

An Examination of the use of Technology in the Teaching of History: A Study of Selected Senior High Schools in the Cape Coast Metropolis, Ghana

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Abstract. This paper examines the state of the use of technology in the teaching of History in selected Senior High Schools in the Cape Coast metropolis. The study was modelled along the descriptive survey design with a sample size of 159, comprising 153 History students and 6 History teachers. The instruments used were the questionnaire and the interview guide. The findings revealed that technological tools such as computers, projectors, internet, and audio-visuals, can be employed in teaching History. Again, it was found that teachers have positive perceptions about the use of technology in teaching History. Students were also found to portray positive attitudes in class when technology is used in teaching. Finally, the study revealed that teachers face the challenges such as unavailability of technological resources, inadequate time, and lack of motivation, in their attempt to use technology in class. The study ends by recommending that in-service training sessions should be organized for History teachers as a way of exposing them to the types of technology and how to use them in teaching. Again, the education ministry should provide technological resources needed by schools, and heads of institutions should introduce incentives to motivate teachers to use technologically-oriented pedagogies for their lessons.

Keywords: Technology; History; Attitude; Perception

1. Introduction

The changing trend of the world has made technology a basic component of every human organisation. According to Amedzo (2007), the world has reached a stage where a person without basic computer knowledge finds it almost impossible to function properly in society. Today, mention of technology

generally conveys the idea of advancement, improvement, and progress, whereas the lack of technology stirs feelings towards a practice as archaic, ineffective, and awkward (Dunmire, 2010). Technological advancement over the years has led to significant and ubiquitous changes in human affairs - changes that hitherto were impossible or at least minimal. The agricultural sector, the health sector, the manufacturing sector, security agencies, among others have all witnessed progress precipitated by technology. This notwithstanding, progress in application of technology in the field of education has been slow (Afari-Kumah & Tanye, 2009). Vrasidas & McIsaac (2001) indicate that in rich industrialized nations like the United States, technology is abundant in schools and classrooms, but the situation regarding technology in schools is not the same in smaller countries. Africa, a developing region, for instance seems to be making lesser strides towards using technology as a means of instruction.

In Ghana, one area of concern regarding the use of technology is the educational sector. This sector seems to be lagging behind when it comes to integrating technology into teaching and learning. The situation in the second-cycle institutions is alarming as technological devices are mostly unavailable or insufficient. Improvement can however be seen at the tertiary level where “most universities are now moving away gradually from depending on lecture notes and textbooks only, to online courses and e-resources” (Afari-Kumah & Tanye, 2009, p.2). Ghana’s education policy makers over the years have attempted to encourage the use of Information and Communication Technology (ICT) in the classroom through educational reforms and other policies but these attempts seem to have lost their substance partly because “the commitment of government to the provision of infrastructure for ICT policy implementation has been minimal” (Amenyedzi et al, 2011, p.153). A close look at the Senior High School level shows that apart from the introduction of ICT as a subject, most teachers do not infuse technology into their classroom instruction. Nevertheless, the numerous subjects taught in our schools ranging from the Arts to the Sciences demand the incorporation of technology. History, one of the elective Art subjects in the school curriculum by nature requires that teachers become innovative in methodology.

1.1 Statement of the Problem

The nature of every subject informs the teaching methods, instructional resources, as well as the assessment instruments and procedures that teachers must employ in handling it. The kind of approach adopted by teachers in teaching their subjects has a great bearing on the extent of students’ like or dislike for that subject. The teaching and learning of History could be difficult as a result of its abstract nature. The consequence is that most students develop negative attitudes towards the subject. The perception of students about the subject is nothing short of it being described as dull and sterile, packed in content and lacking attractiveness, while others view it as a rote memorisation of facts and dates without any variations and innovations in the way it is taught and learned. Shane (2008) agrees with this opinion and contends that “unlike other subjects, such as mathematics and science, History/Social Studies provides a more static concentration of discourse without much variation in terms of

content from one classroom or school to the next" (p. 101). He adds that even as the form of presentation may vary, there is a basic component to the subject, which remains relatively consistent regardless of where it is taught and the person who teaches it. The situation demands that the subject is brought to life to facilitate understanding and to foster the interest of students in the subject. To achieve this, there is the need to use appropriate teaching methods as well as appropriate instructional resources to aid delivery. History teachers would have to be innovative by introducing new methods and resources into teaching the subject. As Field (2003) admits, History, like every national curriculum subject, has clear requirements to use technology but it seems that History teachers feel it a burden to make use of ICT. This implies that for a long time, History teachers have resorted to the old and dogmatic ways of teaching the subject without new technological innovations. As such more interest is being lost in the subject, and gradually, History is losing its place in Ghana's educational system.

1.2 Research Questions

The following research questions guided the study:

1. What types of technology can be used to teach History?
2. To what extent do SHS History teachers use technology in teaching History?
3. What are the perceptions of SHS History teachers on the use of technology in the teaching of History?
4. What are the attitudes of SHS History students when technology is used in History lessons?
5. What challenges do SHS History teachers face in using technology to teach History?

2. Review of Related Literature

This section reviews relevant theoretical and empirical issues underlying the study. The researchers identify and evaluate relevant previous studies related to the research. The theoretical review of literature focused on such issues as the meaning of technology, and the types of technology for teaching History. The empirical review of literature also looked at the extent to which History teachers use technology, perception of History teachers about the use of technology, History students' attitudes when technology is used in lessons, and challenges faced by History teachers in using technology in instruction.

2.1 Theoretical review

2.1.1 The Meaning of Technology

The term technology defies an all-embracing definition. Attempts at defining technology have had an unhappy history as researchers have had difficulty in coming to terms with the task of defining the concept (Rooney, 1996). Bijker et al (1987) contend that it is not necessary to devote a great deal of time and effort towards working out a precise definition of technology. They argue that the search for a precise definition is destined to fail because technology has no single meaning. This notwithstanding, few researchers have made the attempt to define the concept from their own viewpoints. For instance, Ayas (2006) defines technology basically as the process and tool by which humans modify nature to

meet their needs and wants and to make life easier and better. Hooper & Rieber (1995) contend that technology applies current knowledge for some useful purpose and uses evolving knowledge to adapt and improve the system to which the knowledge applies. Karve (2009) also conceptualizes technology as the knowledge of the manipulation of nature for human purposes. Technology influences and governs human behaviour, and impinges on societal behaviour, traditions and culture. As an entity that intervenes directly or indirectly in the life of human beings (Karve, 2009), technology could be seen as the use of human capabilities to satisfy peculiar needs or wants.

The advent of technology has led to remarkable developments in the field of education. The contribution of technology to the field of education has been variously described as educational technology (Adeyanju, 1999; Balogun & Abimbade, 2002). According to the Association for Educational Communications and Technology (AECT) (2004), educational technology is “the study and ethical practice of facilitating learning and improving performance by creating, using, and managing appropriate technological processes and resources” (p.1). In the views of Hooper & Rieber (1995), educational technology denotes the application of ideas from a variety of sources to create the best learning environment for students. This suggests that technology can be tailored to classroom instruction in order to create a supportive atmosphere that will enhance teaching and scaffold the learning of various subjects in the school curriculum.

