Basic School Teachers' ICT Knowledge and Skills in Integrating Technology into Teaching and Learning

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Abstract: Information and communication technology (ICT) has become an indispensable tool in the hands of the modern-day teacher for diverse reasons which ranges from teaching to information resource. The study looked basic in-service teachers' ICT knowledge and skills in integrating technology into teaching and learning in some selected Ghanaian basic schools across two regions of the country. The study adopted a descriptive approach sampling 134 purposively selected teachers from four basic schools; two of which were private and the other two from government schools. The study revealed that teachers in the selected schools found it difficult to use ICT to make their own teaching and learning materials, and rated their knowledge on computers and their functions as modest. Again, they hardly used drill and practice as a medium of instruction. Conversely, they affirmed encouraging pupils in class to search for relevant information on the Internet as well as asking students to undertake tasks or follow up class work at home on the computer. It was good to see a positive relationship between teachers' level of computer knowledge, skills and ICT integration in the teaching and learning process in classroom in this study. Thus, schools should make all efforts to encourage autonomy and teamwork to enhance ICT use among the teaching staff and give flexibility for teachers to adapt ICT integration in the classroom.

Keywords: ICT Knowledge, ICT Skills, ICT Tools, ICT Integration, Teamwork

1. Introduction

The use of information and communication technology (ICT) as a teaching tool has become so indispensable to the teacher that many find it as an amazing teaching companion capable of transforming teaching and learning in the 21st century. This is because ICT offers teachers so much to depend on irrespective of whatever teaching pedagogy the teacher chooses for his/her lesson delivery. ICT could come in the form of web technologies, Microsoft Teams, Google Classroom, Dropbox, Google Drive, We Transfer, Mindomo, Visually, Feedly, Trello, Clippings and a host of others. These tools are great for teachers who want to create different content which will give a lot more interactivity and information which are highly valued and excellent for classroom use.

ICT itself is greatly transforming our society today. Unlike in the past where medical doctors could not tell the sex of unborn babies until the day of delivery, today they can with the use of ICT in fourteen weeks! [3]. In the past, telephones were mostly landlines but today, mobile telephony has taken over the industry. It is a booming market where a lot of telephone companies have directed their attention to. Those that could not adjust to the changing needs of the 21st century have either collapsed or been left behind [18]. The automobile industry has not been left in the dark. With the emergence of ICT, they can now easily detect issues with vehicles with the use of ICT tools and fix them without the usual try-and-error methodology [12]. Email and text messages have come in handy to take over the postmasters' job with the exception of courier services which is still thriving [13]. Even with the courier services, there now a exist a component where ICT has been incorporated for both the sender and recipient to track dispatch and arrival dates for deliveries. In the field of education, there has been great a transformation. This has come in the way of a widespread empowerment via transforming the teaching and learning

processes from the highly teacher-dominated to student-centered style of teaching resulting in increased learning gains with students now being able to create their own rich content culminating in an opportunity for learners to enhance their creativity, problem-solving skills, information reasoning skills, communication skills and other higher-order thinking skills [2]. In Ghana, there have been several efforts by successive governments to transform teaching and learning using technology. For this reason, the government has invested heavily in ICT for schools across the nation. Policies have been developed to ensure that ICT will keep the wheels of the country running to catch up with globalization. One of such policies is the ICT for Accelerated Development (ICT4AD). In this document, the vision and mission of the Ministry of Education of Ghana is explained with the view to identifying how the sector will use ICTs to develop the requisite human resources for the country which will meet the demand of the labour market locally as well as internationally. There in this document are some thematic areas such as incorporating ICTs into the curriculum, content development and capacity building [10]. The implementation of this policy started in 2007 although the policy was formulated in 2003. There were stakeholder engagements to understand the vision and mission of this policy document culminating in its implementation after several years. Apart from this, the national teachers' standard implores teachers to be tech-savvy in order to incorporate technology into their teaching. It is clearly stated in the national teachers' standards that "teachers have a developed understanding of how to use ICT in their practice". It also goes on to say that all teachers must have good technological pedagogical knowledge, knowing how to incorporate ICT into their practice to support learning.

