UNIVERSITY OF CAPE COAST

INVESTIGATING THE TECHNOLOGICAL PEDAGOGICAL CONTENT

KNOWLEDGE OF SOCIAL STUDIES TEACHERS IN THE SENIOR HIGH

SCHOOLS IN THE KUMASI METROPOLIS

CLARKE EBOW YALLEY

2016

UNIVERSITY OF CAPE COAST

INVESTIGATING THE TECHNOLOGICAL PEDAGOGICAL CONTENT

KNOWLEDGE OF SOCIAL STUDIES TEACHERS IN THE SENIOR HIGH

SCHOOLS IN THE KUMASI METROPOLIS

BY

CLARKE EBOW YALLEY

Thesis submitted to the Faculty of Humanities and Social Science Education of

the College of Education Studies, University of Cape Coast, in partial fulfilment

of the requirement for the award of Master of Philosophy degree in Curriculum

and Teaching

JULY 2016

© Clarke Ebow Yalley

University of Cape Coast

DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature:... Date:................................

Name: Clarke Ebow Yalley

Supervisors' Declaration

We hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

Principal Supervisor's Signature:.......................... Date:..........................

Name: Prof. Kankam Boadu

Co-supervisor's Signature .... Date..........................

Name: Prof. Clement Agezo

ii

ABSTRACT

The purpose of this study was to investigate the technological pedagogical content knowledge of Social Studies teachers in the Senior High Schools in the Kumasi Metropolis in the Ashanti Region of Ghana. The study used "Technological Pedagogical Content Knowledge (TPACK)" by Mishra and Koehler (2006) as the theoretical framework. The study was descriptive in nature.The population comprised all the 136 Social Studies teachers in the nineteen public Senior High Schools in the Kumasi Metropolis. Structured questionnaires with a Crombach alpha co-efficient of 0.90 and an observation checklist of aCrombach alpha co-efficient of 0.912 were used to collect data. The statistical methods used in the analysis were descriptive and inferential statistics.The main findings of the study were drawn from the mean of means obtained from the various research questions. The mean of means obtained on the various research questions showed Social Studies teachers possessed technological knowledge, content knowledge, pedagogical knowledge, pedagogical content knowledge, technological content knowledge, technological pedagogical knowledge as well as technological pedagogical content knowledge. Also, the study revealed that there is no statistical significant difference between the technological pedagogical content knowledge (TPACK) of professional and non-professional Social Studies teachers in the Kumasi Metropolis.It is recommended that the Curriculum Research and Development Division (CRDD) should review the content of Social Studies to make it suitable for technological unification. Also, technological integration courseamong Social Studies teachers should be developed and mounted within our teacher training institutions.

ACKNOWLEDGEMENTS

From the commencement of this study through its present form I havereceived unflinching support and encouragement from various people. I wish toacknowledge, with gratitude, my indebtedness to all such people. Inparticular, I thank my supervisors, Prof. Kankam Boadu and Prof. Clement Agezo for their epistemological guidance throughout the whole process of this thesis.I must state that their contributions were significantly relevant to the success of the work.

Secondly, I acknowledge the kind-hearted support of the headmaster/mistress and the head of the Social Studies Department of the Senior High Schools in the Kumasi Metropolis. I also say thank you to Mr. Atta Kwenin, Mr. Kwesi Edmond Adormedah, Mr. Magnus Acquah, Mr. Justice Oduroand Rev. William Jackson Ackon for providing guidance during the modification of the research instrument and the data analysis.

My appreciation is also extended to Prof. Dora Edu-Buandoh, Miss Theresa Sewovi, andMr. Ebenezer Domey for guidance and counselling during my studies. Last and not least, I want to express my heart-felt gratitude to Mrs. Esther Mills and Miss Eva Constance Ampiah for theirencouragement and commitment towards my academic career.

DEDICATION

To my Grandmum,

Madam Emelia Kesson

v

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

x

CHAPTER ONE

INTRODUCTION

Background to the study

The need for teachers to use technology during their instructional period appears to be a key component in almost all perfection plans for education and educational transformation programs (National Council for Accreditation of Teacher Education, 1997; Thomas, 1999; Davis & Falba, 2002; International Society for Technology in Education, 2002; Dawson, Pringle& Adams, 2003; Thompson, Schmidt, & Davis, 2003). According to Gess-Newsome, Blocher, Clark, Menasco, and Willis (2003), while some issues in education take on the flavour of their social and historical context, some others, such as how to train teachers to integrate technology in teaching instruction linger almost perennial and ill-defined.

The shifting trend of humanity has made technology a basic component of every human establishment. According to Amedzo (2007), the world has reached a phase where a person without basic computer knowledge finds it almost impossible to function properly in society. The mention of technology today usually conveys the thought of progression, enhancement, and growth, whereas the lack of technology stirs feelings towards out datedness, ineffectiveness, and awkwardness of human servitude (Dunmire, 2010). Technological advancement over the years has led to a significant shift in human affairs and thinking. 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-

1

Kumah & Tanye, 2009) especially in the teaching and learning of Social Studies (Sheumaker, Slate& Onwuegbuzie, 2001).

Throughout decades, technologies within education have gone through copious replications with each new technology promising a transformation for students, teachers and classrooms. From the audio-visual interest group in the 1930s, the computer-assisted instruction movement in the 1970's and 1980's, and the internet era of today, the field of educational technology is continually striving to understand how to best integrate technology within educational contexts in order to enhance instruction and learning, a goal that has not been realized (Roblyer, 2000). The lessons that researchers within the field of educational technology learnt from the past are that no technology is a universal remedy for education and that teachers will always be an important factor in better understanding how technology can be integrated into the teaching and learning process to influence learning (Clark, 1994; Roblyer, 2000).

Vrasidas and McIsaac (2001) indicate that in developed nations like the United States, technology is abundant within their education for the purpose of effective teaching and learning of all subjects, but the situation regarding technology in schools is apparently different in developing countries like Ghana which seems to be making lesser strides towards the use of technology as a medium of instruction.

The educational sector in Ghana seems to be making less strides when it comes to integrating technology into teaching and learning of subjects (Afari-Kumah & Tanye, 2009) for which Social Studies is not an exception

2

since most of the SHSs have no place to call Social Studies laboratory or workroom where learners will get first-hand information.

The swift development in the use of technology by the populace has caused tremendous changes in the twenty-first century demands of modern societies. Recognizing the impact of new technologies on human survival and the acquisition of knowledge, the educational sector, curriculum development division, educational institutions as well as teachers should try to restructure their educational programs and classroom facilities to minimize the teaching and learning technological gap between developed and the developing countries. This restructuring process requires effective diffusion of technologies into existing context in order to provide learners with knowledge of specific subject areas, to promote meaningful learning and to enhance professional productivity (Tomei, 2005).

Information and Communication Technology (ICT) is a term for the hardware, software, peripheral devices and digital systems that enable data and information to be managed, stored, processed and communicated (International Society for Technology in Education, 2010). Since most equipment used in contemporary social science subjects teaching and learning is about data management, storage, processing and communicating, the acronym ICT is used interchangeably with the term "technology". The Queensland "Technology" curriculum subject defines the products of technology as being artefacts, systems and environments that are designed and developed to meet changing needs and wants of intended audiences (International Society for Technology in Education, 2010). The definition of technology in this context is taken to mean any instrument used in the teaching

3

and learning of Social Studies, other than the usual classroom furniture of desks, chairs, books, pens and paper.

