The Paradigm of Technology in Teaching Senior High School History: Teachers' Perception on Integration, Usage and Self Efficacy

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Abstract

Ghana, through her I.C.T. for Accelerated Development (ICT4AD) policy, has provided a number of ICT equipments to some schools in order to promote the integration of ICT into the teaching and learning process. This research study sheds light on History teachers' perception and use of ICT tools in Senior High schools, by considering various variables which affect the success of the implementation of these tools. A questionnaire was completed by 67 History teachers who teach in Senior High Schools in both Kumasi and Cape Coast metropolis. The results showed that although History teachers are willing to use ICT resources and are aware of the existing potentials, they are facing problems in relation to accessibility to ICT resources and lack of in-service training opportunities. It is recommended that the government, through the Ministry of Education, provides schools and teachers with computers and other ICT infrastructure. Again, training opportunities should be made available for History teachers to familiarize themselves with skills of integrating ICT into their professional task.

KEYWORDS: Technology Integration, Perception, Usage, Self Efficacy

Introduction

Information and communication technology (ICT) has become, within a very short time, one of the basic building blocks of modern society. Many countries now regard the mastering of the basic skills and concepts of ICT as part of the core of education, alongside reading, writing and numeracy. At every level of education, ICT is perceived as a vehicle for curriculum enhancement. ICT, according to UNDP (2006) report, has been defined to include the full range of electronic technologies and techniques to manage information and knowledge. It is about computer-based technology including computer hardware, software, CD-Rom, videodisc player and the internet. These forms of technology provide teachers and students with vast quantities of information in an easily accessible, non-sequential format that can be used as teaching tools.

Studies including Hadley and Sheingold (1992) and Hannafin and Saverye (1993) have indicated that ICT has the potential for enhancing student learning. On the part of teachers, they use ICT particularly, computers to write lesson plans, prepare materials for teaching, record and calculate student grades, and communicate with students and other teachers. As such, "computers have become a routine tool for helping teachers accomplish their professional work" (Becker, Ravitz, & Wong, 1999, p. 32).

Extolling the importance of ICT in the instructional process, Chapin and Messick (1992) assert that the role of ICT in teaching and learning is rapidly becoming one of the most important and widely discussed issues in contemporary education policy. To this extent, developed countries in Europe and America have made legislative provisions on the imperative use of ICT in the instructional process (Brittain, 1988). Consequently, there

has been a staggering amount of research related to the use of ICT for educational purposes in these developed nations. Today, nearly everyone in these countries gains access to Information and Communication Technology (ICT), and the purchases of computers for school use in such countries as the United States of America has been increasing in such a pace that it is difficult to keep track of how many computers there are now in American Schools (Harper, 1987).

A survey reported by Becker (1986) on the instructional uses of computers in United States public and private schools suggested that over one million computers were in American elementary and secondary schools and that more than fifteen million students used them during 1985. The report also says that more than half-a-million teachers used computers for instructional purposes during the same period and half of American secondary schools owed at least fifteen computers each. Considering the fast pace of ICT in the last twenty years in Europe and America, the figures reported by Becker (1986) must have risen astronomically by now. According to Thomas (2003), the story in Britain is basically the same as that of the USA. This country has been able to keep such a pace as a result of government funding through the local Education Authorities and the Education Reforms Act of 1988 that compelled the central government to make budgetary provision for ICT.

Although the developing countries including, Ghana have become aware of the invaluable role of ICT in effective teaching and learning, they have not been able to make significant progress in improving education through this medium. In Africa, concerted efforts have been made by many governments including Ghana to initiate internet connectivity and ICT training programmes. Such programmes are expected to link schools and libraries around the world to improve education; enhance cultural understanding; develop vital skills of creativity; problem-solving and independent thinking which the youth need for survival in the global setting.

From the early 1990s, education stakeholders in Ghana have been concerned about how teachers and students use computers in schools and how their use supports learning. In 2004, the Parliament of Ghana passed into law Ghana's ICT for Accelerated Development (ICT4AD) policy, which is currently at various stages of implementation. This policy represents the vision of Ghana in the information age and addresses 14 priority focus areas including accelerating human resource development and promoting ICT in education.

Efforts are gradually being made to provide educational institutions with computers and to encourage ICT as an integral component of the educational process so as to meet the demands and challenges of globalization. Information and communication technologies (ICT) do not "automatically add quality to teaching and learning. It is possible to use [them] for trivial purposes, to waste students' time … or even worse,[use them]for destructive or immoral purposes or to entrench differences" (Dellit, 2002, p. 56).

It is for the above reasons that the role of the teacher is very important in rolling out this innovation. This is because teachers are at the centre of curriculum change and they control the teaching and learning process. Therefore, they must be able to prepare the young generation for the current technology in which the competency to use ICT to acquire and process information is paramount (Plomp et al., 1996). Education in the 21st century requires teachers to be at the cutting edge of knowledge. There is the need to

consider teachers perception towards ICT and how they use ICT in their teaching processes. Woodrow (1992) asserts that any successful transformation in educational practice requires the development of positive user attitude towards new technology. The development of teachers' positive attitudes toward ICT is a very significant factor not only for increasing computer integration, but also for avoiding teachers' resistance to ICT use (Watson, 1998).