The Ghana National Education Reform [9] is another government document which strongly talks about the use of ICT in education. In this document, the major function that Information and Communication Technologies (ICTs) can perform in broadening access to education to a broader part of the people and literacy education for enabling educational provision and physical activity at all levels has been identified as a major significance theme under the Education Reforms of 2007. There is no gainsaying about the fact that ICTs play a significant role in education delivery. This is because of the impact it has both on teaching and learning. In a study carried out in the Kumasi metropolitan area by Akaadom [1] where traditional and non-traditional students were sampled to ascertain if instruction delivered through the use of ICTs and one delivered using the conventional methods (without ICTs) had any impact on students, it came to light that using ICT had a significant impact leading to improved performance [1]. In another study by Basri, Alandejani and Almadani [5], they examined the acceptance of ICTs by the universities in Saudi Arabia and the impact it made on the university students' academic performance. The study also investigated facilitators' impact of gender, GPA, and student majors on the association between ICT and scholarly achievement. The findings of their study uncovered

that there exists a linkage between ICT adoption and academic accomplishment in a conventional setting. Another finding similarly noticed that ICT adoption led to the enhancement of the accomplishment of female students more than their male counterparts. Nevertheless, students' IT major was observed to be generating no influence on students' scholarly performance. In another study by Suleman et al. [17] where the effects of ICT on students' academic achievement and retention in Chemistry at the secondary level was investigated, it was found that information and communication technology constructively impacted students' attainment and recollection and that ICT was found to a greater extent powerful, useful and invaluable in teaching of chemistry as compared to traditional approaches, procedures of teaching. From the above studies, it was suggested that information and communication technology should be utilized in teaching chemistry for optimizing students' achievement at all levels of education. This is apparently one of the reasons why the researchers wanted to investigate if it's the same case at the basic level if indeed teachers are utilizing and harnessing the positive effects of ICTs in their instructional delivery. In order to do this, the researchers will explore the level of computer skills and knowledge for basic school teachers in the teaching and learning process. Again, the level of basic school teacher's ICT integration in the teaching and learning process in the classroom will equally be explored. Then again, the relationship between teachers' level of computer knowledge, skills and ICT integration in the teaching and learning process in classroom will also be investigated.

From the foregoing, it is expected that a diverse set of technological tools and resources used to transmit, store, create, share or exchange information are known and used by teachers to deliver lessons. These technological tools and resources include computers, the Internet (websites, blogs and emails), live broadcasting technologies (radio, television and webcasting), recorded broadcasting technologies (podcasting, audio and video players, and storage devices) and telephony (fixed or mobile, satellite, video-conferencing, etc.) are familiar to teachers for classroom delivery but the question is are teachers this tech savvy?

In line with globalization and UNESCO standards, teachers are to be trained to integrate technology into teaching and learning because of its enormous benefits [19]. This is to ensure that the diverse learning needs of students are met. This can be seen in the light of that fact that technology uses multimedia which increases learner engagement to enhance content being taught and learnt by students. Globalization and rapid technological change have made knowledge a critical determinant of competitiveness in the world of today [14]. ICT promotes the acquisition and absorption of knowledge and information. It is for this reason that stakeholders in education are embarking on the use of ICTs for instructional delivery to enhance the way teachers teach and the way learners learn. Thus, the journey to prepare students to meet the demands of the 21st century is a tall order for teachers and the education sector as a whole. This is

to ensure that no student is left behind in the technology world and that they are prepared to be highly competitive for the global job market. It is for this reason that the researchers wanted to investigate to ascertain basic school (primary to junior high school) teachers' level of computer skills and knowledge in the teaching and learning process; to identify level of primary school teachers' ICT integration in teaching and learning process in the classroom; to identify the relationship between teachers' level of computer skills and knowledge; and ICT integration in teaching and learning process in classroom. From the above-mentioned objectives, the following research questions were crafted to guide the study:

1) What is the level of computer skills and knowledge for basic school teachers selected schools from the two regions?
2) What is the level of basic school teacher's ICT integration in teaching and learning process in classroom?
3) What is the relationship between teachers' level of computer knowledge, skills and ICT integration in the teaching and learning process in classroom?