A critical survey of the Senior High School educational system shows that apart from the introduction of ICT as a subject, most teachers feel reluctant to integrate technology into their classroom instruction. The numerous subjects taught in our schools ranging from the Arts to Sciences which the subject "Social Studies" derives its content from demands the incorporation of technology in its teaching and learning process (National Council for Social Studies [NCSS], 1984).

Social Studies, as a core subjects in the school curriculum by nature requires that teachers become innovative and inclined to current information and facts from the local to the international realm. In order for learners within our educational enterprise to be branded globally competitive, Social Studies teachers need to be the prime movers of change for social transformation through the use of technology in their teaching and learning process. Social Studies teachers need to feel there is always room for improvement in choosing pedagogical approaches and appropriate technology for the content to be discussed in a multi-dimensional approach (Kereluik, Mishra & Koehler, 2010).

The researchers' interest emanates from his experiences as both a pre-service teacher and a student of Social Studies at both first Degree and the Master level, as well as from my appreciation for great teaching and creative methods. Nevertheless, as someone who received a traditional form of education that emphasised personal, face-to-face contact with my educators, the researcher found himself probing the reliance placed on these new

4

educational technologies. However, research studies (Cummings, 1998; Becker, 2001) have indicated that technology was not being efficiently used in the core school subject areas of Senior High Schools: Social Studies, Mathematics, and English Studies (Becker, Ravitz & Wong, 1999; Anderson & Becker, 2001). These studies further posit that Social Studies teachers were among the least likely to use technology in the curriculum and they were also among the least likely to engage students in critical thinking activities.

The National Council for the Social Studies (NSS) has also weighed in on the importance of including technology within the curriculum. In the organization's 2006 position statement regarding the use of technology in the Social Studies classroom, it states that, "as Social Studies educators, we need to capitalize on many students' ubiquitous, yet social, use of technology and demonstrate the technology's power as a tool for learning" (NCSS, 2006, p. 2). Indeed, technology is an essential component in the Social Studies curriculum, whether it is an analysis of the socio-economic impact of new technology, or utilizing digital primary sources. Technology should be contextually integrated into the Social Studies curriculum as a reflection of its impact on the modern world (National Council for the Social Studies, 2006).

Researches have been done on the significance of integrating technology in the teaching and learning (Martorella, 1997; Berson, Lee& Stuckart, 2001; Whitworth & Berson, 2003; Friedman & Hicks, 2006; Berson & Bolick, 2007). In their 2006 analysis of the trends in research related to technology integration in the Social Studies, Friedman and Hicks (2006) noted that the field has begun to move away from traditional method of teaching to

5

technological integration where discussion is on technology-enhanced instructional strategies.

As nations seek for greater development and higher achievements, Social Studies provide justification for all children to develop their capabilities as successful learners, confident individuals, responsible citizens and effective contributors to society. It is the basis for the development of knowledge, skills, values, and understanding required to become informed, active and responsible citizens who are needed to shape the future and welfare of the local, national and global community (Banks, 1990; Martorella, 1994; Ross, 1997; Parker, 2001). Considering the significance attached to the subject "Social Studies" in view of its mission and goal, to produce reflective, competent, and concerned citizens (Martorella, 1994), it is imperative that much seriousness be given to its teaching which suit current trend of learning in order to realise its accomplishment. For example, the Social Studies Syllabus for Senior High School (2007) and the Thematic Trend for Social Studies according to the National Council for Social Studies (NCSS, 1984) recognizes science, technology and the upsurge of change in the environment for which the Social Studies learners are supposed to adapt to the development of the ever changing society. Such changes are brought about by technological advancement or modernization.

In line with this, students often consider Social Studies as dull and boring (Chiodo & Byford, 2006) and fail to see the relevance of Social Studies to their everyday lives (Schug, Todd & Beery, 1982; Shaughnessy & Haladyna, 1985). Why is it so? Is it because the content is truly dull and

boring; or is it because the instructional methods utilized by the teacher do not engage and inspire students to learn Social Studies (Russell & Waters, 2010).

Many researchers have concluded that technology integration encourages problem-solving and higher order thinking skills (Baylor & Ritchie, 2002), and these skills are frequently cited as rationales for incorporating technology into the Social Studies curriculum (Shiveley & Vanfossen, 1999; Ruth & Stary, 2001). Yet still, Social Studies teachers are not adequately and effectively using technology for instructional practice (Clark, 1992; Becker, 2001). This draws the researchers' attention to the fact that Social Studies teachers in Ghana are made up of professional Social Studies teachers that is teachers with qualification or certificate in Bachelor of Education, Social Studies and non-professional Social Studies teachers that is teachers who have qualification or certificate in any of the Social Sciences.

Ingersoll (2003) acknowledged this when he said, "Over the past decade, dozens of studies, commissions, and national reports have bemoaned the qualifications and quality of our teachers" (p. 43). Dee and Cohodes (2008) maintain that "the No Child Left Behind Act (NCLB) explicitly acknowledged this view by requiring that every elementary and secondary public school teacher be highly qualified (p. 8)."

In addition, the prevalence of non-professional teaching is unacceptably high in the teaching and learning of Social Studies in the SHSs. One may be sceptical as to whether these non-professional teachers are aware of the focus of the subject, thus, solving issues of human survival and whether they use the Social Studies classroom as a theatre for addressing the current

persistent problems of human survival (technology) (Ananga & Ayaaba, 2004).

Teacher education has historically focused on content knowledge (Shulman, 1987). It is assumed that when teachers know the Social Studies content, they would be able to successfully teach their students. However, practitioners and researchers have come to recognise the need for teachers to command varied and different forms of knowledge. Effective teachers utilize both content knowledge, pedagogical knowledge, and understand and appreciate how the two are interrelated (Shulman, 1987).

With the current modernization of education, Mishra and Koehler (2006) have introduced technology to Shulman's (1987) "Knowledge Domain" to bring the framework "Technological Pedagogical Content Knowledge (TPACK)", an educational research field for understanding teacher knowledge for effective technology integration in the teaching and learning process. Integrating teachers' content knowledge (CK), pedagogical knowledge (PK) brings up pedagogical content knowledge (PCK)whiles the integration of technology to PCK develops Technological Pedagogical Content Knowledge (TPCK) which will produce a multifaceted and dynamic classroom context. TPACK has become a widely used referenced conceptual framework within teacher education and has created a common platform to discuss the integration of technology into education and sees the teachers as curriculum gatekeeper (Thronton, 2001).

This research is therefore meant to investigate the technological pedagogical content knowledge (TPACK) of Social Studies teachers in Senior High Schools in the Kumasi Metropolis of the Ashanti Region of Ghana.

Statement of the Problem

Diem (1999) suggests that the challenge for the Social Studies teacher is to find how to use new tools and techniques in ways that will increase content understanding and prepare students who are needed to shape the future and ensure the welfare of the local, national and the global community. Moreover, Cuban (2001) reveals that across all disciplines includingSocial Studies, technology has not been seamlessly integrated into the classroom, and where it is used, little indication exists to advocate that it has transformed the instructional process through the content delivery and pedagogy used in teaching.

Specifically, within the Social Studies curriculum, technology had been likened to a sleeping giant (Martorella 1997). A giant because many Social Studies educators contend that interactive technologies hold a great deal of potential in the teaching and learning of Social Studies, yet sleeping because little technology research (Bolick, McGlinn& Siko, 2005; Friedman & Hicks, 2006; Lee & Hicks, 2006; Friedman & Heafner, 2007; Waring, 2007), development and implementation has taken place among Social Studies educators to effectively integrate technology into the teaching and learning of the subject. The researcher shares in the sentiment of Doolittle and Hicks (2003) that, "the sleeping giant has been having quite a long nap" and it needs to be awakened to ensure an effective and efficient integration of technology, content and pedagogy within Social Studies teaching and learning (p. 74).