Problem

The emphasis on integration of ICT into all subjects in Ghanaian schools has become more urgent considering the prevailing teacher-dominated approach to schooling and teaching in the country. Learning is largely passive and products of the schools are rated low in creativity, critical thinking and problem-solving, apparently, because the schools have failed to develop such skills in students. Teachers who are supposed to be effective agents of ICT integration at times are unable to integrate ICT in their teaching for a number of reasons. The History teacher in the Ghanaian second cycle schools is no exception. In the words of Zhao, Pugh, Sheldon and Byers, (2002, p. 511) "…teachers need to know the affordances and constraints of various technologies and how specific technologies might support their own teaching practices and curricular goals. They also need to know how to use technologies".

For the achievement of full ICT integration into all subjects particularly History, there is the need to find out the reasons why History teachers are unable to integrate ICT in their teaching. Much of early research on ICT use in education has ignored teachers' perception toward ICT. Such studies only focused on ICT and their effect on teacher's competence; thus overlooking the psychological and contextual factors involved in ICT applications. It must be stated that History teachers' perception toward ICT is also related to their ICT competence because according to Rogers (1995), peoples' perception toward a new technology are the key element in its adoption. This suggests that studies at the early stages of ICT integration should focus on teachers or the end-users' perception toward ICT. There are a number of ICT applications that can be used in instruction for the benefit of History students. These include word processing, spreadsheet, presentational software, database, graphical application, drills, simulation, search engines and others. According to Harris (2002), schools with good ICT resources achieve better results than those that are poorly equipped. There is the need to find out which of the ICT applications History teachers use and the reasons behind their usage.

The level of proficiency in the use of the above mentioned ICT applications also determines the level of integration and consequently, its benefit to History students. Depending on teachers' background, interest, and other factors, teachers have varied level of self efficacy with regards to ICT usage. It is, therefore, important to harmonize the level of self efficacy of History teachers in ICT usage to an appreciable level for the purpose of meaningful ICT integration. As History teachers begin to use ICT, they are likely to be faced with challenges. Gulbahar and Guven, (2008) pointed out some of the barriers to ICT integration and they included insufficiency of teachers' technical knowledge to prepare materials based on technology; inadequacy of ICT courses offered to teachers; mismatch between ICT and the existing curricula; class-time frame and lack of incentives for encouraging technology.

Against the background of these challenges, it will be expedient that there should be the design of effective professional development that focuses on enhancing History

teachers self efficacy in ICT integration. According to Hinson, Caldwell and Landrum, (1989), one- shot seminars for professional development are not effective and should be avoided.

Because of the potency of ICT to improve education and ameliorate most of the ineffectiveness in the schooling process in Ghana, it becomes necessary to investigate History teachers' perception and their usage of information and communication technology to improve teaching and learning of History. It is hoped that the descriptive information that will be revealed by the study would guide policy makers as to the way forward for ICT integration into History by Ghanaian Senior High School History teachers.

Research Questions
1. What are History Teachers' Perceptions about ICT Integration into History teaching?
2. Which ICT Applications do History Teachers Use?
3. What are History Teachers' purposes of using ICT tools?
4. What are History Teachers' Perceptions of Self-Efficacy in Relation to ICT Usage?

Literature Review
Teachers' perceptions about ICT integration into history teaching

ICT integration in schools is needed in order to accomplish many objectives and improve the quality of lessons in all subject areas including History. History is one of the subjects that is being taught in the Ghanaian second cycle institutions. History according to Murray as cited by Haydn (2001), is the narration of the lives of men and the times in which they lived and what they did in the situation that faced them. Generally, History is the study of important past events, people and places. According to Masterman and Sharples (2002), History must be seen as a distinct form of knowledge because it is not only concerned with collecting and memorising discrete facts about historical events or people, but it requires the understanding of a number of complex processes which are specific to the subject. This complex processes involve reconstructing historical events using a range of evidence, which can be incomplete, inconsistent and at times, difficult to interpret.

History is considered to be part of liberal arts subjects studied in Senior High Schools. Liberal education according to Woodrow as cited by Haydn (2001), is an approach to learning that empowers individuals and prepares them to deal with complexity, diversity, and change. It provides students with broad knowledge of the wider world as well as an in-depth study in a specific area of interest. Liberal education helps students to develop a sense of social responsibility, as well as strong and transferable intellectual and practical skills such as communication, analytical and problem-solving skills, and a demonstrated ability to apply knowledge and skills in real-world settings.