2.1.2 Types of Technologies for Teaching History

A host of resources are available for teaching, courtesy the rapid changes in technology. Sofowora & Egbedokun (2010) contend that there are different kinds of technological resources that are useful for teaching Geography and History for that matter. These products of technology, according to them, include the internet, interactive digital television, video, web-based instruction, computers, and video conferencing. Fisher (2000) adds that “word processors, spread sheets, statistical packages, databases, simulations, teleconferencing, CD-ROMs, and the internet, can make History come alive in the classroom” (p. 49). Coupled with the above are other tools such as the braille and voice synthesisers for inclusive schools as well as projectors and audio resources. Grabe & Grabe (cited in Fisher, 2000) point out that computers offer the greatest potential for meaningful technology usage in History lessons.

Jenkins & Turpin (cited in Fisher, 2000) are also of the view that the internet is an unmatched tool and resource for teaching which when used with discretion, will be of immense value in the teaching of History. Audio resources can be used to play Historical speeches to stimulate interest and encourage learners to think critically about Historical events. Audio-visual resource like video, according to Oppong (2009), makes Historical events look real to students and thus reduces the abstract nature of History. Hypermedia or multimedia, presentation software, electronic encyclopedia or atlas, and simulation programmes are also important technologies for teaching History (Amengor, 2011). Powerpoint presentations for instance can be creatively used to link text, sound, movies and pictures to make Historical events vivid. The use of these technological tools

when combined with effective practical computer skills, may add a whole new dimension to the teaching and learning of History (Fisher, 2000), whose very nature is abstract.

2.2 Review of Empirical Studies

2.2.1 Extent to which History Teachers Use Technology

The use of technology in teaching various subjects has attracted the attention of many researchers and scholars around the world. A lot of studies have dealt with the topic and have come out with various results. A study conducted by Ruto & Ndaloh (2013) on the use of instructional materials for the teaching of History and Government in Kenya found that 62% of teachers in the study used textbooks frequently while 54% used maps. Again, 80% of the respondents are reported to have never used the radio in teaching History and Government in their schools with only 3% reporting frequent usage. These findings are corroborated by the results of a research conducted by Oppong (2009) which reported that apart from the History textbook, History teachers did not make use of other instructional and technologically oriented resources such as audio media, visual media and audio-visual media in History lessons. A similar study by Adeyinka (1989) also revealed that technology aids such as television and radio, slides, projectors, films and film-strips are either never used to teach History in majority of schools or only sometimes or rarely used in a few of them. The results of these studies show that the use of technological tools for instruction is an area which has not been explored by most History teachers. Likewise, a study by Yidana (2007) on teachers' level of technology adoption for instructional purposes revealed that 50% of participants were in the low technology users' category, 34.8% of participants were in the moderate technology users' category, while only 14.4% fell within the high users' category. This indicates that majority of teachers in the study were low-level users of technology, meaning they did not make extensive use of technological innovation in their teaching activities.

In a study on History teachers' use of ICT, Haydn (2001) revealed that few teachers claimed to make substantial use of ICT in their History lessons, while most respondents fell between 'some', and 'little' use. According to the study, all 42 respondents claimed to have used ICT at least once. Few teachers in the survey used computers in more than 10% of their History lessons, with the largest group falling between 1% and 5% of computer usage. In terms of the nature of computer use, responses indicated that computers were used much more frequently for researching information on Historical topics and the preparation of teaching materials than in the classroom itself. Almost all respondents said that they used television and video more often in the classroom than computers. Very few respondents, however, reported using ICT extensively for assessment purposes. Doppen (2002) also indicated in the results of a research that History teachers used computers for curricular and instructional purposes as well as administrative tasks, such as recording students' grades, and posting them on the Internet. Again, teachers in the study agreed on using technology to teach Historical thinking, multiple perspectives and Historical empathy. Studying the perspectives of social studies teachers on technology integration, Zhao (2007) reported that participants in the study

mentioned having used a variety of technology tools such as the overhead projector, television, video cassette recorder, and computers. Nine of seventeen participants noted that they used computers as a tool to facilitate presentation in their teacher-centered classrooms on a regular basis. Also, according to the study, while most participants mentioned using powerpoint presentations for lessons, others used Microsoft Word and then transferred information from the computer onto a television screen.

In another study by Gulbahar & Guven (2008), it was reported that teachers preferred printed materials, overhead projectors, television/video, radio cassette recorder, multimedia, computers and slide projectors for instructional aims. Again, teachers most frequently used computers to access information on the internet, communicate, do word processing and make slide presentations. Buabeng-Andoh (2012) examined teachers' skills, and practices of ICT in teaching and learning in Ghanaian second-cycle schools. The results of the study indicated that computer was almost always used by teachers, followed by the internet, with the least frequently used hardware being the overhead projector. Another study by Boakye & Banini (2008) on teachers' ICT readiness in Ghana indicated that 71% of teachers in the study did not use ICT in classrooms, 49% of teachers used ICT to prepare lesson notes, 55% of teachers had some knowledge of web browsing, 71% used email, and 78% made efforts to learn how to use the computer. The study concluded that most teachers were not prepared to integrate ICT into their teaching. In a summary of findings from integrated studies on educational technology, the United States Department of Education (2003) reported that 55% of teachers used technology frequently for instructional purposes, with 37% of teachers being less frequent users of technology for instruction while 8% reported no use.

The results of these studies indicate a somewhat low level of technology use among History teachers. This suggests that the conditions for effective technology use in History lessons are probably not in place, or History teachers are actually disinclined towards making extensive use of technology in their lessons.

2.2.2 History Teachers' Perception of Technology

Teachers are important elements in classroom interaction and their perceptions do have an impact on what they teach and how they teach it. Baylor & Ritchie (cited in Miima et al 2013) argue that the use of technology in the teaching and learning process depends to a large extent on teachers' perception, which is a key factor in determining their pedagogical practices. Gulbahar & Guven (2008) agree to this argument by contending that the attitudes and perceptions of teachers are major predictors of the use of new technology in instructional settings, and that these attitudes toward technology shape teachers' own experiences as well as experiences of the students they teach. Notwithstanding the powerful state of a particular technology, the extent to which it is implemented is determined by the attitudes its users have towards it (Huang & Liaw, 2005). This implies that the integration of technology into the curriculum is not likely to succeed without teachers' acceptance and commitment to

technology use (Zhao, 2007). The perception of teachers about the use of technology in lessons has been the focus of several researchers.