If students are expected to know more and be able to apply their knowledge in a meaningful way where technology is available, then Social Studies teachers must appropriately integrate technology into the content and

9

pedagogy Social Studies since technological knowledge is within the total continuum of experience of student's (Baylor &Ritchie, 2002). Furthermore, the National Council of Social Studies (NCSS) (2008) has called for technology integration within Social Studies so as to transform the teaching and learning of Social Studies content.

Mereku, Yidana, Hodzi, Tete-Mensah and Williams (2009) attest that for Ghana and Africa as a whole to be able to fully integrate technology into teaching and learning requires frequent collection and analysis of data on technology (ICT) usage within the educational cycle of Ghana. In relation Mereku et al., (2009), Moses (2012) recommended that there exist limited research investigating Ghanaian SHS teachers use of technology in teaching and learning of their subject areas and for this reason much and further research need to be conducted to fully ascertain SHS teachers effectiveness or ineffectiveness in the use of technology in teaching.

The researcher has adopted Mishra and Koehler (2006) theoretical/conceptualframework "Technological Pedagogical Content Knowledge (TPACK)" to investigate the technological pedagogical content knowledge of Social Studies teachers in SHS in the Kumasi Metropolis.Through this research, the research will fill the knowledge gap as technology integration in Social Studies education is concerned, bridge the geographical gap with respect to technological integration research in Ghana and Africa and finally contribute to the general adaptation of technological pedagogical content knowledge (TPACK) by Mishra and Koehler (2006) within Social Studies education in Ghana specifically within the Kumasi Metropolis.

Purpose of the Study

The main purpose of the study was to investigate the technological pedagogical content knowledge of Social Studies teachers in the SHS in the Kumasi metropolis. The study specifically sought to:

1. find out the technological knowledge (TK) of Social Studies teachers in the teaching of the subject in SHS in the Kumasi Metropolis.

2. find out the content knowledge (CK) of Social Studies teachers in the teaching of the subject in SHS in the Kumasi Metropolis.

3. find out the pedagogical knowledge (PK) of Social Studies teachers in the teaching of the subject in SHS in the Kumasi Metropolis.

4. find out the pedagogical content knowledge (PCK) of Social Studies teachers in the teaching of the subject in SHS in the Kumasi Metropolis.

5. find out the technological content knowledge (TCK) of Social Studies teachers in the teaching of the subject in SHS in the Kumasi Metropolis.

6. find out the technological pedagogical knowledge (TPK) of Social Studies teachers in the teaching of the subject in SHS in the Kumasi Metropolis.

7. investigate the technological pedagogical content knowledge (TPACK) of Social Studies teachers in the teaching of the subject in SHS in the Kumasi Metropolis.

The study was guided by the following research questions:

1. What is the technological knowledge (TK) of Social Studies teachers in the teaching of the subject in SHS in the Kumasi Metropolis?

2. What is the content knowledge (CK) of Social Studies teachers in the teaching of the subject in SHS in the Kumasi Metropolis?

3. What is the pedagogical knowledge (PK) of Social Studies teachers in the teaching of the subject in SHS in the Kumasi Metropolis?

4. What is the pedagogical content knowledge (PCK) of Social Studies teachers in the teaching of the subject in SHS in the Kumasi Metropolis?

5. What is the technological content knowledge (TCK) of Social Studies teachers in the teaching of the subject in SHS in the Kumasi Metropolis?

6. What is the technological pedagogical knowledge (TPK) of Social Studies teachers in the teaching of the subject in SHS in the Kumasi Metropolis?

7. What is the technological pedagogical content knowledge (TPACK) of Social Studies teachers in the teaching of the subject in SHS in the Kumasi Metropolis?

Hypothesis

Ho: There is no statistical significant difference between the technological pedagogical content knowledge (TPACK) of professional and non-professional Social Studies teachers in the Kumasi Metropolis.

H1: There is statistical significant difference between the technological pedagogical content knowledge (TPACK) of professional and non-professional social studies teachers in the Kumasi Metropolis.

Significance of the Study

In the process of carrying out innovation (technology) in education, it is imperative to investigate the knowledge of teachers in the usage of technology in their teaching and learning. It is from this backdrop that the present study derives its justification thus investigating the technological pedagogical content knowledge of Social Studies teachers in the SHS in the Kumasi Metropolis of Ghana.

First, the findings of the study will rekindle the awareness that the teaching and learning of Social Studies in the SHSs has been besieged by technology and therefore the Ministry of Education and the Curriculum Research Development Division (CRDD) need to integrate technology in planning of the teaching and learning resources, materials, activities and content that forms the Social Studies syllabus.

Second, it is envisaged that the finding will help the Regional Director of Education and the Social Studies curriculum specialists/experts to organize technological training programmes such as in-service training, seminars, workshop and professional courses for Social Studies teachers to enhance their knowledge on modern trend (technology) for the teaching and learning of the subject Social Studies.

13

Third, the results of the study will enable Social Studies teachers and curriculum developers to plan for the future, make adjustments and restructure the course where necessary to make it more functional which will improve students' learning and create robust method of content delivery for Social Studies teachers.

Fourth, the findings of the study will enable stakeholders (parents) to ensure improved quality of Social Studies teaching and learning by providing Social Studies teachers with the state-of-arts technological resources in order to harvest the broad goals and objectives of the subject.

Fifth, the study will call for collaboration between the Curriculum Research Development Division of the Ghana Education Service and application software development to design applications and software that is inherently technological and contain the content of Social Studies.

Sixth, the findings of the study will fill the knowledge gap of existing data as well serve as a valuable asset in the effort to expand the understanding of Ghanaian SHS teachers' integration of technology in teaching and learningof Social Studies.

Delimitations

The scope of the study investigated the technological pedagogical content knowledge (TPACK) of Social Studies teachers. Moreover, the study was delimited to onlypublic S.H.Ss in the Kumasi Metropolis. Furthermore, the study focused on all Social Studies teachers at the S.H.Ssin the Kumasi Metropolis during the 2015/2016 academic year.

Limitations

14

It is believed that observing people without their knowledge may pose a challenge during the data collection process. This would result to 'hawthorne effect' thus when people are aware that they are being observed they tend to fake behaviours (Wickstrom & Bendix, 2000). For this reason, some Social Studies teachers might fake behaviours which may affect the validity of the findings. As a result, the researcher sought the consent of the Social Studies teachers to be observed and assured them of confidentiality of response given and their anonymity. In other to gain the trust and confidentiality from the respondents, the researcher attached a contract agreement form to questionnaires to clear any doubt from respondents minds.

Definition of Terms

Technology knowledge (TK):

It refers to the knowledge about various technologies ranging from low-tech technology such as pencil and pen to digital technologies such as internet, digital video, audio device, visual device, audio-visual devices, interactive whiteboard and software programs.

Pedagogical Knowledge (PK):

It refers to teachers' knowledge about the processes and practices of teaching and learning.

Content Knowledge (CK):

Teachers' knowledge about the subject matter to be learned or taught

Pedagogical Content Knowledge (PCK):

It refers to teachers' knowledge about the process through which teacher convey the subject matter through the use of appropriate pedagogy to facilitate students understanding of concepts.