2. Methods

Considering the purpose of this study, the non-experimental descriptive survey design was used. This was because it specified the nature of the given phenomena and involved the collection of data to assist the researchers answer questions framed about the problem under investigation. The methodology adopted for this study was prepared according to the procedures recommended by the researchers who suggested quantitative techniques and tools such as questionnaires for data collection. Data collection through questionnaire enables an objective analysis of the problem under investigation. The researchers can conveniently enter the statistical findings of the closed ended questionnaire in a data analysis software in order to quantify the results. Another rationale for adopting quantitative measures for an empirical study like the current one is that the mandatory use of the quantitative tools or software in the form of columns and tables would usefully supplement and extend the research analysis. Also, the analysis based on statistical data is both validated and reliable since there is no personal bias and is the evidence of an objective research analysis.

The study engaged respondents from four basic schools some of which were running multiple streams in the Ashanti and Eastern regions of Ghana, two of which were private and the other two from government schools. The study used a sample size of 134 teacher respondents. The teachers were grouped into two categories of male and female for the ease of data analysis. The purposive sampling technique assisted in getting a personal bias-free data because the respondents were interested to participate in the study.

This study has made use of a close-ended questionnaire in order to collect data from selected teachers teaching in the various selected schools for the study. The content validity of

the items of the questionnaire was conducted by two subject experts.

After the completion of data collection, the researchers analyzed the data to check whether there were identifiable errors, inconsistencies, and incompleteness. The software application SPSS was used to establish the significant variations in the moderating variables that influenced teachers' use of ICTs for instructional delivery. It provided a very general as well as convenient framework for statistical analysis that included several traditional multivariate procedures such as correlation analysis.

3. Results

Respondents' approach towards the integration of ICT for is shaped by their socio-demographic characteristics. It was observed that most respondents' background in terms of their gender, region where their schools are located and the classes they teach provided a fair reflection of how these factors impact on the attitude to using ICT in teaching and learning.

A total of 134 respondents returned the questionnaire distributed to 149 teachers from the two regions representing 89.9% return rate. For an in-depth analysis of responses, it is important to present an overview of the demographic characteristics of the respondents which included the variables presented earlier. The demographic characteristics distribution of respondents is shown in Table 1 below.

Table 1. *Distribution of demographic characteristics of teacher respondents.*

Demographic variables	Variable description	Frequency	Percentage
Gender	Male	87	64.9
	Female	47	35.1
Total		134	100
Region	Ashanti	70	52.2
	Eastern	64	47.8
Total		134	100
Class	Kindergarten	8	6.0
	Class 1	8	6.0
	Class 2	6	4.5
	Class 3	10	7.5
	Class 4	13	9.7
	Class 5	13	9.7
	Class 6	11	8.2
	Junior High School (JHS) 1	22	16.4
	Junior High School (JHS) 2	32	23.9
	Junior High School (JHS) 3	11	8.2
Total		134	100

From Table 1, it can be seen that 64.9% (n=87) of respondents were males and 35.1% (n=47) were females. Again, the Ashanti region which has a higher number of basic schools (800 plus) compared to the Eastern region recorded 52.2% (n=70) of teachers responding to the questionnaire as compared to their counterparts from the Eastern region where 47.8% (n=64) responded. Clearly from Table 1, majority of respondents were teachers from JHS 2 (23.9%, n=32) with the least coming from Class 2 (4.5%, n=6).