Amengor (2011) studied the perception of History teachers towards ICT in the teaching and learning of History. The study reported that 95.6 % of the respondents believed ICT made teaching more effective, 80.6 % believed ICT helped to meet the varying needs of students while 85.1% believed ICT increased their productivity. The results depict a fairly good perception towards technology. This is because the History teachers believed that the use of technology benefited them and their students as it made teaching effective, helped to meet the varying need of students, motivated their students, promoted collaboration among students, enhanced students' interest, and increased teachers' productivity. Studying the perceptions of Social Studies teachers towards the use of technology, Gulbahar & Guven (2008) reported that teachers believed that the use of technology will be of more advantage to them, but they lacked the basic skills of computer usage. The teachers also felt that their skills were lacking for other types of technology which could also be used as an aid in the classroom. Buabeng-Andoh (2012), explored teachers' perception of technology in giving instruction and revealed that majority of the respondents professed that technology can offer opportunities to teachers to obtain educational resources from the internet to enrich course content and also can improve the teaching and learning process. Again, majority of the respondents indicated that technology can enhance students' participation and feedback and also improve students' collaboration. The study concluded that teachers' perceptions on the application of technology in the teaching and learning environment was positive.

Reporting similar findings, Rampersad (2011) indicated that teachers perceived technology as an important motivational tool that encouraged them to be creative in their approach to teaching. Kandasamy & Shah (2013) analysed the knowledge, attitude and use of ICT among teachers and found that most of the respondents believed that computer is a valuable tool for teachers as it can change the way students learn in class. Again, respondents were of the view that the computer helps students understand concepts in more effective ways and also helps teachers to teach effectively. In another study by Miima et al (2013), teachers viewed technology as providing a rich environment for learners; providing valuable facilities to support student learning; assisting learners to access authentic current information; and making learning interesting due to learner involvement. The study however reported that most teachers felt the integration of ICT into teaching and learning was time consuming and delayed syllabus coverage. Other studies by Haydn (2001) and Enayati et al (2012) have established that teachers' have fairly positive views on the potential of technology to improve teaching and learning in History.

Largely, these findings give credence to the fact that teachers generally have a positive view about the use of technology in instruction and are willing to integrate technological resources into their teaching. As indicated, the way teachers perceive technology is crucial if technological integration into classroom

instruction is to be successful. It could therefore be said that History teachers who have positive perceptions about the usefulness of technology to teaching are likely to use more of such technology in their lessons. These positive perceptions must therefore be seen in teachers' meaningful adoption of technology in the teaching process.

2.2.3 Attitudes of History Students when Technology is used in History Lessons

Attitude, according to Volk et al (2003), is developed, and once established, can enable or inhibit further learning. It is difficult for teaching experience and preferred behavioural changes to be shaped in an environment where learners' attitudes are ignored (Ozdemir, 2012). Even though the development of positive attitudes in students is a difficult task, technology-based learning activities create an atmosphere of great engagement and dedication on the part of students which motivates even weak students to get involved in classroom tasks (Kassim et al, 2004). Turan (2010) points out that student mostly list History among their least favourite subjects. Similarly, Loewen (1995), argues that students view History courses as limited to reading the textbooks, memorizing facts, paying attention in class, and taking exams, giving them little or no chance for active participation (cited in Turan, 2010). This rather negative attitude towards the subject has led to a number of studies on technology-enhanced History education, which will hopefully change students' attitudes and increase their interest in the subject.

In a study on the attitudes of Turkish and American students towards technology enhanced History education, Turan (2010) reported that most of the Turkish and American students showed positive attitudes toward the use of educational technologies during History lessons. The students, according to the study, could focus and learn better when technological materials were used in classroom activities, and this increased their academic achievements. The findings of the study also showed that students could learn History better by watching a movie or documentary than they could by reading a textbook. The findings highlight the important place the use of technology, especially audio-visual materials, must take in fostering positive attitude towards History lessons. Doppen's (2002) study portrayed students' apparent liking for technology as most of them used computers often to learn about Historical events for the reason that it gave them a sense of control over their own learning. Also, students perceived the internet as an exciting way to learn History because it enabled them to search for information and tried to make sense out of the multiple sources they themselves found. Students could thus learn Historical events from multiple perspectives with the aid of the available technology. - Rampersad (2011) explored how students' interest, motivation and engagement in Modern Studies were affected by the integration of technology. The findings indicated that the use of technology helped to create more conducive learning environments for students learning. Again, technology was found to have served as a means of capturing students' interest which led to greater student involvement and engagement in lessons. According to the study, students were able to recall contents when technology was used since it incorporated the use of

concrete and real examples with which students easily identified. In a research conducted by Lavin et al (2011), students whose instructors used technology moderately or extensively in class were asked how the absence of technology would impact their learning on the course. Student responses indicated that the removal of technology from the class would have a negative impact on content learned in class, their attentiveness in class, their desire to take more lessons from that particular teacher, and their desire to take more lessons in the subject area. The study indicated that students who experienced technology in the classroom would rate a course less favorable if the technology was taken away. In that same study, students whose teachers did not use technology in class were questioned on how the addition of technology would impact their behavior. The responses suggested that courses that did not use technology could be improved by the introduction of technology into them.

The results of these studies imply that the use of technology in teaching, especially History lessons, is crucial in improving students' attentiveness and their desire to choose History courses ahead of other courses. In all, the studies show that students exhibit positive attitudes towards technology-enhanced lessons.

2.2.4 Challenges Teachers Face in Using Technology for Instruction

The application of a variety of technological approaches in teaching is crucial in enhancing teacher efficacy and improving students' learning. However, like any other endeavor, teachers are bound to face certain challenges in their attempt to integrate technology into their classroom activities. Raman & Mohamed (2013) observe that there are several obstacles that hinder the frequent use of technology among subject teachers. These obstacles include unavailability of infrastructure; lack of hardware and software; lack of access to the internet; lack of ICT competent teachers; insufficient training; resistance to change and insufficient knowledge possessed by teachers; lack of technical support; insufficient funding; and lack of appropriate ICT policies (Maholwana-Sotashe, 2007). According to Anderson (2008), most of these challenges arise as a result of the required changes that accompany the introduction of new technology into the classroom. In the view of Anderson, many educators feel that the onset of technology-based instruction is intimidating, intrusive, and aimed at replacing traditional modes of instruction. As such, identifying the possible challenges to technology integration in schools is an important step in improving the quality of teaching and learning and making teachers proactive adopters of technology in the future (Bingimlas, 2009)

Doppen (2002) examined the factors that affected History and Social Studies teachers' use of technology in classroom instruction and reported that the major barrier to the use of technology was teachers' own self-inefficacy. The study revealed that although the state of the technology infrastructure, whether optimal or inferior, did not appear to matter, it was the teachers' individual disposition that determined whether they integrated technology in the classroom or not. Haydn (2001) also revealed in a study that 30 out of 42 History teachers indicated lack of time to plan how to integrate computers into History

lessons as the most influential, and the most common barrier to ICT use. This was closely followed by difficulty in getting access to computers, and the pressure to cover curriculum content. Other barriers indicated by the respondents were lack of confidence or knowledge on how computers work; anxiety about classroom management implications of the use of computers; and ideological resistance to the use of computers. The ideological resistance, according to the study, was because most respondents did not believe that computers have much to offer in developing students' Historical knowledge and understanding. Amengor (2011) discovered that History teachers face numerous barriers which include insufficient time to prepare instructional materials using ICT; inadequate technical knowledge to prepare instructional materials using ICT; lack of access to computers, overhead projectors, printers and scanners; insufficient instructional software; absence of a reward system to encourage ICT usage; and deficiency in professional development opportunities for teachers.