15

Technological Content Knowledge (TCK):

It refers to how technology can create new representations for specific content.

Technological Pedagogical Knowledge (TPK):

It refers to knowledge of how various technological tools can be used in teaching and learning instruction.

Technological Pedagogical Content Knowledge (TPACK):

It refers to the integration of appropriate technological tools in teaching (pedagogy) and that of content of a topic.

Professional (In-field) Social Studies teacher:

These are teachers who have been trained in Social Studies education and are teaching the subject in Senior High Schools.

Non-Professional (Out-field) Social Studies teacher:

These are teachers who are not trained in Social Studies education but are teaching the subject in the Senior High Schools.

Organisation of the Study

Chapter Two, which follows the present chapter, deals with the review of literature which is relevant to the study. It specifically look at the technological knowledge of Social Studies teachers; technological pedagogical knowledge of Social Studies teachers; technological content knowledge of Social Studies teachers; and the technological pedagogical content knowledge of Social Studies teachers. Chapter Three, presents the methods and procedures that were be employed in the study. Chapter Four, presentsthe result and discussions. Chapter Five summarizes the research process and

16

findings. It also draws conclusions from the findings and makes recommendations for policy, practice and further research.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

Introduction

The review of related literature means identifying, locating and analysing documents containing relevant information related to the research problem. These documents include journals, books, research reports, abstracts and periodicals. The review makes the researcher aware of strategies, procedures, and instruments that have already been used and what needs to be done in that area of investigation. The review of related literature will be classified into theoreticaland empirical.

The theoretical review is rooted inMishra and Koehler (2006)"Technological Pedagogical Content Knowledge" (TPACK)whilethe empirical review covered the technological pedagogical content knowledge (TPACK) of Social Studies teachers.

Theoretical Review

Technological Pedagogical Content Knowledge (TPACK)

Finding or developing a theoretical grounding in educational technology is not easy. Nevertheless, the theoretical technological pedagogical content knowledge (TPACK) model advocated by Mishra and Koehler (2006)serves as an appropriate model to direct the use of technology in the teaching and learning of Social Studies.

17

Shulman (1986) bemoaned the unfruitful task of separating teachers' knowledge of their content and their knowledge of the appropriate pedagogy in the delivery of the content. He claimed that the emphasis on "teachers subject knowledge and pedagogy should be treated as mutually exclusive domains in research" (1986, p.6). He argued that the result of such exclusion was the production of teachers who either focused on subject matter or pedagogy. To address this dichotomy, Shulman (1986) thought it necessary to merge the relationship between the two concepts by introducing the notion of Pedagogical Content Knowledge (PCK). It however appears that researchers and educators need to take the notion even further since technology has been introduced into what could be termed as 'the initial relationship' i.e. content knowledge and pedagogical knowledge.

In an attempt to introduce a third element, Mishra and Koehler (2006)developed a theoretical framework for educational technological integration known as "Technological Pedagogical Content Knowledge" or "TPACK" by building on Shulman's (1986) formulation of "Pedagogical Content Knowledge"or "PCK"and extended it to the phenomenon of teachers integrating technology into their pedagogy. This framework attempts to capture some of the essential qualities of teachers' knowledge required for technology integration in teaching, while addressing the complex, multifaceted, and situated nature of this knowledge.

Mishra and Koehler (2006) argue that thoughtful pedagogical uses of technology require the development of a complex and a situated form of knowledge which they referred to as Technological Pedagogical Content Knowledge (TPACK). In doing so, they put forward the complex roles of, and

18

interplay among, three main components of learning environments: content, pedagogy, and technology. The TPACK model portrays "teachers understanding of technologies and how pedagogy content knowledge interacts with one another to produce effective teaching with technology" (Koehler & Mishra, 2008, p.652).

TPACK stands for Technology, Pedagogy, and Content Knowledge and was announced as the "Total PACKage" for effectively teaching with technology (Thompson & Mishra 2007). According to Thompson and Mishra (2007), TPACK best reflect the interdependence of the three contributing knowledge domains (i.e. technological knowledge, content knowledge and pedagogical knowledge), and it was easier to communicate than TPCK (Mishra, personal communication).

In 2001, Pierson, used the teacher's technology integration,Vrasidas, Pattis, Panaou, Antonaki, Aravi, Avraamidou and Theodoridou (2010),similarly used information and communication technology (ICT)-related PCK whiles Niess (2005) coined technology-enhanced PCK to mean integration of ICT (technology) in the education. To address the distinction among scholars on technology integration, Mishra and Koehler (2006) proposed to consider the necessary relationships that exist among the three variables (technology, content and pedagogy) by introducing the notion of Technology Pedagogical Content Knowledge (TPACK).

It is against this backdrop that the researcher will use the acronym TPACK throughout the study to ensure consistency unless a particular reference is made to a particular writer who uses "TPCK". In light of this, both acronyms TPACK and TPCK will be used interchangeably because the change

19

in terminology was not adopted by everyone and this adoption will not undermine the theoretical connotation and relevance of the concept in the field of Social Studies.

A number of Social Studies researchers and scholars have argued that keeping technology separate from content and pedagogy is a disservice to our students, propagates misuse and even disuse of educational technology (Hooper & Rieber, 1995; Cuban, 2001). These researchers have therefore proposed an expansion of Shulman's model to include the domain of technology (Mishra & Koehler, 2006). The interception of these three domains: content, pedagogy, and technology forms the new framework known as Technological Pedagogical Content Knowledge.

The researcher has applied Mishra and Koehler (2006)theory by extending it to the phenomenon of Social Studies teachers' integration of technology into content and pedagogy for effective and efficient teaching and learning of the subject. This implies that any Social Studies teacher who wants to integrate technology in their teaching practices should be competent in all the three domains. If teachers are to be successful, they need to confront the issue of technology, content and pedagogy simultaneously. Through simultaneous integration of the three knowledge domains, a Venn diagram of three overlapping circles of bodies of knowledge. The emphasis is on the centre "the complex interplay" of these three bodies of knowledge (technological knowledge, content knowledge and pedagogical knowledge)

Figure 1 shows teachers' Technological Pedagogical Content Knowledge for effective teaching outcomes, that is, when properly integrated by Mishra and Koehler (2006).

20

Technological Pedagogical Content Knowledge Framework
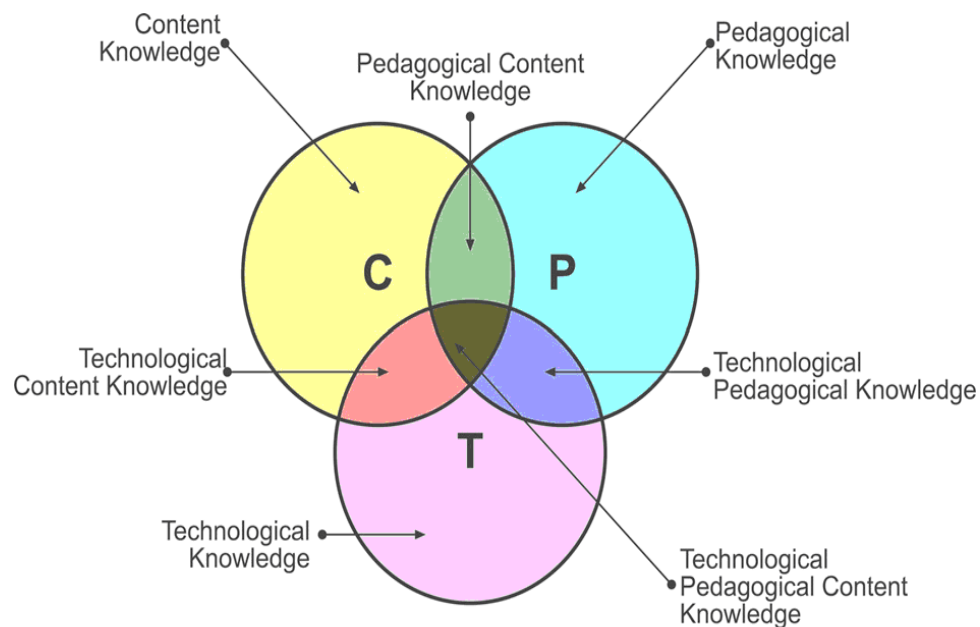
Figure 1: An Illustration of the TPCK Model by Mishra and Koehler (2006)