3.1. Teachers' Competencies on ICT Skills and Knowledge

The study sought to ascertain basic school teachers' competencies on ICT skills and knowledge they possess in order to teach with it. The results is presented in Table 2 below.

Table 2. Teachers' ICT Skills and Knowledge.

ICT skills and knowledge	Mean	Standard deviation
I know computers and its functions	1.57	.90
I repair my own computer	4.06	1.10
I install software on my own	2.96	1.53
I search teaching aids from the Internet	1.61	.75
I use the computer to prepare lesson plans	3.28	1.32
I can create teaching aids with the computer	2.75	1.30
I prepare notes for my students with the Internet	2.61	1.27
I find questions for my students from the Internet	2.34	1.20
I always use the computer in my classroom	4.0	1.05
I always look for the latest additional information through the Internet	1.75	.98
I use the Internet in the computer lab with my students	3.46	1.34
I teach my students on how to find information on the Internet	2.46	1.26
I use the Internet for my personal use	1.59	.92

From Table 2, it can be deduced that items had varying degrees of acceptance for teachers' ICT skills and knowledge possessed to be used for integrating ICT into teaching and learning. Teachers rated their knowledge on computers and their functions very low (M=1.57, SD=.90). However, they rated their skills on repairing their own computers when they need arose as high (M=4.06, SD= 1.10). That notwithstanding, they moderately endorsed that they could install software on their own (M=2.96, SD=1.53). A mean value of 1.61 was recorded for searching teaching resources from the internet. This indicates a very low concurrence with respondents going on the internet to search for teaching and learning resources for instruction. In contrast, respondents were of the view that they were capable of using their computers to prepare lesson notes for instruction (M=3.28, SD=1.32). To create teaching aids/materials with the computer for instruction, respondents indicated a low agreement that they were able to do so (M=2.75, SD=1.30). Similar results from Table 2 were recorded for respondents' ability to prepare notes/plans for their students with the internet as a resource, creating teaching aids with the computer, and preparing notes for students with the Internet with mean values of 3.28 (SD=1.32), 2.75 (SD=1.30) and 2.61 (SD=1.27) respectively. Teacher respondents moderately responded to finding questions for their students from the Internet (M=2.34, SD=1.20). On the other hand, teachers rated their ability to use the computer in their classrooms as high (M=4.0, SD=1.05). Conversely, a mean value of 1.75 (SD=.98) was obtained for teachers searching and looking for the latest information on the internet for their classroom instruction. A low mean score of 2.46 (SD=1.26) was recorded for teachers' ability to teach their students on how to find information on the internet. Interestingly, a low mean score was recorded for teachers' personal use of internet for their intellectual discourse (M=1.59, SD=.92).

3.2. ICT Integration in Teaching and Learning Process

The second research question sought to find out about teachers' ICT integration in the teaching and learning process. This was geared towards trying to verify how teachers used ICT as a tool for teaching and learning in their respective classrooms. The results is as presented in Table 3 below.

Table 3. ICT Integration in Teaching and Learning Process.

Statement	SA	A	U	D	SD	Total
I use a computer as a tool for demonstration working with presentations I have made myself (e.g., PowerPoint)	25 (18.7)	29 (21.6)	10 (7.5)	42 (31.3)	28 (20.9)	134 (100)
I use a computer as a tool for demonstration working with existing presentations, or those someone else has made for me	17 (12.7)	47 (35.1)	15 (11.2)	32 (23.9)	23 (17.2)	134 (100)
I use a computer as a tool to teach new subject knowledge, i.e. the pupils acquire knowledge directly from the computer	8 (6.0)	44 (32.8)	17 (12.7)	36 (26.9)	29 (21.6)	134 (100)
I use educational software with my students for learning subject knowledge through drill and practice	3 (2.2)	45 (33.6)	18 (13.4)	36 (26.9)	32 (23.9)	134 (100)
I encourage pupils in class to search for relevant information on the Internet	50 (37.3)	61 (45.5)	8 (6.0)	7 (5.2)	8 (6.0)	134 (100)
I ask my students to undertake tasks or follow up class work at home on the computer	32 (23.9)	54 (40.3)	14 (10.4)	21 (15.7)	13 (9.7)	134 (100)
I teach my students to consider the implications and opportunities of computer use	20 (14.9)	76 (56.7)	9 (6.7)	17 (12.7)	12 (9.0)	134 (100)
The school has clearly articulated the vision and mission of using ICT integration	18 (13.4)	57 (42.5)	30 (22.4)	19 (14.2)	10 (7.5)	134 (100)
The school vision of ICT integration motivates teachers to use ICT integration effectively in	21	12	34	28	39	134