The study of History helps a group of people to be aware of their past. This knowledge of the past will shape their movement into the future. The primary aim of History teaching in Africa, according to Murray as cited by Haydn (2001), is to put the African child into the stream of History from which he has been absent for so long. When students are introduced to their heritage, the hard won experiences of the parents are acquired and with it, an appreciation of difficulties experienced by the parents and the respect for their successes chalked. This makes students understand the present as most of

the current issues in the society have their causes rooted in the past. History, again builds patriotism in the present generation because they come to appreciate the heroic deeds of their forefathers or ancestors.

Considering the importance of History to every society, it becomes expedient to find ways of promoting its learning using whatever means available. Research shows that ICT can be used to promote the teaching and learning of History. According to Brown and Purvis (2001) ICT provides opportunities for the teaching of historical enquiry, including the generation and testing of historical hypotheses and problems, as opposed to only learning historical facts. ICT can be used to help students of all ages to develop the knowledge and skills that History demands. It provides students with the opportunities to:
1. Select and reproduce sources in a range of media.
2. Contextualise and interpret sources.
3. Reconstruct and simulate historical events.
4. Construct narratives.
5. Identify patterns in large quantities of data.
6. Develop, organise and communicate historical thinking.

ICT applications used in history teaching

Many writers with an interest in the use of ICT in History argue that the word processor can be a powerful tool in developing pupils' History skills (Haydn, 2001). Word processing was found by Ofsted to be the most common form of ICT use in History in schools, and its potential to develop historical thinking was also identified (Ofsted, 2002). The word processor can help pupils to organise their historical thinking, analyse and interrogate sources and structure their writing. Prior and Johnas cited in Ofsted (2002),describe the benefits of using a word processor to facilitate 'revelatory writing'. Here, pupils participate in historical writing and interact with its content, enabling them to take control of their own historical writing, and providing opportunities for developing different writing styles.

Hypertexts are documents which contain links within the text; clicking on these links with a mouse takes the reader to another part of the document, or to a new document, containing related information. In the context of History, this allows pupils to be guided through a 'multiplicity of narratives', enabling them to weave together a variety of sources in order to create their own analyses and interpretations of historical events and decisions. This also has the effect of highlighting to pupils the importance of interpretation as a process in the study of History (Brown, 2001). Nichol, Watson and Waites, (2003), found that using hypertexts to study historical sources offered several advantages, including the fact that pupils could very quickly and easily move from one source to another, and that they were not restricted to a limited number of sources to investigate. In their study, pupils were found to be impressed with the logic of the hyperlinked structure.

The ability to store large amounts of data, together with the sophisticated manipulation features of databases, allow History pupils to look for patterns in data, frame hypotheses, and place smaller narratives about specific events, people and decisions, within wider historical contexts (Martin, 2003). Using the database to perform low-level tasks such as sorting and ordering data, allow the pupils to concentrate on

higher-order thinking, about the patterns they wish to look for and the information they want to extract (NCET, 1998).

Encouraging discussion and debate between pupils is seen as an important technique for developing pupils' historical thinking and understanding (Wellman & Flores, 2002). Computer-mediated communications (CMC) can bring added value to such discussions. Thompson and Cole (2003) found that when asked to discuss historical issues via an online message board, pupils quickly realised that in order to win their argument, it was necessary to carefully select evidence to support their views, which in turn required them to be specific and analytical. Pupils were also found to have improved their writing skills, along with their ability to express ideas, use historical thinking and compare historical sources (Wellman & Flores, 2002; Thompson & Cole, 2003). Teachers have also been found to benefit from online discussions, through the ability to identify pupils' misconceptions and evidence of poor historical thinking, which might not necessarily have been noticed in the classroom (Thompson & Cole, 2003)

Preparation in advance is critical when using the ICT for historical research (Hennessy, Harrison and Wamakote, 2003). ICT use in History teaching is most beneficial when coupled with effective teacher intervention, to ensure pupils learn at a good pace and can concentrate on the History, rather than aspects of the ICT (Munro, 2000).

Pupils need to be taught how to interpret information and make judgements and inferences about it, in order to make historical research using electronic sources more effective(Moore, 2000; Hennessy et al., 2003).

Purposes of using ICT tools in teaching history

The use of ICT in schools should have a positive impact on students in terms of supporting their learning and providing them with relevant technological literacy.When ICT is used to support learning, it is intended that this should increase the engagement of students and in most cases, increase their independence, so that students are not only required to use ICT competently but may also be required to adjust to changes in their role. That is, using ICT has implications for students beyond their ICT literacy into their perceptions of and preferences for their roles as learners.

There are numerous researches showing the benefits of ICT integration into History to students. According to Hennessy et al., (2003) ICT helps to alleviate the constraints of writing and allows pupils to concentrate on the specific topic for discussion. This does not only save time, but also encourages reflection, analysis and understanding.

Again, using databases to work with large volumes of historical data can help pupils to look for patterns, frame hypotheses, question accepted theories and place events into wider contexts (Martin, 2003; TTA, 1999a). It also helps in the cross – checking of historical facts in order to do away with distortions, exaggerations and biases.