A study by Vrasidas et al (2010) reported that 81.4% of the respondents viewed the length of the content to be covered as a barrier to technology use. Time constraint was another challenge indicated by 71.7% of respondents, while 53.5% cited unavailability of infrastructure. Again, 50.2% of participants reported lack of classroom support for teachers, 43.4% indicated lack of participation of teachers in decision making while 37% indicated the need for professional development. Another study by Miima et al (2013) revealed that both extrinsic and intrinsic factors hindered the adoption and use of ICT in teaching and learning. The results of the study revealed that all of the teachers lacked adequate time and therefore were reluctant to integrate ICT in their teaching and learning activities. Also, 89% of teachers lacked confidence, 100% lacked competence, while 78% reported resistance to change and lack of computer facilities in their schools. Kandasamy & Shah (2013) reported in a study on teachers' knowledge, attitude and use of ICT that 80% of the respondents faced the obstacle of inadequate time, 70% of the respondents agreed to limited knowledge on how to use technology, while 60% of them indicated limited understanding on how to integrate ICT into teaching. Moreover, 80% of the respondents revealed lack of software or websites that support teaching and learning. Nuuyoma (2012) explored the challenges faced by English language teachers in integrating ICT in the teaching of reading and writing. The results of the study revealed the following challenges: lack of teacher training; inability to operate ICT facilities; lack of ICT resources; lack of motivation from the school management; lack of parental involvement; and overcrowding in the classrooms. Adebi-Caesar (2012) in a study also reported three major barriers preventing the use of technology in Senior High School classrooms in Ghana. These barriers, according to the study, include lack of training in the usage of technology; lack of knowledge about computers; and the little or no previous experience in the use of technology.

The results of these studies are somewhat skewed to one direction. The literature indicates that insufficient time, unavailability of resources, lack of confidence, competence, technical support, motivation, as well as lack of institutional support are the major barriers teachers encounter in their attempt to integrate

technology into teaching. These challenges tend to thwart the efforts of teachers and educators towards a meaningful integration of technology into the classroom setting.

3. Methodological Considerations

3.1 Research design

This study is modelled along the descriptive survey design. The descriptive survey allows for the collection of data in order to test hypotheses or answer questions regarding the state of the subject of study (Gay, 1987). According to Fraenkel and Wallen (2000) information gathered from the descriptive research is useful in diagnosing a situation as it involves describing, recording, analysing and interpreting existing conditions. Creswell (2002) also notes that a survey study is useful in describing the attitudes, opinions, behaviours or characteristics of a particular population.

3.2 Population

The study was conducted in the context of three (3) selected Senior High Schools located within the Cape Coast metropolis. Specifically, the population comprised both History teachers and form two History students in the selected schools. The total population was 271, made up of 265 form two History students and 6 History teachers. The researchers chose form two students for the study on the basis that they had been exposed to enough topics in History and were also available to respond to the instruments. However, form one students were not used because they had reported to school not long ago and had barely completed any History topic. Form three students, on the other hand, were at the time of data collection, busy with their mock examinations and so could not make time to respond to the instruments.

3.3 Sample and Sampling Technique

The sample size for the study was 159 respondents, made up of 6 History teachers and 153 form two History students, representing 58% of the total population. This was in line with Krejcie & Morgan's (1970) suggestion that with a population of 271, a sample size of 159 should be chosen for the study. Since the number of History teachers was few, the researchers employed the census method to select all 6 History teachers from the selected schools. To ensure that the student sample of 153 is more representative of the student population in each school, the stratified sampling method was used to select 58% of form two History students from each of the schools, using each school as a stratum. In each school or stratum, the simple random sampling using the lottery technique was then employed to ensure a proportionate selection of the sample size from the schools. With this technique, the names of all form two History students in each school were written on pieces of papers and the desired sample was selected by picking the required number of papers. Students whose names were picked were those included in the sample. This together with the 6 History teachers made up the total sample size of 159 for the study.

3.4 Research Instrument

The mixed method is the chosen methodological philosophy underlying the study, and as such, both the quantitative approach in the form of questionnaires, and qualitative approach, by way of in-depth interviews were employed during the data collection. Students responded to the questionnaire while the teachers were interviewed. The questionnaire comprised four sections. Section A sought the biographic data of students while sections B, C, and D were structured to answer the first, second, and fourth research questions respectively. Apart from section A of the questionnaire, all the items were statements based on a 4-point Likert scale format. The structured interview guide was employed to interview the History teachers. The items were mainly open-ended, thus giving the respondents the opportunity to express themselves on issues covering all the research questions. This instrument was used for teachers because it enabled them to provide in-depth knowledge about various issues related to technology-aided instruction. The interviews also helped to crosscheck, verify and strengthen some of the data gathered from the students' questionnaire.

3.5 Data Collection Procedure

The researchers visited the selected schools and arranged for convenient days to administer the instrument. Before this, introductory letters from the department had been submitted to the Assistant Heads (Academic) of the schools to ask for permission to carry out the study. In order to explain the rationale for the exercise and encourage independent work, as well as ensure prompt and easy retrieval, the questionnaires were administered to the students by the researchers themselves. The respondents were allowed enough time to respond to the questionnaire, after which they were collected the same day. The return rate of the questionnaire was 100%. The History teachers were then interviewed separately and their responses recorded. Each interview with each teacher lasted for approximately 25 minutes. The interviews were conducted the same day the questionnaire was administered to students.

3.6 Data Analysis Procedure

The questionnaires were first numbered sequentially and the responses to the items were coded into numeric values from 1 - 4 for each item as follows; "Never" (1); "Occasionally" (2); "Often" (3) and "Very Often" (4). "Strongly Disagree" (1); "Disagree" (2); "Agree" (3) and "Strongly Agree" (4). These numeric values were fed into Statistical Package for Social Sciences (SPSS) version 18.0 to perform a descriptive organisation of the data into frequencies and percentages. Data obtained from the interviews were first transcribed into written text and analysed thematically by categorising responses in relation to the research questions raised, supported by verbatim extracts from participants. Inferences from literature and other relevant studies were drawn to support the findings.

4. Results and Discussion

4.1 Background Data of Respondents

It was necessary to consider the personal characteristics of the respondents in the study, as these inform the behaviour and attitudes of individuals. The

background data of students basically covered the distribution of respondents' sex and age. Data obtained from the student respondents are presented in Tables 1 and 2.

4.1.1 Table 1: Gender of Students

Gender	Frequency	Percentage
Male	61	39.9
Female	92	60.1
Total	153	100

The data in Table 1 show that most 92 (60.1%) of the students were female while 61(39.9%) were male. This is an indication that more females are gaining interest in taking History as an elective subject. It also proves that in the future, more female History teachers are going to be produced.