The technological pedagogical content knowledge framework (TPACK) was the initial framework used in understanding how teachers developed and combined their knowledge of content and pedagogy, and how it applied to their development of technological knowledge. Mishra and Koehler (2006)the TPACK framework is used in the field of educational technology to understand the complex interplay among technology, pedagogy, and content knowledge acquisition.

The key to TPCK is the integration of multiple domains of knowledge in a way that support teachers to teach students' with technology (Margerum-

21

Leys & Marx, 2004; Niess, 2005). Moreover, the TPACK consists of seven (7) different knowledge domains. They are:

1. Content knowledge (CK),

2. Pedagogical knowledge (PK),

3. Pedagogical content knowledge (PCK),

4. Technology knowledge (TK),

5. Technological content knowledge (TCK),

6. Technological pedagogical knowledge (TPK), and

7. Technological pedagogical content knowledge (TPCK) (see Figure 1).

Content knowledge (CK)

Content knowledge (CK) is teachers' knowledge about the subject matter to be learned or taught and the content to be covered at school as the syllabus specifies. As Shulman (1986) noted, this knowledge would include knowledge of concepts where Taba (1962) states that "concepts are complex system of highly obstruct experiences in a variety of context" (p. 128). In Social Studies, concepts such as "democracy", "family" and "interdependence" abound in the S.H.S syllabus. In Social Studies, concepts are taught in these ways.

a. When an important concept is unknown or known only in a narrow context, the teacher can supply or extend it by applying it to familiar instances and as concrete as possible.

b. The class can be asked to supply example from their own background. For instance in learning concept of "family", the child can say, some families live in compound houses, others live in apartments.

22

c. The teacher can when necessary help children learn words or terms to apply to other concepts.

d. The Social Studies teacher can do something about empty or erroneous concepts held by children and polish them up.

Other content knowledge includes theories, ideas, organisational frameworks, knowledge of evidence and proof, as well as established practices and approaches toward developing such knowledge. Knowledge and the nature of inquiry differ greatly between fields, and teachers should understand the deeper knowledge fundamentals of the disciplines in which they teach.

In the case of science, for example, this would include knowledge of scientific facts and theories, the scientific method, and evidence-based reasoning. In the case of art appreciation, such knowledge would include knowledge of art history, famous paintings, sculptures, artists and their historical contexts, as well as knowledge of aesthetic and psychological theories for evaluating art. The cost of teachers having an inadequate content-related knowledge base can be quite prohibitive; students can develop and retain epistemologically incorrect conceptions about and within the content area (Bransford, Brown, & Cocking, 1999; Pfundt, & Duit, 2000).

Pedagogical Knowledge (PK)

Pedagogical knowledge is deep knowledge about the processes and practices of teaching and learning, encompassing educational purposes, goals, values, strategies, and more. This is a generic form of knowledge that applies to student learning, classroom management, instructional planning and implementation, and student assessment. It includes knowledge about techniques or methods used in the classroom, the nature of the learners' needs

23

and preferences, and strategies for assessing student understanding. A teacher with deep pedagogical knowledge understands how students construct knowledge and acquire skills in differentiated ways, as well as how they develop habits of mind and dispositions toward learning. As such, pedagogical knowledge requires an understanding of cognitive, social, and developmental theories of learning and how they apply to students in the classroom.

Pedagogical Content Knowledge (PCK)

Shulman's (1987, 1986) metaphor of pedagogical content knowledge (PCK) describes how teachers' content knowledge and pedagogical content knowledge interact with one another to produce effective teaching. He claimed that the emphases on teachers' subject knowledge and pedagogy were being treated as mutually exclusive domains in research concerned with these domains (1987). The practical consequence of such exclusion was the production of teacher education programmes which focus on either subject matter or pedagogy dominated. To address this dichotomy, he proposed to consider the necessary relationship between the two by introducing the notion of PCK.

This knowledge includes knowing the teaching approaches that fit the content, and likewise, knowing how elements of the content can be arranged for better teaching. This knowledge is different from the knowledge of a disciplinary expert and also from the general pedagogical knowledge shared by teachers across disciplines. PCK is concerned with the representation and formulation of concepts, pedagogical techniques, and knowledge of what makes concepts difficult or easy to learn, knowledge of students' prior knowledge and theories of epistemology. It also involves knowledge of

24

teaching strategies that incorporate appropriate conceptual representations, to address learner difficulties and misconceptions and foster meaningful understanding.

It also includes knowledge of what the students bring to the learning situation, knowledge that might be either facilitative or dysfunctional for the particular learning task at hand. This knowledge of students includes their strategies, prior conceptions (both "naïve" and instructionally produced); misconceptions students are likely to have about a particular domain and potential misapplications of prior knowledge.

PCK exists at the intersection ofcontent and pedagogy. Thus, it does not refer to a simple consideration of both content and pedagogy in isolation; but rather to an amalgam of content and pedagogy thus enabling transformation of content into pedagogically powerful forms. PCK represents the blending of content and pedagogy into an understanding of how particular aspects of subject matter are organized, adapted, and represented for instruction.

Shulman (1986) argued that having knowledge of subject matter and general pedagogical strategies, though necessary, were not sufficient for capturing the knowledge of good teachers. To characterise the complex ways in which teachers think about how particular content should be taught, he argued for "pedagogical content knowledge" as the content knowledge that deals with the teaching process, including "the ways of representing and formulating the subject that make it comprehensible to others". If teachers are to be successful they need to confront both issues of content and pedagogy simultaneously, by embodying "the aspects of content most germane to its

25

teachability" (Shulman, 1986, p.9). At the heart of PCK is the manner in which subject matter is transformed for teaching. This occurs when the teacher interprets the subject matter, finding different ways to represent it and make it accessible to learners.

Technological Knowledge (TK)

Technological knowledge is always in a state of flux more so than content and pedagogical knowledge. This makes defining and acquiring it notoriously difficult. Keeping up to date with technological developments can easily become overwhelming to time-starved teachers. This also means that any definition of technology knowledge is in danger of becoming outdated by the time this text has been published. There are, however, ways of thinking about and working with technology that can apply to all technological tools, regardless of when they emerged.

In that sense, our definition of TK is similar to the notion of Fluency of Information Technology ("FITness") as proposed by the Committee on Information Technology Literacy of the National Research Council (NRC) in, 1999. The committee argues that FITness goes beyond traditional notions of computer literacy to require that people understand information technology broadly enough to apply it productively at work and in their everyday lives. FITness therefore requires a deeper, more essential understanding and mastery of technology for information processing, communication, and problem solving than the traditional definition of computer literacy. Also, this conceptualization of TK does not posit an "end state," but rather assumes TK to be developmental, evolving over a lifetime of generative interactions with multiple technologies.

