out they did not use them at all, and only 25 respondents (9.2%) use them. This could be due to limited numbers of computers in the schools coupled with the absence of reliable internet. The findings concur studies by Otieno (2017) which found that inadequate access to ICT facilities, limited leadership support, and limited technical support were found to be posing challenges to the integration of Computer-Assisted Learning in Kenya secondary schools. Finally, on the use of computers to prepare for the examination, 164 participants (60.8%) responded negatively and 55 respondents (20.4%) indicated that they used computers to prepare for examinations.

TESTING OF HYPOTHESIS

Ho_1 There is no significant difference between male and female students' use of Computer-Aided Instruction during the learning of Social Studies

Table 3 below gives detailed information about the issue.

Variable	Student Gender	N	Percent	Mean	Std. Deviation	Std. Error Mean
Sex	Male	156	57.8	16.80	7.011	0.561
	Female	114	42.2	14.77	5.430	0.509

Table 3: Group Statistics of Influence of Gender on CAI Integration

The results of the study from Table 3 above indicates that male students constituted 57.8% while female students constituted 42.2%. There were variations in the level of students' CAI integration base on their sex. Male students had a mean score of 16.8 and female students had a mean score of 14.77 with a standard deviation of 5.43.

A statistical test of the mean difference in the extent of CAI integration among male and female students were computed and the results shown in Table 4 below.

Variable		t-test for Equality of Means						
		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper
Sex	Equal variances assumed	2.5	268	.011	2.029	.788	0.479	3.58
	Equal variances not assumed	2.67	267.067	.008	2.029	.757	0.538	3.52

Table 4: T-test of the Influence of Gender on CAI Integration

From the table above, the mean difference (2.029) is significant at 5% (P-value < 0.05). This means that there existed a significant difference between male and female students in CAI integration in the learning of Social Studies. Besides, the mean difference was positive and this suggested that male students integrated CAI in learning more than their female counterparts. This had reinforced the gender digital divide which was triggered by females' limited access to computers and low ICT skills. Further research should be conducted to determine the factors responsible for the current situation.

Ho_2 There is no significant difference between rural and urban students' use of Computer-Aided Instruction in the learning of Social Studies

The results in Table 5 below revealed the statistics of the respondents based on their location. It was discovered that 71.1% of the students were from schools located in urban areas while 28.9% were in rural settings. The mean CAI integration score of the students from urban schools was 15 while that of those from schools located in rural areas was 16.22, with a standard deviation of 5.73.

	Location of School	N	Percent	Mean	Std. Deviation	Std. Error Mean
Total Integration Score	Urban	192	71.1	15.83	6.74	0.48
	Rural	78	28.9	16.22	5.73	0.65

Table 5: Group Statistics of Influence of Location on Students' CAI Integration

To determine if location significantly influenced the students' application of CAI, a statistical test of the difference of the mean integration, the score were computed using the t-test and the results are shown in Table 6 below.

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Variable		t-test for Equality of Means						
		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper
Location	Equal variances assumed	-0.44	268	0.65	-.385	.869	-2.095	1.325
	Equal variances not assumed	-0.47	166.4	0.63	-.385	.812	-1.987	1.218

Table 6: T-test of the Influence of Location on Students Pedagogical use of CAI

From the table above, the mean difference between the rural and urban students' integration was not significant at 5% (P-value < 0.05). This means that there was no enough evidence to reject the null hypothesis. Hence the extent of integration of students from schools located in urban areas is not significantly different from those from schools located in rural areas. This contradicts Yidaana and Charles (2015) whose study on ICT use by students in Sothern Ghana concluded that urban students pedagogically used ICT more than their rural counterparts.

IV. CONCLUSIONS

From the findings of the study, the following conclusions were made:

- ✓ Senior High Schools students' perception of Computer-Aided Instruction was positive
- ✓ Majority of the students were found not to be using technology during learning because of limited ICT skills, lack of internet and adequate computers in schools, lack of access to computers in schools, and limited time.
- ✓ Male students pedagogically used ICT during the learning of Social Studies than female students
- ✓ There was no statistically significant difference between rural and urban students' application of technology during learning processes.

V. RECOMMENDATIONS

Based on the findings, the study recommends the following:

- ✓ The Ministry of Education, in collaboration with other stakeholders in education, should support Senior High Schools with digital infrastructure such as computers, laptops, projectors, and the internet to support students to use technology during learning to enhance their performance.
- ✓ Female students in Senior High Schools should be trained on CAI integration and supplied with laptops to enable them to use them to support online learning activities. In addition, they should be properly supervised by their teachers during online learning activities.
- ✓ Senior High School students should be permitted to use smartphones in schools to support their learning.

ACKNOWLEDGMENTS

The research team wish to express their profound gratitude to Alhaji Mohammed Haroon, Northern Regional Director of Ghana Education Service for the support given during the fieldwork. Another appreciation goes to the Principal, Vice Principal, and staff of Bagabaga College of Education, Tamale for the support given throughout this research. The team also wishes to show appreciation to Ghana Education Trust Fund (GETFUND) for financial support. All errors remain the authors' own.

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