Statement	SA	A	U	D	SD	Total
their teaching	(15.7)	(9.0)	(25.4)	(20.9)	(29.1)	(100)
ICT integration has been perceived as an important factor in maintaining the school's competitive advantage	22	62	20	21	9	134
	(16.4)	(46.3)	(14.9)	(15.7)	(6.7)	(100)
Important decisions about ICT integration are made at all levels	20	73	14	18	9	134
	(14.9)	(54.5)	(10.4)	(13.4)	(6.7)	(100)
The school encourages autonomy and teamwork to enhance ICT use among the teaching staff	22	50	27	27	8	134
	(16.4)	(37.3)	(20.1)	(20.1)	(6.0)	(100)
The school gives flexibility for teacher to adapt ICT integration in the classroom	33	61	18	10	12	134
	(24.6)	(45.5)	(13.4)	(7.5)	(9.0)	(100)
I have the freedom and responsibility on the use of ICT integration technology in order to make learning better	67	30	14	4	19	134
	(50.0)	(22.4)	(10.4)	(3.0)	(14.2)	(100)
The school organizes the appointment of an ICT coordinator who can provide technical support for all the teaching staff	8	6	26	36	52	134
	(5.9)	(4.5)	(19.4)	(26.9)	(38.8)	(100)
The school provides consistent hardware and software updates	7	6	28	53	40	134
	(5.2)	(4.5)	(20.9)	(39.6)	(30.1)	(100)

Respondents were to indicate their use of the computer as a tool for demonstration in the classroom as part of their readiness to integrate ICT into their classroom instruction. From Table 3, majority of in-service teachers (62.2%, n=70) disagreed that they use computers for presentations made by themselves in their classrooms. However, they agreed (57.8%, n=64) that they use computers as tools for demonstrations with existing or other presentations made by others. On the issue of using a computer as a tool to teach new subject knowledge, 48.5% (n=65) of respondents disagreed that they can do this. A substantial number of them (12.77%, n=17) indicated indifference to this assertion. Researchers probed more on whether or not respondents could use educational software with their students for learning subject knowledge through drill and practice. With this, 50.8% (n=68) stated they could did not do this with their students. On the contrary, 82.8% (n=111) pointed out that they do encourage their students/pupils to search for relevant information on the internet. Furthermore, 64.2% (n=86) agreed that they engage their students to undertake tasks or follow up class work at home on using the computer. Researchers wanted to verify how in-service teachers teach their students to consider the implications and opportunities of computer use. On this, 71.6% (n=96) of respondents agreed that they do that. They also agreed that their respective schools has clearly articulated the vision and mission of using ICT integration in the teaching and learning process. However, respondents disagreed (49.1%, n=67) that the school vision of ICT integration motivates teachers to use ICT integration effectively in their teaching. On the contrary, they agreed with the assertion that ICT integration has been perceived as an important factor in maintaining the school's competitive advantage. This resulted in 62.7% (n=84) accepting the fact that ICT integration has been perceived as an important factor in maintaining the school's competitive advantage. A total of 69.4% (n=93) again agreed that important decisions about ICT integration are made at all

levels in their respective schools. On the issue of the school encouraging autonomy and teamwork to enhance ICT use among the teaching staff, 53.7% (n=72) indicated that this does happen. This notwithstanding, 70.1% (n=94) of respondents agreed that their schools give flexibility for teachers to adapt ICT integration in the classroom. Respondents equally agreed (72.4%, n=97) that they have freedom and responsibility on the use of ICT integration technology in order to make learning better. When researchers asked if schools organized the appointment of an ICT coordinator who can provide technical support for all the teaching staff, 65.% (n=88) indicated this does not happen. They disagreed (69.7%, n=93) that the school provided consistent hardware and software updates.