26

Technological Pedagogical Knowledge (TPK)

Technological pedagogical knowledge is an understanding of how teaching and learning change when particular technologies are used. This includes knowing the pedagogical affordances and constraints of a range of technological tools and resources as they relate to disciplinarily and developmentally appropriate pedagogical designs and strategies. Developing TPK requires building an understanding of the potential benefits and limitations of particular technologies as they can be applied within particular types of learning activities, as well as the educational contexts within which these technologically supported activities function best.

An important aspect of TPK is the creative flexibility with available tools necessary in planning to use them for specific pedagogical purposes. Consider, for example, the whiteboard as an educational tool. Although this technology has been in use for a long time, its very nature in some ways presupposes the kinds of functions it can serve. Because it is usually placed in the front of the classroom and is therefore usually under the control of the teacher, its location and use impose a particular physical order upon the classroom, determining the placement of tables, chairs, and therefore students, thus framing the nature of student–teacher interaction. Yet it would be incorrect to say that there is only one way that whiteboards can be used. One has only to compare the use of a whiteboard in a brainstorming session in a design studio to see a rather different technological application.

In this context, the whiteboard is not controlled by a single individual rather, it can be used by anybody on the collaborating team, and in this

27

situation, it becomes the point around which discussion and the negotiation and construction of meaning occurs.

The flexible use of tools becomes particularly important because most popular software programs are not designed for educational purposes. Software such as the Microsoft Office Suite (Word, PowerPoint, Excel, Entourage, and MSN Messenger) is designed for use in business environments. Web-based technologies such as blogs and podcasts are designed for purposes of entertainment, communication, and social networking. Teachers, therefore, must have the knowledge and skills that allow them to select appropriate technologies for pedagogical purposes. Thus, TPK must include a forward-looking, creative, and open-minded seeking of technological application, not for its own sake, but for the sake of advancing student learning and understanding.

A large proportion of technology-based learning activities that have been developed in the past to illustrate technology integration, through their lack of emphasis upon content and pedagogy, illustrate an incomplete and comparatively superficial form of TPK. Examples include recommendations for use of generic strategies such as keypals, telefieldtrips (Ayas, 2006), blogging, journaling, preparing PowerPoint presentations, building Web sites, and podcasting without incorporating acknowledged PCK and PK. Such generic and technocentric strategies are described typically in content and context neutral terms, assuming that each would work just as well within any content area, at any grade level, and in any classroom.

Technological Content Knowledge (TCK)

Technological content knowledge (TCK) includes an understanding of the manner in which technology and content influence and constrains one another. In planning for instruction, content and technology are often considered separately. It is assumed that developing content is what content experts do (i.e., historians develop history and physicists develop physics), whereas technologists develop technologies (e.g., hypertexts or overhead projectors) and technology integration strategies.

When we think of subject matter that students study in school, we often do not think of curriculum content's relationships to the digital and non-digital technologies that learners and teachers use. Historically, however, technology and knowledge have been deeply connected. New understandings in medicine, history, archaeology, and physics have emerged, in part, from the development of new technologies that afford the representation and manipulation of information and ideas in novel and fruitful ways. Using new technologies or existing technologies in new ways can prompt fundamental changes in the nature of the disciplines themselves.

Effective teaching requires developing an understanding of the manner in which subject matter specifically, the types of content-based representations that can be constructed within and across disciplines can be changed by the use of different technologies. Teachers must understand which technologies are best suited for addressing types of subject-matter, and how content dictates or shapes specific educational technological uses, and vice versa.

We can identify three ways in which technology and content have related to one another. First, the advent of new technology has often changed

29

fundamentally what we consider to be disciplinary content. For example, consider how the discovery of radiation changed the way we understand the evolution of life, whereas the invention of hypertext transfer (HTTP) and other internet protocols dramatically changed the ways in which we work and communicate.

Content be it History, Engineering or Sociology shapes new technologies and offers new uses for existing technologies, while at the same time the affordances and constraints of technologies shape how this content is represented, manipulated, and applied. Second, technology is not neutral with regard to its effects upon cognition. Different technologies (or media) engender different mind-sets or ways of thinking (Koehler, Yadav, Phillips, & Cavazos-Kottke, 2005; Mishra, Spiro, & Feltovich, 1996). Every new technology from the telephone to camera to the digital computer has had effects on human cognition.

Finally, technological changes offer us new metaphors and languages for thinking about human cognition and our places in the world. Viewing the heart as a pump or the brain as an information-processing machine is just one of the ways technologies have provided new perspectives for understanding phenomena. These representational and metaphorical connections are not superficial. Considering the brain as akin to a clay tablet, for example, offers a very different view of cognition and learning than considering it similar to an information processing machine. Having these metaphors and analogies as part of a general cultural consciousness influences how technologies are appropriated for teaching and learning.

30

Technological Pedagogical Content Knowledge (TPACK)

Underlying truly effective and highly skilled teaching with technology is technological pedagogical content knowledge. TPACK is different from knowledge of its individual component concepts and their intersections. It arises instead from multiple interactions among content, pedagogical, technological, and contextual knowledge. TPACK encompasses understanding and communicating representations of concepts using technologies; pedagogical techniques that apply technologies appropriately to teach content in differentiated ways according to students' learning needs; knowledge of what makes concepts difficult or easy to learn.

It also focuses on how technology can help redress conceptual challenges; knowledge of students' prior content-related understanding and epistemological assumptions, along with related technological expertise or lack thereof; and knowledge of how technologies can be used to build on existing understanding to help students develop new epistemologies or strengthen old ones. TPACK is a form of professional knowledge that technologically and pedagogically adept curriculum-oriented teachers use when they teach.

In one sense, there is no such thing as pure content, pure pedagogy, or pure technology. It is important for teachers to understand the complex manner in which all three domains and the contexts in which they are continually formed co-exist, co-constrain and co-create each other. Each instructional situation in which teachers find themselves is unique; it is the result of an interweaving of these interdependent factors.

Accordingly, there is no single technological solution that will function equally well for every teacher, every course, or every pedagogical approach. Rather, a solution's success lies in a teacher's ability to flexibly navigate the spaces delimited by content, pedagogy, and technology, and the complex interactions among these elements as they play out in specific instructional situations and contexts. Ignoring the complexity inherent in each knowledge component or the complexities of the relationships among the components can lead to oversimplified solutions or even failure.

Teachers need to develop fluency and cognitive flexibility not just in each of these key domains content, technology, and pedagogy but also in the manners in which these domains interrelate, so that they can effect maximally successful, differentiated, contextually sensitive learning. For instance, during instruction time, teachers draw from all three of these knowledge fields to deliver their lesson, provide content specific examples, and use technology to further enhance the classroom content.

TPACK is a very important contribution to our understanding of technology and teacher education. However, the underlying assumptions made by the developers of the model "Mishra and Koehler (2006)" are essential for this study. There are three fundamental assumptions and each has significant implications on the way teachers use technology in their classroom.

Teaching is an ill-structured activity.

Mishra and Koehler (2006) used "Rand Spiro's Cognitive Flexibility Theory" (Spiro & Jehng, 1990) as a foundation for TPACK. Spiro's theory essentially asserts that some knowledge domains are ill-structured as well as complex and that teaching that type of knowledge calls for different

32

pedagogies than those that are ideal for teaching well-structured and simple knowledge.