Moreover, digital video can provide students with a model for gathering oral History before they conduct their own oral History interviews, allowing them to develop and retain the required skills more effectively (Wolfrum, 2001). These clips can be stored in a database for other students to use. Furthermore, ICT and multimedia fit well because of the multi-source nature of History. Multimedia can give a 'total picture' and can allow pupils to integrate evidence into their work. (Brown & Purvis, 2001)

More so, the use of computer-mediated communications (CMC), including online discussion groups, enable students to better develop and communicate historical arguments, thinking and understanding, and these skills can be transferred to essay writing (Thompson & Cole, 2003). Again, the use of hypertexts (documents embedded with hyperlinks) to investigate sets of historical documents and sources can help develop pupils' understanding and interpretation skills (Nichol et al., 2003; Brown, 2001), and allows pupils to see connections between historical issues.

Computer simulations allow complex historical processes to be represented in a more dynamic way, and allow students to gain a better understanding of how key decisions in History were affected by the environment and the pressure of time (Taylor, 2003). In fact, the use of ICT promotes collaboration between pupils and can contribute to the development of historical thinking and other social skills like teamwork (Brown & Purvis, 2001).

Perceptions of history teachers' on self-efficacy in relation to ICT usage

Self-efficacy can be best defined as the individuals' judgments of their abilities to execute certain and conditioned courses of behaviour/s or to complete specified tasks (Bandura, 1997). Simply described, self-efficacy determines whether tools and capabilities are necessary

to accomplish specific tasks (Cassady, 2000). Current theoretical approaches to the integration of technology acknowledge that learners' computer knowledge, experience and expertise do impact on their perceived self-efficacy.Apart from the strategy of introduction of ICT, some confusion is found about ICT competences to be acquired by teachers. Hogenbirk (2006) points out that the ICT competences of teachers should support the following educational goals: making teaching flexible, creating individual learning paths, enhancing the possibilities of part time education, creating rich learning environments, trying out new teaching concepts, intensifying interaction teacher – students, supporting collaborative learning, motivating students, preparing students for life-long learning, enhancing the effectiveness of teaching, costs reduction, enhancing the attractiveness of the profession of teachers. Simon and Rubens (2003) mention stimulating creativity, possibilities for contacts between experts and students, stimulating students, making learning processes transparent, stimulating learning to learn, developing competences of students.

Kirschner et al. (2003) made an overview of the professional competences of a teacher. With respect to ICT they formulated:
- personal ICT competences: teachers in training should have basic skills in Office applications and applying these skills in communication
- ICT as mind tool: teachers should be able to use applications to support meaningful thinking and working
- ICT as pedagogical tool: teachers should enhance their knowledge, skills and experience in resource based learning and collaboration in digital environments
- ICT as teaching tool: teachers should know the educational possibilities and impossibilities of ICT
- social aspects of the use of ICT: teachers should not only be aware of ICT but also deliberately use ICT.

In a review study a year earlier, Van Eck et al. (2002) also mentioned the following ICT competences: the use of hardware; the use of software; the use of ICT in

the learning process and the coaching of the students; the use of ICT in the neighbourhood of the teaching; the use of ICT in further professionalization. A related research by the department of Education and Training of Western Australia on the Evaluation of the Information and Communication Technology (ICT) Knowledge and Skill Levels of Western Australian Government School Teachers revealed that teacher usage of the ICT applications varied widely. The basic suite of ICT applications used by more than 95% of teachers is comprised of word processing, Internet, email and file navigation. Sixty five percent of teachers have used both spreadsheets and presentation software. Only 30% of teachers have ever used a database. The application that most teachers are familiar with is word-processing. Most word-processing skills can be carried out by the majority of teachers (71% and above can do all tasks except two). Setting up styles and using mail mergeare the two word processing tasks undertaken by the fewest teachers (at 59% and 28% respectively). Most teachers can navigate to known websites and do basic searches. Altering browser preferences (34%), downloading and installing software andplug-ins (39%) and conducting complex searches (39%) are the Internet tasks carried out by the least number of teachers. The result indicates a low competence level in database use, complex searches on the internet and software installation.

Undoubtedly teachers need to acquire knowledge and skills in both software and hardware in order to effectively integrate technology in their instruction. However, other researchers believe that something else other than teacher ICT competence influence technology integration and that is, how teachers perceive and accept the idea of technology integration.

Methodology

Descriptive research design was adopted for this study.A census of 67 history teachers from both kumasi and Cape Coast metropolis were involved in the study . This was made up of 49 male history teachers and 18 female history teachers. According to Nwana (1992, p.133), questionnaire is used "if the respondents cannot give information in the project unless complete anonymity is guaranteed….and the respondents are literates….." These reasons are in the direct correlation to this study, hence, the choice of questionnaire as the instrument, which was test for reliability at a Cronbach alpha of 0.83 which indicate a high reliability. Items in the questionnaire were measured on closed-ended Likert scale varying from 3 to 6 points. Data analysis was done with the predictive analysis software (PASW) and the statistical tool used in analyzing the data was simple percentages.