3.3. Regression Analysis

The researchers upon careful observation of the results obtained from Table 3, wanted to explore linear relationships between independent factors and a dependent factor. To be able to do this, the dependent factor must be a measure on an interval or ordinal scale, and the independent factor, a measure on either ordinal, ratio or interval scale. Another measure of importance to allow for multiple regression is that there should be a large scale sample size.

The regression analysis used eleven integration variables where majority of the respondents affirmed ICT use (see Table 3) as independent factors and the dependent factor (I always use the computer in my classroom). The descriptive statistics consisted of the mean scores of items related to each factor. The computed means from the Likert Scale variables for all the independent and dependent factors were used for the regression analysis. A standard regression analysis was conducted to determine a relationship of the linear combination of all factors of ICT use with in-service teachers' technology use to enhance teaching and learning in the classroom. The results are as shown in Table 4 below.

Table 4. Standard Regression Model.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df 1	df 2	Sig. F Change
1	.612[a]	.375	.301	1.1158	.375	5.098	14	119	.000

Table 5. ANOVA for Regression.

ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	54.737	1	3.910	5.098	.000[b]
	Residual	91.263	119	.767		
	Total	146.000	133			

a. Predictors: (Constant), ICT Integration in the Classroom

b. Dependent Variable: Everyday use of ICT in the classroom

The standard regression model table (Table 4) and ANOVA table (Table 5) indicated that the test was statistically significant, $F(55, 133) = 5.01$, $p =.000$; $R^2=.375$; Adjusted $(R^2)=.301$ at $\alpha=.05$. The value of the correlation R, which indicates how well independent factors combined, relate with the dependent factor (Everyday use of ICT in the classroom), was R=.375. The Adjusted $R^2=.301$ means that all the factors combined accounted for 30.1% of the variance in the dependent factor, Everyday use of ICT in the classroom. Hence, 30.1% of the variations in everyday use of ICT in the classroom were explained by teachers' ICT Integration in the Classroom.

4. Discussion

In this study, teachers rated their knowledge on computers and their functions as modest. This concurs with a study by Semerci and Aydin (2018) on beliefs and knowledge for teachers' technology integration. Their study revealed that teachers have significantly high ICT anxiety limiting them to use ICTs in education by their ICT experience, ICT skills, ICT knowledge and ICT training although ICT anxiety was not a focus of this study. A study by Sawyer and Meyers [16] revealed that preservice teachers in elementary education programme use more Internet resources when planning lessons. In a sharp contrast, respondents from this present study indicated low patronage of the internet to search for teaching and learning resources for instruction. However, they were of the view that they were capable of using their computers to prepare lesson notes for instruction. Furthermore, respondents in the present study indicated a very low ability to create teaching aids/materials with the computer for instruction. Our findings support other research which state that educators use both digital and non-digital tools as tools for demonstrations with existing or other presentations made by others [15, 20, 7].

A computer is an important tool in the hands of a teacher for various reasons such as for demonstrations working with presentations either made by themselves or someone else. In this study, respondents affirmed using computers for all the right reasons which concurs with a study by Eskaraeva and Torebaeva [8] in which they found out that using computers in conducting English classes greatly increased the intensity of the educational process. They revealed that in teaching using a computer, the much bigger quantity of a material is acquired, than it became for same time in the conditions of traditional teaching. In addition, they found that the material

one was using a computer to teach assimilated stronger. The use of computer presentations in the educational process allows intensifying the teaching material by the students and conducting classes at a qualitatively new level, using projection slide-films on a computer screen on the large wall screen or a personal computer (laptop) for each student instead of using chalkboard. Teachers' use of educational software with their students for learning subject knowledge through drill and practice in this study aligned with a study by Inan et al., [11] where it was revealed that classroom practices tended to be more student-centered when students used the computer as a learning tool such as the Internet, word processing, and presentation software. Conversely, drill and practice software showed a dissimilar pattern just as was found in this study.