4.1.2 Table 2: Age Distribution of Students

Age	Frequency	Percentage
10-15 years	7	4.6
16-20 years	144	94.1
21- 26 years	2	1.3
Total	153	100

Table 2 shows that majority 144 (94.1%) of the students fall between the ages of 16-20 years. This is followed by the age range of 10-15 years with 7 (4.6%) of students falling into that category. The results clearly indicate that a greater majority of the students are relatively young which means that their intellectual faculties are developed enough for the study of a subject like History whose nature is abstract.

4.1.3 Gender of Teachers

In all, there were six (6) History teachers in the selected schools. Out of the six, three were male while the other three were female. This gives the indication that both males and females are equally interested in teaching the subject and that the teaching of History is no longer the preserve of male teachers.

4.2 What types of technologies can be used to teach History?

The research question was aimed at finding out the various types of technology tools or devices that could be used to enhance the teaching of History. The technology tools selected for the study were informed by the literature review on the types of technology for teaching History. This was done to determine whether or not respondents agree to the technology established by literature as essential in the teaching of History. Teachers responded to questions from the interview guide while students' responses were solicited from the questionnaire. The responses of students are presented in Table 3.

4.2.1 Table 3: Students' Views on the Types of Technologies for Teaching History

Technology tool/application	Strongly Disagree F (%)	Disagree F (%)	Agree F (%)	Strongly Agree F (%)
Computers	36 (23.5)	30(19.6)	50 (32.7)	37 (24.2)
Presentation software	54 (35.3)	39(25.5)	35 (22.9)	25 (16.3)
Projectors	50 (32.7)	35(22.9)	43 (28.1)	25 (16.3)
Television/Video	47 (30.7)	40(26.1)	34 (22.2)	32 (20.9)
Internet	34 (22.2)	27(17.6)	45 (29.4)	47 (30.7)
Electronic Encyclopaedia/ Atlas	35 (22.9)	28(18.3)	49 (32.0)	41 (26.8)
Audio/Audio-visual materials	41 (26.8)	27(17.6)	46 (30.1)	39 (25.5)

Observations from Table 3 indicates that majority 92 (60.2%) of students agreed that the internet can be used in teaching History; 90 (58.8%) agreed on electronic encyclopaedia or atlas; 87 (56.9%) of the students agreed on computers; while 85 (55.6%) agreed on the use of audio and audio-visual materials. Even though presentation software has been identified as a resource for teaching, majority 93 (60.8%) of respondents disagreed that it can be used to teach History; 85 (55.6%) disagreed on the use of projectors; while 87 (56.8%) disagreed to the use of television/video in the teaching of History. These figures show that in the view of students, the internet, atlas, computers and audio/audio-visual materials are the major types of technologies that can be used in teaching History. Again, the fact that students disagreed that presentation software, projectors and television/video can be used to teach History indicate that students are probably not aware of these technologies as having the potential of enhancing the teaching of History. This may be attributed to the seemingly low level of technological awareness that is highly characteristic of students at the lower levels of education in the country. Again, it is possible that students have not been exposed to such technologies at the beginning stages of education to be able to underscore their usefulness in History lessons.

From the interviews teachers indicated that there are different technologies available for teaching History. All six teachers identified computers as the most common technology for teaching History. Besides computers, mention was made of projectors, films, slides, and audio-visuals as some of the technologies for teaching. Highlighting the usefulness of audio-visuals, one teacher indicated that, "audio-visual materials whip up the interest of the students and they are able to understand lessons better than what is just in the History textbooks". Other teachers also acknowledged the importance of the internet as a major tool for accessing up-to-date information and also for correcting dates or years associated with events which are incorrectly produced in the textbooks. They also cited the atlas as an invaluable tool for the teaching of History, as some topics cannot be taught without making students aware of the geographical background in which such events occurred. In the view of the teachers therefore,

technologies such as computers, projectors, films, slides, audio-visuales, internet, and atlas enrich History lessons and facilitate teaching and learning.

These results point to the fact that both History students and teachers are aware of the types of technologies for teaching History, even though students responses were limited to a few of such technologies. This awareness confirms the position of Sofowora & Egbedokun (2010) that there are different kinds of technology resources that are useful for teaching Geography and History. The abstract and metaphysical nature of History demands that subject-teachers adopt contemporary approaches to make it relevant to students' lives and restore the interest of students in the subject. The need to bring the subject to life has led to the call to adopt a more technology-oriented approach to teaching the subject. Knowing the types of technologies to teach the subject therefore marks an important step in resuscitating the subject which is on the brink of collapse. As such, the views espoused by students and teachers relating to the applicability of various technology tools in History education lie in consonance with observations made by Amengor (2011), Fisher (2000), and Oponng (2009) that the internet, atlas, audio-visuales and computers are important tools that can make History come alive in the classroom and also reduce the abstract nature of the subject. Again, the fact that all six teachers identified computers as the most common technology for teaching History concurs with the views of Grabe & Grabe (cited in Fisher, 2000), who pointed out that computers offer the greatest potential for meaningful technology usage in History lessons. The findings suggest that both teachers and students understand the important roles the various technology tools can play in the teaching and learning of History. This understanding must therefore propel teachers to make a transit from the "chalk and talk" teacher-centered approaches to a more technology-driven, interactive, and student-centered methods of teaching History. If these technologies are to be meaningfully, utilised by teachers, a whole new dimension would be added to the teaching and learning of the History (Fisher, 2000).

4.3 To what extent do SHS History teachers use technology in teaching History?

This research question sought to find out from both teachers and students, how frequently teachers used technology in the teaching of History, and the various ways teachers employed technology in class. Also, it sought to inquire whether apart from using technology in the classroom, teachers employed technology for other educational purposes. The responses gathered from students are presented in Table 4.

4.3.1 Table 4: Students' Views on Teachers' Frequency of Technology Use

Technology tool/application	Never F (%)	Occasionally F (%)	Often F (%)	Very Often F (%)
Computers	109(71.2)	28 (18.3)	13 (8.5)	3 (2.0)
Presentation software	121(79.1)	21 (13.7)	5 (3.3)	6 (3.9)
Projectors	125(81.7)	14 (9.2)	7 (4.6)	7 (4.6)
Television/Video	112(73.2)	24 (15.7)	11 (7.2)	6 (3.9)
Internet	82 (53.6)	46 (30.1)	18 (11.8)	6 (3.9)
Electronic encyclopedia/Atlas	86 (56.2)	49 (32.0)	11 (7.2)	7 (4.6)
Audio/Audio-visual materials	97 (63.4)	30 (19.6)	17 (11.1)	9 (5.9)

It could be gathered from Table 4 that most teachers do not frequently make use of the various types of technologies in the teaching of History. From the Table, most 125 (81.7%) of respondents were of the view that teachers never used projectors for teaching, with only 14 (9.2%) indicating occasional use. Again, 121 (79.1%) of respondents indicated that teachers never used presentation software. This was followed by 112 (73.2%) and 109 (71.2%) respondents who agreed that teachers never used television/video and computers respectively in teaching History. Moreover, very few 26 (17%) of the students indicated that teachers used audio/audio-visual materials often while 30 (19.6%) reported occasional use. Again, 46 (30.1%) and 49 (32.0%) indicated the occasional use of the internet and electronic encyclopedia/atlas respectively, with only 24 (15.7%) and 18 (11.8%) indicating frequent use. The figures point to the fact that in view of students, History teachers rarely make use of available technologies in the teaching of the subject. This is enough evidence to suggest that History teachers are likely to resort to the so-called bad ways of teaching History which include the lecture method, note taking, reading round the class, and silent reading often followed by irrelevant questions (Crookall, 1975).