As educators know, teaching is a complicated practice that requires an interweaving of many kinds of specialized knowledge. In this way, teaching is an example of an ill-structured discipline, requiring teachers to apply complex knowledge structures across different cases and contexts. Thus, effective teaching depends on flexible access to rich, well-organized and integrated knowledge from different domains including knowledge of student thinking and learning, knowledge of subject matter, and increasingly, knowledge of technology.

Digital technologies have unique characteristics.

The assumption that teaching is an ill-structured activity acknowledges the work of constructivists as well as cognitive science and learning sciences scholars. This second assumption adds a perspective from communications theory and related fields. It is the idea that digital technologies are knowledge or information tools that are qualitatively different from the revolutionary tools of earlier eras, such as the printing press, that significantly changed the course of human history. Prensky (2001)argued that the use of digital technologies radically changes not only the means of knowledge dissemination and communication, but also changes the learner and the content of learning. The general view of digital technologies and its incorporation into the TPACK model (Mishra &Koehler, 2006) is through the assumption that digital technologies are increasingly important elements of education and are not like earlier technologies such as pencils, chalkboards, or a bunsen burner in a chemistry lab. Virtually all the traditional technologies

33

share three characteristics: Specificity, Stability, and Transparency (Mishra & Koehler, 2006). Notwithstanding, Mishra and Koehler (2006)pointed that digital technology have none of the above characteristics rather digital technologies have Protean (usable in many different ways), Unstable (rapidly changing) and Opaque (the inner workings are hidden from users) as their characteristics.

Technologies are not neutral

The assumption that digital learning technologies have unique characteristics recognizes important theoretical contributions from communications research and related fields. This third assumption adds the ideas of critical theorists about learning technologies into the foundation of TPACK. Teaching with technology brings complications which brings the understanding that technologies are neither neutral nor unbiased. Rather, particular technologies have their own propensities, potentials, affordances, and constraints that make them more suitable for certain tasks than others. Understanding how these affordances and constraints of specific technologies influence what teachers do in their classrooms is not straightforward and may require rethinking teacher education and teacher professional development (Mishra & Koehler, 2006)

In view of the researcher, there are some complexities surrounding the use of TPACK. That is, the entire construct is overlapping and lacks clear classifying examples belonging to either one of the construct or another thus TCK, TPK, or TPACK. A cursory look at the TPACK diagram by Mishra and Koehler (2006) reveals that whiles TCK lie at the intersection of technology and content, TPK an intersection of technology and pedagogy whiles the

34

intersection of pedagogy and content constitute (PCK). This means that, TPACK, according to the framework is also TCK, TPK, and PCK.

Furthermore, Trautmann and MaKinster (2010) allude that "the size of this overlap that is the centre of the TPACK diagram indicates the extent to which a teacher has developed an integrated understanding of the complex relationships between subject matter understanding, pedagogical goals and available technologies" (p. 4792). Therefore, as the teachers' TPACK grows, there is less TCK and TPK as an independent construct. This perhaps in part, answers Hughes question regarding the existence of TCK in educational contexts. Because teachers already assumedly possess PCK, TCK and these same teachers may look very like TPACK.

Technological Knowledge (TK) of Social Studies Teachers'

Teachers are important elements in classroom interaction and their perceptions do have an impact on what they teach and how they teach it.Miima, Ondigi, and Mavisi (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 and Guven (2008) contend 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. The powerful state of a particular technology and the extent to which it is used in the teaching and learning process is greatly determined by the attitudes teachers or users have towards it (Zhao, 2007). This implies that the integration of technology into the curriculum is not likely to succeed without teachers'

35

acceptance and commitment to technology use (Zhao, 2007). Woodrow (1992) asserts that any successful transformation in educational practice requires the development of positive user attitudes toward the new technology. The development of teachers' positive attitudes toward ICT is a key factor not only for enhancing computer integration but also for avoiding teachers' resistance to computer use (Watson, 1998).

The term technology defies a concrete definition. Rooney (1996) contend that it is not necessary to devote a great deal of time and effort towards working out a precise definition of technology. He argues that the search for a precise definition is destined to fail because technology has no single meaning. Etymologically, the term technology stems from the Greek word"*techne*", which is commonly translated as "art, craft or skill, linking" the term to human practical activity and creation whiles "*logos*", means the "direction of words, speech and reason" (Mitcham, 1994). Various meanings can in fact be drawn from the conjunction of the two terms"*techne*"and "*logos*"yet it is commonly interpreted in direction of the study and systematic knowledge of practical arts.

Few researchers have made attempts to define the concept from their own viewpoints. For instance, Hooper andRieber, (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. On the other hand, 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. Karve (2009) shares in the view of Ayas (2006) by conceptualizing technology as the knowledge of the

36

manipulation of nature for human purposes. However, it can be seen that 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. This implies that technology generally refers to human innovation in action that involves the generation of knowledge and process to develop systems that solve problems and extend human capabilities.

In line with this, Archambault and Barnett (2010) contend that technological knowledge is used when teachers implement technology to help deliver information in the classroom. To Archambault and Barnett, technology can include dry erase boards, books, and even advanced technologies such as computer software and interactive whiteboards. Technology knowledge is ever-evolving because new technologies are often implemented in the classroom. A teacher with a firm understanding of technology knowledge is able to adapt new technologies to the classroom environment, and understand how the subject matter can be enhanced by the application of technology.

Archambault and Barnett (2010) affirms Cox (2008) by saying that teacher's technological knowledge encompasses modern technologies such as computer, internet, audio, digital video and commonplace technologies including overhead projectors, blackboards, and books. The technological aspect of education can be electronic learning which is defined as "learning from any device dependent upon the actions of electronics, such as television, computers, microcomputers, videodiscs, video games, cable, radio interactive

37

cable, video texts, teletext, and all other devices in the process of being invented that are electronic in nature" (White, 1983. p 51). Even though the definition is somehow outdated in terms of what is currently available for educational technology in the developed world, the general idea has stayed consistent within the developing countries.

According to Mishra and Koehler (2006), technology knowledge is the knowledge about various technologies ranging from low technologies to digital technologies such as the internet, digital video, interactive whiteboards, and software programmes. Thus the knowledge teachers use to interact with students through a range of technologies. Standard technologies, including books, dry erase boards, chalkboards, and traditional overhead projectors which require little training to implement in the classroom. Advanced technologies like computers, internet and interactive whiteboards require specialized advanced-level skills that are not always intuitive to the teacher without training. Before teachers can use computers, they must understand how to interact with them (Koehler & Mishra, 2005;Mishra &Koehler, 2006).

Acquiring technological knowledge in this manner enables a person to accomplish a variety of different tasks using information technology, and to develop different ways of accomplishing a given task (Niess,2005). This conceptualization of technological knowledge does not posit an "end state," but rather sees it developmentally, as evolving over a lifetime of generative, open-ended interaction with technology. Technological knowledge includes an understanding of how to use computer software, hardware, presentation tools (document presenters and projects) and other technologies used in educational contexts (Niess, 2005).

38

Education Technology Research Development (2007) stresses that teachers' need competence in three major skills in order to integrate technology effectively: technology skills, technology-supported pedagogy skills, and technology-related classroom management skills.

Studying the perspectives of Social Studies teachers on technology integration, Zhao (2007) reported that participants in his study mentioned they use a variety of technology tools such as the overhead projector, television, video cassette recorder, and computers. Contrary to the study by Zhao (2007), Gulbahar and 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. These teachers also felt that their skills were lacking for other types of technology which could also be used as an aid in the classroom.

Most importantly, technological knowledge covers the ability to adapt to and learn new technologies. It is important to note that TK exists in a state of flux, due to the rapid rate of change in technology (Mishra, Koehler & Kereluik, 2009).