In the present study, teachers affirmed encouraging pupils in class to search for relevant information on the Internet as a source as well as asking students to undertake tasks or follow up class work at home on the computer. This is in line with a study conducted by Apuke and Iyendo [4] where they investigated the place of the internet in academic research and learning of students, through both quantitative and qualitative research approaches, using 250 undergraduate students in three selected universities within North-Eastern Nigeria. In the study, the students perceived that the lack of digital readiness among their staff and institution, and inefficient cybercafé and internet facility within their university settings were the main issues discouraging the utilization of the internet within their institutions. Yet, they still thrived to find ways through self-organization, resilience and resourcefulness to make use of the internet to facilitate their studies. Most of them stated that they depended on their smartphone/handsets to access the internet through subscription from other internet providers and have become overly reliant on Google, Yahoo, and open access e-Journals. Nevertheless, the students believed that the use of internet enabled them to perform research ahead of time, tackled multiple homework, widened the scope of reading and learning, promoted self-learning, encouraged and enhanced peer learning as well as enriched student's examination preparation.

The use of ICT can go a long way to assist both teachers and students in diverse ways. Most teachers who use ICT for various reasons are quite aware of the enormous benefits ICT brings to education thus they go all out to enlighten students to consider the implications and opportunities of computer use for studies and their future. In a study by Chen, Wang, Kirschner and Tsai [6] where

they studied about the role of collaboration, computer use, learning environments, and supporting strategies, they found that computer use led to positive effects on knowledge gain, skill acquisition, group task performance, and social interaction in collaborative learning contexts. Furthermore, the use of extra learning environments or tools produced a medium effect for knowledge gain, and supporting strategies thus recommended that students should consider the implications and opportunities of computer use. With all these massive benefits of ICT usage, schools should clearly craft, articulate the vision and mission of using ICT integration in lessons. The schools' vision of ICT integration and implementation would go a long way to motivate teachers to use ICT effectively in their teaching as ICT integration has been perceived as an important factor in maintaining a school's competitive advantage. For this reason, there is no gainsaying about the fact that important decisions about ICT integration should be made at all levels to harness its potential benefits not only for teaching and learning, but for the future development of students to meet the changing needs of our time. It was good to see a positive relationship between teachers' level of computer knowledge, skills and ICT integration in the teaching and learning process in classroom in this study. Thus, schools should make all efforts to encourage autonomy and teamwork to enhance ICT use among the teaching staff and give flexibility for teachers to adapt ICT integration in the classroom. When teachers have the freedom and responsibility on the use of ICT integration technology, they would make learning better for students.

5. Conclusion

In conclusion, the present-day classroom has become a complex place for instruction. This classroom should have a place for technology integration. Before teachers can integrate technology into teaching and learning, they must possess some soft skills to be able to do so. The judicious use of ICT in the classroom has enormous benefits for both teachers and students. It creates opportunities for students' active involvement in lessons, motivates students to learn and make ideas concrete for students. Integrating ICT in the classroom and allowing students to interact with them paves way to allow for students' different points of view whilst giving students a hands-on experience. It is for these reasons that the researchers recommend that teachers are given training on how to use ICT and integrate them in their instruction. As was seen in this study, such workshops are hardly organized by stakeholders. The researchers would like to call on ministries of education and schools to organize such training workshops to equip teachers for technology integration. Again, schools should be equipped with technology tools for teachers' use to create opportunities for students to practice whether in groups or individually as this goes a long way to develop group work spirit in students.

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