Data gathered from the interview with the teachers revealed that although teachers acknowledged the importance of technology, they did not use them, or used them sparingly because of various difficulties. On the issue of how often they used the various types of technologies for teaching History, the teachers were divided. While some claimed to make frequent use of the internet and computer, and occasional use of slides and videos, most of them admitted they never made use of any such technology device or application in teaching. The view of one participant lends credence to this, "...technology? No... In this school I don't go beyond the traditional methods of teaching". This view reinforces the idea that most history teachers feel it is burdensome adopting an array of instructional aids and methods in teaching the subject. It is for this possible reason that some teachers continue to hang on tenaciously to dogmatic methods or approaches that allow little or no space for student engagement.

However, with the high stakes in education and the continuous growth of knowledge, History teachers are presented with a much more arduous challenge to rise up to the challenge by revamping their teaching strategies and add new dimensions to their mode of delivery. When asked about how they employed technologies in teaching, teachers who used technology occasionally indicated that they used it to make presentations, demonstrations, explanations and also used them to arouse students' interest in lessons. This is in consonance with the findings of Zhao (2007) that some teachers used a variety of technologies to facilitate presentation and make demonstrations in their teacher-centered classrooms. The fact that the past is distant from the present and cannot be rolled back like a film to see the exact past actuality makes History teachers rely on their own understanding from what is mostly documented to give a somewhat blur picture of the past since they may not be contemporaries of most of the events they teach. The application of technology therefore presents a more convenient means of presenting historical information in real-life contexts thereby enabling students establish linkage with the past, appreciate the 'how' and 'why' of past happenings, develop historical consciousness and imagination, quicken the interest of the learners and motivate them to learn. This is because events are taught through well informed demonstrations, useful explanations and top-quality presentations. Also, on whether they used technology for any other educational purpose apart from teaching, all teachers indicated that they used the internet and the computer to record students' grades and also to keep the records of students. The foregoing suggests that History teachers used computers more outside the classroom and far less in the classroom.

The findings related to this research question indicate that most History teachers do not make use of technologies in teaching and even those who use them do so occasionally. This implies that History teachers are likely to rely heavily on the History textbooks and other resources that may not stimulate the interest of students. This concurs with earlier studies by Adeyinka (1989), Oppong (2009), and Ruto & Ndaloh (2013) that History teachers used textbooks frequently and did not make use of other instructional and technologically oriented resources such as audio media, visual media and audio-visual media in History lessons. The findings also fall in line with the study by Boakye & Banini (2008) which concluded that teachers were not ready to use technology in their teaching practices. Again, the fact that very few teachers indicated the occasional use of technology means that the extent of use among them is very low. This confirms the study of Yidana (2007) which found that teachers were in the low level category of technology users. On the use of technology for other educational purposes, the findings of the study are consistent with studies conducted by Doppen (2002), and Haydn (2001). The results of these studies showed that History teachers used computers for curricular and instructional purposes such as researching information on Historical topics and the preparation of teaching materials, as well as for administrative tasks, such as performing assessment, recording students' grades, and posting them on the internet. The results however contradict the findings of Buabeng-Andoh (2012), Gulbahar & Guven (2008), and United States Department of Education (2003) which reported that

teachers very frequently used computers and other technology tools for a variety of instructional purposes. This could possibly be as a result of the advanced areas in which these studies were conducted. These findings suggest that even though teachers used minimally technology for other educational purposes, they did not make frequent use of technology in teaching History. It could thus be said that teachers of History, to a large extent, do not employ technology in their teaching activities.

4.5 What are the perceptions of SHS History teachers of the use of technology in the teaching of History?

In addressing the research question, teachers' views were sought during the interviews, on various issues regarding how they perceived technology in the teaching of History. It was gathered from the interviews that teachers generally have positive perceptions of the use of technology in History lessons. All teachers shared a similar view that technology can make a difference in the teaching of History. The teachers believed that technology makes History more concrete and not abstract, making it easily comprehensible and more lively. This is seen in a remark made by a participant, "...compared to when I was in Secondary School, there was nothing like technology. The teacher wrote long notes and we copied the whole day... but this time, with technology, students can listen, and at times see things that happened in the past and I think this makes the subject more interesting and students get the understanding better". Participants also indicated that, with videos, students can easily recall events and make reasonable critique on them, make contributions and ask questions because they understand the issues better. One could thus say that technology helps to revivify the subject and makes it appeal to the intellect and emotions of students as well as equip teachers with resources to convey content knowledge in ways that are meaningful to students. This also reinforces the view that audio-visual materials can effectively communicate Historical information and thus cements the position of Oppong (2009) that audio-visuals make events look real to students and reduces the abstract nature of History. Adding to this, some teachers also believed there are certain biases and inconsistencies that are corrected by the use of technology aids.

There were also shared views among the teachers on whether technology enabled teachers to meet the varying needs of students. Some of the teachers indicated that since most students do not like reading chapters over chapters, the use of pictures or videos will help students with less reading skills and ability to grasp the issues well. This draws attention to the idea that students differ in their approaches to learning. The fact that students have differing learning styles demand that teachers adopt instructional methods and technology-oriented aids that cater for all learning styles in their presentation if they are to reach every student. This creates an enabling atmosphere for students of all abilities and learning styles to feel at home, develop their potentials and make sense of what is taught. This view therefore corroborates the idea of Kassim et al, (2004) that technology-based learning activities create an atmosphere of great engagement and dedication on the part of students which motivates even weak students to get involved in classroom tasks. This finding is

also in consonance with previous findings of studies conducted by Amengor (2011), Buabeng-Andoh (2012), Gulbahar & Guven (2008), Haydn (2001), Kandasamy & Shah (2013), and Miima et al, (2013). These studies reported that teachers saw technology as useful in meeting the varying need of students, motivating students, promoting collaboration among students, enhancing students' interest, enhancing students' participation, and helping students understand concepts in more effective ways.

With respect to whether technology improved teachers' motivation to teach History, all the teachers admitted that the use of technology is a motivational tool for them. One teacher's response was that "History itself is dry, especially things that happened in the past when you were not there, but when you see them, it motivates you to teach". Another teacher remarked that "... it is not always that teacher has to read and pour content in class. There are a lot of things we teach which we have not seen before but sometimes with the help of technology, when you also see it yourself you become motivated and your interest is aroused". Most of the teachers also agreed that students' demonstration of knowledge and good understanding of the topic continually motivates them to use technology. Again, some of them revealed that they are motivated to teach History since technology helps them access some facts not found in the History textbooks. All six teachers also believed that technology made them teach effectively. These findings are consistent earlier findings made by Amengor (2011), Kandasamy & Shah (2013), and Rampersad (2011). It could thus be said that History teachers see technology as crucial in determining their inclination, dedication and commitment toward teaching the subject.