Results and Analysis
Demographic Information

This section covers the distribution of respondents' age, sex, teaching experience and possession of computer. It is important to know a little biographic data about our respondents and Table 1 specifically looks at the ages, gender, location and the type of school of the respondents.

Table 1

Characteristics	Frequency	Percentage (%)
Age (n=67)		
Below 30 years	20	29.9
30- 40 years	32	47.8
Above 40 years	15	22.4
Gender (n=67)		
Male	49	73.1
Female	18	26.9
Location (n=67)		
Kumasi	43	64.2
Cape Coast	24	35.8
Status of school (n=67)		
Government Assisted	53	79.1
Private	14	20.9

From Table 1, 20 of the respondents representing 29.9% were below 30 years. Thirty two respondents representing 47.8% were aged between 30 and 40 years whiles 15 respondents representing 22.4% were above 40 years. The data from Table 1 clearly shows that History teachers in the two Metropolises (Kumasi and Cape Coast) are predominantly youthful. It is hoped that History teachers in the two Metropolises will be in better position to see the need to integrate ICT into teaching as theorized by Rogers (1995) and Jennings &Onwuegbuzie (2001) that people who are innovative and quick to adopt new technologies tend to be younger and better educated.

On respondents' gender distribution, 49 respondents representing 73.1% were males while 26.9% were females. It indicates that the teaching of History in the two Metropolises was dominated by males. Forty three History teachers representing 64.2% reside in the Kumasi Metropolis while 24 respondents representing 35.8% reside in Cape Coast. This is partly because there are more Senior High schools in Kumasi compared to Cape Coast. Finally, 53 respondents representing 79.1% were History teachers in government assisted schools while 14 respondents representing 20.9% were History teachers in private schools. This is because there are comparatively fewer private Senior High Schools in the two Metropolises.

The next table captures information on respondents' years of experience, ownership of computer and period of ownership. This is very important information that is likely to help us understand how history teachers will fare in integrating ICT into their subject. The information is presented Table 2.

Table 2

Characteristics	Frequency	Percentage (%)
Years of Experience (n=67)		
Below 5years	11	16.4
5 to 10 years	32	47.8
Above 10 years	24	35.8
Ownership of Computer (n=67)		
Yes	51	76.1
No	16	23.9

Period of ownership (n=67)		
One to two years	15	29.4
Three to six years	27	52.9
Above seven years	9	17.6

The information presented in Table 2 shows that, History teachers with teaching experience between 5 to 10 years outnumber all other group of teachers representing 47.8%. Eleven respondents had less than 5 years teaching experience representing 16.4% while 24 respondents had over 10 years teaching experience representing 35.8%. On the whole, History teachers in the catchment area are fairly experienced. According to Chio (1992), in his work - Attitudes toward and knowledge of microcomputers used for instruction among commercial high school teachers in Korea, he found out that experienced teachers in the study had more positive attitudes toward computers, had less computer literacy skills than the younger teachers. It is, therefore, expected that respondents' level of experience will reflect in their ability to see ICT as a powerful tool for the profession as revealed by Chio (1992).

Fifty one History teachers representing 76.1% had their own personal computers whiles 23.9% lacked personal computers. In his work, Roussos (2007) , found that computer ownership had a significant effect on the participants' computer attitudes. This is relatively good for the purpose of integrating ICT into the teaching of History. Out of the 51 History teachers who had their personal computers, 15 respondents representing 29.4% had owned their personal computer for a period between 1to 2 years. Twenty seven respondents representing 52.9% had owned their computer for a period between 3 to 6 years. Nine respondents representing 17.6% had owned their computer for a period above seven years. The average period of ownership of personal computer is 3 years. Even though it is not bad, a lot need to be done to increase the figures.

Research Question 1: **What are History Teachers' Perceptions about ICT Integration into History teaching?**

It is known that perception of something informs behaviour towards it. It is, therefore, in this direction that I sought to find out History teachers perception towards ICT. The result of their perception is presented in Table 3**.**

Table 3: History Teachers Perception towards ICT

Teachers' Perception	Agree Freq (%)	Neutral Freq (%)	Disagree Freq (%)	Total Freq (%)
ICT makes teaching more effective	63 (94.0%)	3 (4. 5%)	0%	66 (98.5 %)
ICT helps to meet the varying needs of students	54 (80.6%)	10 (14.9%)	2 (3.0%)	66 (98.5%)
ICT helps in organizing professional tasks as a teacher	56 (83.6%)	8 (11.9%)	2 (3.0%)	66 (98.5%)
ICT improves students collaboration	59 (88.0%)	6 (9.0%)	1 (1.5%)	66 (98.5%)

ICT improves students motivation	57 (85.1%)	7 (10.4%)	2 (3.0%)	56 (98.5%)
ICT improves students learning outcomes	59 (88.0%)	6 (9.0%)	2 (3.0%)	67 (100.0%)
ICT increases the interest of students toward courses	53 (79.1%)	12 (17.9%)	2 (3.0%)	67 (100.0%)
ICT increases teachers productivity	57 (85.1%)	8 (11.9%)	2 (3.0%)	67 (100.0%)
ICT helps to makes effective use of instructional time	54 (81.0%)	9 (13.0%)	3 (4.5%)	66 (98.5%)

From the data presented in Table 3, 63 respondents representing 95.6 % believe ICT makes teaching more effective, 54 respondents representing 80.6 % believe ICT helps to meet the varying needs of students and 57 respondents representing 85.1% believe ICT increases their productivity.

 One can clearly see that respondents had fairly good perception towards ICT and as suggested by Cope and Ward (2002) in their work 'Integrating learning technology into classrooms: the importance of teachers' perceptions', perceptions of ICT are likely to be crucial in their successful integration, in that an individual's perception is pertinent as it is likely to influence the human behavior.

The results showed that History teachers believe that ICT will bring them and their students' advantages, in that ICT makes their teaching effective, possible to attend to the varying need of students, motivate their students, promote collaboration among students, enhances students' interest and increases teachers' productivity.

Research Question 2: **Which ICT Applications do History Teachers Use?**
Any positive impacts of ICT on the teaching of History depend on the identification of appropriate ICT applications and ways in which it is used.Improvements in teaching and learning of History will inevitably be reliant on the capacity of teachers to use ICT applications as an effective pedagogical tool in the pursuit of particular learning objectives. The results of teachers' rate of usage of certain identified ICT applications are shown in Table 4.

Table 4: ICT Applications used by Teachers

ICT RESOURCES	At least once a month (%)	1 or 2 times a year (%)	Never (%)	Not available (%)
Computers in general	47 (70.1%)	9 (13.4%)	4 (6.0%)	7 (10.4%)
Word processing packages	36 (53.8%)	14 (20.9%)	13 (19.4%)	4 (6.0%)
Databases	24 (35.8%)	16 (23.9%)	22 (32.8%)	5 (7.5%)
Presentation software	26 (38.4%)	13 (19.4%)	21 (31.3%)	7 (10.4%)

Any Internet activity	24 (35.7%)	18 (26.9%)	15 (22.4%)	10 (14.9%)
Search engines for Internet	24 (35.7%)	14 (20.9%)	20 (29.9%)	8 (11.9%)
Hypermedia / Multimedia	19 (28.4%)	20 (29.9%)	20 (29.9%)	8 (11.9%)
Simulation programmes	27 (40.3%)	13 (19.4%)	20 (29.9%)	7 (10.4%)
Drill / Practice tutorials	28 (41.9%)	15 (22.4%)	19 (28.4%)	5 (7.5%)
Television/Video	30 (44.8%)	20 (29.9%)	14 (20.9%)	3 (4.5%)
Electronic Encyclopedia and/or Atlas	29 (43.3%)	18 (26.9%)	14 (20.9%)	6 (9.0%)

The analysis in Table 4 reveals that History teachers' usage of computer for general purpose had the highest monthly patronage representing 70.1% followed by word processing packages (53.8%), Television/ video (44.8%) and Electronic encyclopedia/Atlas (43.3%). Also Drill/practice tutorials recorded (41.9%), simulation programmes had (40.3%), Presentation software (38.4%), and Databases (35.8%). Furthermore, Internet activity had (35.7%), search engine for internet (35.7%) and finally hypermedia/ multimedia (28.4%).

ICT resource used by History teachers in at least two times a year are Television (29.9%), Hypermedia/ Multimedia (29.2%), Any internet activity (26.9%), Electronic encyclopedia/Atlas (26.9%) , Databases(23.9%) and Drill/Practice tutorials(22.4%) others are word processing packages (20.9%), search engine for internet (20.9%), simulation programmes (19.4%), Presentation software (19.4%) and computer in general (13.4%).

The percentage of ICT resources that are never used by History teachers are as follows Databases (32.8%), Presentation software (31.3%), search engine for internet (29.9%), Hypermedia/ Multimedia (29.9%), simulation programmes (29.9%), Drill/practice tutorials (28.4%) and any internet activity (22.8%). Others are Electronic encyclopedia/Atlas (20.9%), Television/video (20.9%), word processing packages (19.4%) and computer in general (6.0%).

Some teachers were unable to determine the I CT resources they use. Even though History teachers had positive perception about ICT, yet this perception was not equally reflected in their use of ICT tools. ICT application like Microsoft word that is deemed very important in the teaching of History (Haydn, 2001) was not adequately exploited. This indicates that a lot need to be done to inculcate into History teachers the potentials of these ICT applications in their teaching.

Research Question 3: **What are History Teachers' purposes of using ICT tools?**

The intent of an action is of much importance just as the action itself. In this section, I sought to find out History teachers purposes of using ICT in teaching. The result is clearly depicted in Table 5.