On whether technology should be used for other subjects and not History, teachers' responses were unanimous that technology should be used for all subjects, including History. Again, most of the teachers did not believe that technology use is time consuming and may cause delay in syllabus coverage. Some indicated that technology would rather facilitate the coverage of the syllabus and enhance quality teaching. However, one teacher believed that technology consumes time, and using too much of it might not help teachers to cover the syllabus. In all, teachers did not see the use of technology as burdensome and time consuming but admitted that technology is necessary for History lessons. The view that technology facilitates syllabus coverage stands in direct contrast with the results of studies by Miima et al, (2013), and Vrasidas et al, (2010) which reported that considering the length of the syllabus to be covered, technology use might consume time and cause delay in covering the entire syllabus. This lends credence to the fact that the SHS History syllabus is overloaded with topics which cannot be covered their entirety within the stipulated period if the topics are to be well taught. The results presented indicate that History teachers have positive perceptions of technology use in teaching even though this perception was not equally reflected in their use of the various technology tools. In sum, teachers perceived technology as that which makes History less abstract but more comprehensible and lively; enables teachers to meet the varying needs of students; and improves students' understanding, contribution, and questioning in class. Technology was also

found to increase History teachers' motivation to teach effectively and also facilitates syllabus coverage. These perceptions about technology must be made manifest in the teachers' actual use of the various technologies in teaching History so as to bring a new dimension to how the subject is taught.

4.6 What are the attitudes of SHS History students when technology is used in History lessons?

This section examines the attitudes of students towards History lessons when technology is used in class. To answer this question, students' view were sought from the data from the questionnaire while teachers responses were gathered from in-depth interviews The responses of students are shown in Table 5.

4.6.1 Table 5: Students' Attitudes when Technology is used in lessons

Statement	Strongly Disagree F (%)	Disagree F (%)	Agree F (%)	Strongly Agree F (%)
Technology use makes History lessons exciting.	13 (8.5)	10 (6.5)	59 (38.6)	71 (46.4)
Students participate meaningfully in class when technology is used.	6 (3.9)	12 (7.8)	70 (45.8)	65 (42.5)
Students become attentive in class and focus on the lesson.	9 (5.9)	21 (13.7)	62 (40.5)	61 (39.9)
Students think critically about historical events.	9 (5.9)	23 (15.0)	66 (43.1)	55 (35.9)
Students show greater involvement and engagement in lessons.	6 (3.9)	16 (10.5)	68 (44.4)	63 (41.2)
Students ask questions that bother their mind.	6 (3.9)	29 (19.0)	64 (41.8)	54 (35.3)
Students demonstrate	7 (4.6)	19 (12.4)	65 (42.5)	62 (40.5)

understanding Students learn History better through the use of videos or documentaries.	13 (8.5)	12 (7.8)	49 (32.0)	79 (51.6)
Students show interest in History lessons.	11 (7.2)	15 (9.8)	63 (41.2)	64 (41.8)
Students can learn from different perspectives.	8 (5.2)	17 (11.1)	69 (45.1)	59 (38.6)
History can be improved with the introduction of technology.	9 (5.9)	13 (8.5)	44 (28.8)	87 (56.9)
Students accept that teacher should use technology in class.	11 (7.2)	8 (5.2)	36 (23.5)	98 (64.1)

As shown in Table 5, majority of the students agreed on the various statements regarding their attitudes when technology is used in History lessons. From the Table, 128 (83.0%) students agreed that technology makes them show interest in History lessons and enables them to learn History better through videos or documentaries. This view of students that videos or documentaries improve students' learning confirms Turan's (2010) observation that students can learn History better when they watch a movie or documentary than they can by reading a textbook. This finding emphasises the use of audio-visual materials, as they are paramount in fostering students' positive attitude towards History lessons. Also, 127 (82.9%) student agreed that they demonstrate better understanding of History topics, while 118 (77.1%) indicated they are able to ask intelligent questions when technology is used. On the statement that technology makes lessons exciting, 130 (85%) agreed, while 135 (88.3%) students showed that they are able to participate meaningfully in class when technology is used. Moreover, 123 (80.4%) indicated that they become attentive and focused on the lesson; 131 (85.6%) indicated showing greater involvement in class while 121 (79%) agreed that they can think critically about historical events. Also, 131 (85.7%) of the respondents pointed out that History can be improved with the introduction of technology; 128 (83%) agreed that they can learn from different perspectives, while 134 (87.6%) showed their receptivity to technology by

accepting that technology be used in teaching History. The figures in Table 6 show that most students are in agreement with all the statements on their attitudes towards technology-aided History lessons, with only few students disagreeing with the statements. This portrays how much value students place on technology-infused teaching and learning activities, and their desire to be engaged significantly in History lessons. The learning process is enhanced when students are allowed to participate fully, actively and consciously in what transpires during the period of teaching. Technology-aided instruction therefore presents a more student-centered orientation to the teaching of History and culminates in shaping students' attitudes and understanding and also propels them towards student-owned learning. Learners are therefore able to situate events of History into appropriate contexts, compare and contrast events against others, and develop their intellectual faculties for deep and insightful critical thinking (Oppong, 2009), thus making the learning of History an intellectually stimulating activity.

From the interviews, most of the teachers revealed that there is an increase in class attendance and punctuality when technology is used in class. For instance, in answering a question on students' class attendance, one teacher responded, "...they even wish that we use technology every day in class. They even come and call you before the period begins or before you get to the class". Again, teachers believed that when technology is used, students portray an exciting and enthusiastic attitude toward History lessons. The responses also indicated that students' interests are aroused and that encourages students to ask questions, become attentive, and make useful contributions. Other responses showed that students demonstrate understanding of History lessons by scoring high marks on exercises given. This shows that technology boosts the interest of students to learn and consistently makes them show positive attitudes towards instructional periods. These findings therefore correspond with the results obtained by Doppen (2002), Rampersad (2011), and Turan (2010) which indicated that technology improved students' attentiveness, increased their academic achievement, excited them, captured students interest and also made them engaged and involved in lessons. Again, teachers endorsed students' receptivity to the use of technology in History lessons. Some earlier studies by Adeyinka (1989), Oppong (2009), and Ruto & Ndaloh (2013) have revealed that History teachers do not employ new technologically-oriented resources in teaching the subject. This restricts the teaching of History to the use of traditional methods and the textbook which do not appeal to students' interest. However, students' responses indicate that technology can be used to improve the teaching of History. This is possibly because of the advantages and promises that technology brings to the teaching of History. This finding, therefore, falls in line with the observation made by Lavin et al (2011) who examined the impact of classroom technology on student behaviour and suggested that courses that did not use technology could be improved by the introduction of new technologies.