Table 5: Purpose of ICT Usage

Purpose of ICT Usage	Weekly (%)	Monthly (%)	Occasional (%)	Yearly (%)	Never (%)
Building Content.	16 (23.9%)	2 (3.0%)	29 (43.3%)	6 (9.0%)	14 (20.9%)
For communication.	26 (38.8%)	6 (9.0%)	23 (34.3%)	3 (4.5%)	9 (13.4%)
Teaching and instructional support.	21 (31.3%)	2 (3.0%)	17 (25.4%)	7 (10.5%)	20 (29.9%)
Personal development.	31 (46.3%)	3 (4.5%)	19 (28.4%)	3 (4.5%)	11 (16.4%)
Discussion forums.	11 (16.5%)	7 (10.4%)	19 (28.4%)	6 (9.0%)	24 (35.9%)
Instructional Films (video, CD, VCD)	12 (17.9%)	10 (14.9%)	25 (37.3%)	4 (6.0%)	16 (23.9%)

According to Goddard (2002), there are increasing number of computers being used at home and an increasing number of technological devices available to schools. The main purposes of using ICT in education according to the European Commission (2005), are management, teaching and learning facilities.

Using five point-Likertscale, respondents showed their purposes of using ICT during instruction. On weekly basis, 23.9% of the respondents use ICT for building content, 38.8% for communication, 31.3% for teaching and instructional support. For monthly usage; building content and teaching and instructional support had 3.0%; personal development accounted for 4.5%; discussion forums accounted for 10.4% and instructional films accounted for 14.9%.

Some respondents declared that they do not use ICT for any of the -aforementioned purposes. There were 20.9% for building content, 13.4% for communication, 29.9% for both teaching and instructional support and discussion forums, 16.4% for personal development and 23.9% for instructional films.

The results, affirm Guha (2000) points that teachers use computers for different purposes and objectives which include instructional purposes while others use them for both personal and instructional goals.

Research Question 4: What are History Teachers' Perceptions of Self-Efficacy in Relation to ICT Usage?

History teachers' perception of self- efficacy will help to determine how these teachers are comfortable with ICT. This knowledge will go a long way to help in planning appropriate professional development in that regard. The result of History teachers' perception of self- efficacy is depicted in Table 6.

Table 6: History Teachers Perception of Self- Efficacy

Perception of self efficacy	Agree Freq %	Neutral Freq %	Disagree Freq %	Total Freq %
I don't use computers as much as other resources like books, atlases.	51(76.1%)	3 (4.5%)	13 (17.9%)	67 (100.0%)
I know what to do for using computers in instructional environments.	47(70.2%)	9 (13.4%)	11 (16.4%)	67 (100.0%)
I am aware of the opportunities that computers offer.	63 (94.0%)	2 (3.0%)	2 (3.0%)	67 (100.0%)
I can answer any question my students ask about computers.	35 (52.2%)	5 (7.5%)	27 (40.3%)	67 (100.0%)
I am not sure that I am computer-literate for use computers in my class.	30 (44.8%)	6 (9.0%)	31 (46.3%)	67 (100.0%)
I think that I can use ICT in class activities more effectively.	43 (64.2%)	10(14.9%)	14 (20.9%)	67 (100.0%)
I can use ICT tools like e-mail, forum and chat to make communication with my colleagues and students easier.	51 (76.2%)	5 (7.5%)	11 (16.4%)	67 (100.0%)
I can use ICT tools like internet to easily reach instructional resources.	55 (82.1%)	5 (7.5%)	7 (10.4%)	67 (100.0%)
I can use ICT tools to prepare course materials.	51 (76.2%)	6 (9.0%)	10 (14.9%)	67 (100.0%)
It is hard for me to explain the use of computer applications to my students.	35 (52.2%)	7 (10.4%)	25 (37.3%)	67 (100.0%)
I can handle different learning preferences of my students using ICT.	41 (61.2%)	15 (22.4%)	11 (16.4%)	67 (100.0%)

The respondents used a three-point Likert-type scale to specify their perceptions of self efficacy on eleven (11) statements about using ICTs ($\alpha=0.64$).

The results showed that 17.9% of the respondents agreed that they used computers as much as other resources like books and atlases for instructional purposes while 76.1% disagreed and 4.5 were neutral. Forty seven respondents representing 70.2% agreed that they know what to do for using computers in instructional environment, while 16.4% disagreed and 13.4% were neutral. Sixty three respondents representing 94.0% agreed and are aware of the opportunities that computers offer, whiles 3.0% disagreed and were neutral.

Respectively, thirty five respondents representing 52.2% agreed that they could answer any question their students asked about computer while 40.3% disagreed and 7.5% were neutral. Thirty one respondents representing 46.3% agreed that they were computer literate for the use of computers in class whiles 44.8% disagreed and 9.0% were neutral. Forty three respondents representing 64.2% agreed they could use ICT in class activities more effectively day by day, whiles 20.9% disagreed and 14.9% were neutral. Fifty one respondents representing 76.2% agreed they could use ICT tools like email, forum, and chat to make communication with their colleagues and students easier whiles 16.4% disagreed and 7.5% were neutral. Fifty five respondents representing 82.1% agreed they could use ICT tools like the internet to easily reach instructional resources, while 10.4% disagreed and 7.5% were neutral. Fifty one respondents representing 76.2% agreed that they could use ICT tools to prepare course materials, whiles 14.9% disagreed and 9.0% were neutral. Twenty five respondents representing 37.3% agreed that they could explain the use of computer applications to their students, whiles 37.3% disagreed and 10.4% were neutral. Forty one respondents representing 61.2% agreed that they could handle different learning preferences and styles of their student using ICT, whiles 16.4% disagreed and 22.4 % were neutral.

The lack of confidence in the use of ICT in teaching History, as observed from Table 8, could be due to the fact that professional development opportunities are often unavailable, inconvenient, and/or inappropriate to their needs (Ivey, 2003). As a result, what Rogers (1995)termed the intrinsic enabler is missing in these teachers.

Discussion

On perception of history teachers towards the use of ICT, it was found that most of history teachers' have fairly good perception towards ICT.The findings suggest that History teachers believe that ICT will bring them and their students' advantages, in that ICT makes their teaching effective, possible to attend to the varying need of students, motivate their students, promote collaboration among students, enhances students' interest and increases teachers' productivity. The successful use of technology in the classroom depends to a large extent on the teachers' attitudes toward these tools. A positive teacher attitude is essential for successful implementation of the newly-introduced guidelines for technology integration in schools.

Also, the study shows that History teachers' predominantly use of computer is for general purpose, word processing, and viewing Electronic encyclopedia. Word processor appearing on the list is very good because it is a powerful tool in developing pupils' History skills. Television and videos were also used extensively by history teachers. From the study, respondents portrayed the use of ICT in teaching as being inherently advantageous. It came out clearly that History teachers' purpose of using ICT was much geared towards their personal gain than for instructional purposes. In order of priority,

history teachers use ICT for their personal development, communication, teaching and Instructional support, Content building and discussion. It is rather unfortunate that history teachers seem to downplay the relevance ICT in their work.

On history teachers' perception of self efficacy in relation to ICT usage, majority of them have high perception of self efficacy in that, they claimed they were aware of the opportunities that ICT offers. History teachers responded positively to the indicators of self efficacy in ICT.

Conclusion

Finding innovative ways of integrating ICT into history lessons is one of the challenges the 21st century history teachers face. Effectively integrating ICT into history is much more complicated than providing computers with internet connection. The integration of technology takes time; time to learn about the innovation and time to be adequately prepared to use it.

 Based on the findings of the study, it can be concluded that history teachers hold positive perception toward ICT in education, and have strong desire for integration of ICT into the teaching of history, but barriers such as lack of confidence, lack of competence and accessibility have been found to be critical components for technology integration in schools. ICT resources including software and hardware, effective professional development, sufficient time and technical support ought to be provided for history teachers.

History teachers need to adopt, develop and support an integrative pedagogic culture that develops supportive practices for students' and encourages teaching and learning activities. It should be linked to the development of life-long learning and professional practices that enable history teachers to keep in touch with ICT developments, new knowledge and research on teaching and learning.

Recommendations

For a meaningful integration of ICT into the teaching of History in all Senior High Schools in Ghana, the government through the Ministry of Education must make ICT infrastructure like computers, projectors, television, etc available. It is only when the infrastructure is available that we can dream about integration.

Secondly, it would be useful for Ghana Education Service (G.E.S.) to provide ICT knowledge in the form of modules so that all teachers especially History teachers would be able to integrate ICT into their lessons. The use of ICT materials in teaching should, therefore, be based on classroom research and provide excellent teaching ideas and activities for developing and strengthening students' concepts, skills and meta-cognition.

Moreover, merely providing schools with hardware, software and in-service training is not enough. Any in-service training needs follow-up support, peer coaching and peer dialogue to ensure successful use of ICT. The Ghana Education Service (GES) must make sure teachers are part of the decision making process with respect to the implementations of ICT innovations in schools, so that they become committed to the innovation with conviction.

Again, teachers, most especially History teachers, must realise that ICT is a powerful tool in their daily professional work. Teacher associations like Ghana National Association of teachers (GNAT) and National Association of Graduate teachers (NAGRAT) must conscientise their members about the role of ICT in education.

Furthermore, the role of internet in educating our future leaders cannot be overemphasised. As a result, Non Governmental Organisations (NGO) and other stakeholders like the Historical Society of Ghana must join hands to provide internet access to schools and teachers at affordable prices.

Finally, regional offices of Ghana Education Service (GES) need to establish localised resource centres to provide support for schools within the region. Easy access to databases of the available curricular resources and strategies would provide very useful information for communication among teachers in the region. Workshops for teachers and students in the region could be conducted to promote cooperative projects and sharing of experiences and expertise.

Suggestions for further research

A study must also be conducted among teachers from other levels of education to compare their responses with that of Senior High School History teachers.

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