In all, the results revealed that technology makes students excited about History lessons; makes them show interest in History; enables them to be attentive in class, ask questions, and understand the lesson better. Again, the findings show

that students are always eager to attend History classes. They also display attentiveness in class; demonstrate understanding of the content taught them; ask questions and also make useful contributions in class when technology is used. Also, it was found that History can be improved with technology and that students can learn History better through audio-visual media like videos, films and documentaries. Again, students in the study were found to be generally receptive to technology use in History lessons. It thus follows that students generally demonstrate positive attitudes towards History lessons when various technologies are used during the instructional period.

4.7 What challenges do SHS History teachers face in using technology in teaching History?

The effort and commitment towards integrating technology into instruction are sometimes challenged by obstacles which can in the long run cripple teachers' motivation to adopt technologically-informed pedagogical practices in teaching History. In order ascertain the challenges teachers face in using technology for instruction, teachers' views were sought during the interview sessions. Commonalities and distinctions of the major themes that emerged from the interviews are presented below.

The responses of teachers indicated that they considered the unavailability of technology resources as a great challenge to their use of technology in teaching. Even though a few teachers indicated they have access to computers and internet in their schools, most of them admitted that they do not have access to such facilities. Similarly, teachers indicated that the History departments in their schools do not own projectors and computers and so they have to borrow from other departments. Besides, it was revealed that most of the electrical sockets in the classrooms were faulty and further inhibited their use of technology. These responses reveal the structural inadequacies that characterise most second-cycle institutions in the country. The absence of such basic facilities in most schools point to the fact that there is more room for improvement in terms of the level of development and advancement in such schools. It also connotes that teachers' readiness for technology use will ultimately suffer since such technologies are unavailable. In effect, the present-day call for technology-infused instruction in History instruction may not materialise. This finding therefore confirms the results obtained by Maholwana-Sotashe (2007) and Nuuyoma (2012) that unavailability of infrastructure, lack of hardware and software, lack of internet access and other of ICT resources are factors for low technology patronage among teachers.

Going further, teachers claimed that they barely have enough time to use technology in class. Some were of the view that they do not have enough time during the normal lesson period except at weekends or on holidays. Possibly, the reason for the lack of time may be the inadequate number of periods allocated for History the on the school time-table as was found by Oppong, (2009). Time constraint hence features prominently among the factors known to militate against the effective teaching of History. History teachers' complaint about insufficient time is thus consistent with the results of previous studies by

Amengor (2011), Haydn (2001), Kandasamy & Shah (2013), and Miima et al, (2013). These studies agree on teachers' lack of sufficient time to prepare instructional materials using technology as well as time to plan how to integrate them into History lessons as the most influential, and the most common barrier to technology use. On their efficacy and competence in using technological tools or devices, teachers expressed divergent views. Most of them claimed they have the necessary skills and are competent to use technology in their lessons. One teacher however indicated that she lacks the needed skills in using the various technologies because she does not have any training on them. According to her, this often led to waste of time in undertaking simple tasks. One other challenge that teachers identified was the inability of the schools' administration to provide the technology tools or applications for use in teaching the subject. One participant, for example, indicated, "the heads of the institution are not ready to procure the facilities because they do not understand why you need such technology before you can teach your subject when you can take your marker and just teach". To most of the teachers, this lack of administrative support does not give them the motivation to use technology in teaching the subject. The deficient support of administrators and other managerial staff towards History teachers' use of technology reflect their underestimation of the usefulness of technological innovation in the teaching of the subject. This corresponds with Nuuyoma's (2012) finding that teachers' lack of motivation from school management made them reluctant to use technology for instructional purposes.

This section of the research sought to find out the challenges that History teachers face in using technology to teach. The findings revealed that teachers face a major challenge with the unavailability of technology resources. Another challenge was the lack of time to use various technological applications in class as well as the lack of motivation from school administration in terms of the provision of the needed technologies for teaching. One could thus say that these challenges, to a great extent, hinder History teachers' use of technology in the teaching of History.

5. Conclusions and Recommendations

The teaching of History is not limited to using the textbook and other approaches that are teacher-centered. Educationists over the years have advocated the use of methods that make students active in the teaching-learning process. The availability of different varieties of modern-day technologies hence increases the pedagogical options of teachers and utilising them carefully can contribute significantly to making the teaching and learning of History more thrilling. Though History teachers have been found to possess positive perceptions about technology, these positive perceptions are not translated into practical use as they tend to use technology sparingly during the instructional period. This means that teachers are likely to resort to the traditional methods of teaching the subject, without any technological innovation. Moreover, History teachers' low patronage of technology in lessons can be attributed to the challenges they face. Even though the unavailability of technological tools or devices appear to be the greatest challenge teachers face, other barriers such as insufficient time and lack of administrative support equally ruin teachers' efforts

towards technology integration. Such challenges gradually erode teachers' intrinsic desire to employ technologies in their lessons. Students of History exhibit positive attitudes when technology is used within History lessons. This is an indication of their desire to be involved in the learning process through methods that appeal to their interests, emotions and intellect. The integration of technology into History education can therefore present the subject in a manner that allows students to appreciate the relevance of the past, relate them meaningfully to their lives, and inculcate positive attitudes for a better living.

For successful technology integration in History education, teachers need be sensitised on the different types of technologies that can be used to enhance the teaching of History. Through frequent in-service training sessions, History teachers can be exposed to a variety of technologies and how important they are to the teaching of the subject. Knowledge of this sort will spark awareness among teachers that the integration of technology is not restricted to entering students' grades and keeping records but spreads to using technology in different ways to facilitate instruction and gauge students' progress. Teachers of History therefore need to be innovative and creative by knowing how best to diversify the use of technology both for instructional and other educational purposes. Also, heads of institutions should introduce motivational packages to encourage teachers to inculcate the habit of making the teaching of History concrete by frequently using technologically-informed pedagogies to facilitate teaching and aid learning so as to erode the negative perceptions students hold about the subject. Again, for the purpose of technology integration to be achieved, the education ministry and other stakeholders in education must provide the various technology resources needed by schools. This is because it is only when such resources are available that teachers can use them to teach. Moreover, to enable teachers get enough class time for technology integration, there is the need to ensure that History is given enough periods on the school time-table. Creating more periods for History is therefore one sure way of battling the challenge teachers have with time.

Areas for Further Research

To further extend the literature on the use of technology in the teaching of History, the following recommendations for further studies are provided:

1. A more comprehensive study on the same topic should be conducted on a larger sample size across different regions so that the findings can be generalised for the whole country. Teachers in higher levels of education can be included in the study so as to conduct a comparative analysis of their responses with that of Senior High School teachers.
2. Further research should look at the relationship between technology-aided instruction and students' performance in History. This would help establish whether or not the use of technology in teaching has a bearing the effectiveness of students' learning.

Acknowledgement

This study is the result of an undergraduate project work submitted to the Department of Arts and Social Sciences Education of the College of Education

Studies, University of Cape Coast, Ghana, by the authors in partial fulfilment of the requirement for the award of Bachelor of Education (Arts) degree.

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