Earlier, knowledge of digital technology was popularly associated with the concept of 'technology literacy' knowledge and skills of operating computer associated technology (Berson & Benneth, 2009). This alignment has now shifted to a broader concept ICT literacy; an emerging concept that conceptualises technological knowledge as a knowledge base that hinges on the integration of technology and information literacy with problem-solving. Thus, the meaning of technological knowledge has advanced from technology literacy as earlier conceived to ICT literacy. Therefore, technological knowledge within the context of the TPACK can be re-defined to mean a

39

knowledge base that describes teachers' ability to use digital technology, communication tools and networks for the purpose of accessing, managing, integrating, evaluating, creating and communicating information; with due consideration of the legalities and ethics governing the use of digital information in the information age (Anderson & Speck, 2001).

For teachers to become fluent in the usage of educational technology means going beyond mere competence with the latest tools to developing an understanding of the complex web of relationships among users, technologies, practices, and tools. Teachers must understand their role in technologically-oriented classrooms. Thus, knowledge about technology is important in itself but not as a separate and unrelated body of knowledge divorced from the context of teaching. It is not only about what technology can do, but perhaps what technology can do for them as teachers (Peck, Cuban, & Kirkpatrick, 2002).

This trepidation about investment in and research about educational technology is also echoed within the field of Social Studies education. In the late 1990s, Martorella (1997) strongly urged Social Studies educators and their research communities to tap into the power of technology for supporting and transforming Social Studies teaching and learning. Although the research community has responded with a small sampling of research, the potential of technology, specifically in the teaching and learning, within Social Studies education has not been realized (Freeman, 2002; Bednarz & Van der Schee, 2006).

In another study by Miima, Ondigi and Mavisi (2013), History teachers viewed technology as providing a rich environment for learners; providing

40

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. Another study by Haydn (2001) has established that teachers have fairly positive views on the potential of technology to improve teaching and learning in History.

Similar findings was obtained in a study by Isman, Abanmy, Hussein and Al Saadany (2012), secondary school Social Studies teachers who participated in the study had positive attitudes towards the use of interactive whiteboards in the classrooms, few of them indicated that they used it effectively in the classrooms (Isman et al., 2012). Furthermore, it implied that a change in school culture and classroom pedagogy was needed, specifically to one that supports enthusiasm and innovation in learning and teaching.

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 and 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 do not make use of other instructional and technologically oriented resources

41

such as audio media, visual media and audio-visual media in History lessons. A similar study by Adeyinka (1989) also revealed that technological aids such as television and radio, slides, projectors, films and film-strips are either never used to teach History in majority of schools. 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.

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.

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, feedback and also improve students" collaboration. The study concluded that teacher perceptions on the application of technology in the teaching and learning environment were positive.

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 and Banini (2008) on teachers' ICT

42

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.

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.

Largely, these findings give credence to the fact that teachers generally have a positive view and understanding about the use of technology in instruction and are willing to integrate technological resources into their teaching. As indicated earlier, the way teachers perceive technology is crucial if technological integration into classroom instruction is to be successful. It could therefore be said that Social Studies teachers who have positive

43

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.

Content Knowledge (CK) of Social Studies Teachers'

First and foremost, teacher's content knowledge is very important. One of the aspects of a highly-qualified teacher from the *No Child Left BehindAct* is to be knowledgeable in content of the subject taught. The United States Department of Education (2004) states, "teachers in the middle and high school must prove that they know the subject they teach with a major in the subject they teach" (p. 4).

Ahtee and Johnston (2006) show that a lack in subject matter knowledge can lead to teaching difficulties. According to Hill, Rowan, and Ball (2005), many professional development activities are aimed at improving content knowledge because evidence has shown that teacher knowledge in the subject area can strongly influence student learning.

One aspect of the subject matter of Social Studies is the nature of the subject. This comprises the meaning, scope, goals and objectives of Social Studies.The discipline Social Studies over the years has lacked consensus in a definite meaning and definition by Social Studies scholars. Shane (1993) shares in this view by saying "the question of defining Social Studies has plagued the field of Social Studies since its inception in 1916" (p.262). Similarly, Barr, Barth and Shermis (1977) are of the view that the field Social Studies is caught up with ambiguity, inconsistency and contradiction that

44

represents a complex educational enigma which defies any final definition acceptable to all.

Defining Social Studies is not an easy task: it is encumbered by a confounding history, conflicting conceptual ideas and strong ideological divergence in both political and educational philosophy. Even the question of whether Social Studies is a singular or plural term has political overtones. Singular suggesting the field is an integrated study of social knowledge and plural suggesting it is a collection of several separately defined subjects. More important, the several definitions of Social Studies cover a political-educational gamut from right-wing conservative traditional (Zevin, 2000).

Some writers define Social Studies in the form of integration. Bar and Shermis (1970) state that, "Social Studies is an integration of experience concerning human relations for the purpose of citizenship education" (p. 69). Similarly, the African Social and Environmental Studies Programme (ASESP,1994) sees Social Studies as "the integration of purpose of promoting and practising effective problem solving, promoting citizenship skills in social, political and economic issues and problems" (p.5).

Lindquist (1995) share similar view by defining Social Studies as the integration of knowledge, skills, and processes that provide powerful learning in the humanities and social sciences for the purpose of helping children learn to be good problem solves and wise decision makers. Viewed from modern perspective, Mehta (2004) defines Social Studies as an integrated approach to the study of the social sciences subjects and other related subjects like music, art and craft with the view of preparing students to fit into a society. Moreover, Ghana Education Service (GES, 2001) defines Social Studies as

45

"an integrated body of knowledge, skills, and attitudes that will help the pupils develop a broader perspective of Ghana and the world" (p. iii).

The official definition by the National Council for Social Studies (NCSS) (2010) contains a strong inter-disciplinary focus with the aim of solving social problems. It states that Social Studies is the integrated study of the social sciences and humanities to promote civic competence within the school programme. To the NCSS, because civic issues such as health care and crime are multi-disciplinary in nature, understanding these issues require multi-disciplinary education and Social Studies is one of the subject in the Ghana Education Service that is multi-dimensional in nature. This depicts that within the school programme, Social Studies provides coordinated and a systematic study drawing upon disciplines such as Anthropology, Archaeology, Economics, Geography, History, Law, Philosophy, Political Science, Psychology, Religion and Sociology, as well as appropriate content from the humanities, Mathematics and Natural Sciences" (NCSS, 2010).

Ogunyemi (2006) submits that Social Studies is the study of the dynamic interactions people have with themselves and the elements of their environments. With these definitions, Social Studies could be seen as a discipline dealing with the study of human behaviour and human institutions which aim at helping the people understand the cultural values of the society in which they live. It is a problem-solving discipline in a multicultural society as it is used in making informed and reasoned decisions for progress and development in the society.

It is evident from these definitions that the main attribute that makes Social Studies more discrete is that it incorporates many fields of endeavour.

46

The integrative nature of Social Studies therefore calls for critical thinking about social issues leading to the development of thoughtfulness in students. Through integration students acquire a variety of skills including those of inquiry, investigation and discovery as they are actively involved in the teaching and learning process.

A survey of the available literature reveals, at least, three perspectives from which the scope that forms the content of Social Studies can be defined. The term scope describes the idea of selecting subject matter for inclusion in the school curriculum and then placing it at successive grade levels. There are some writers who define the scope of the subject in terms of the disciplines that furnish the content for the Social Studies curriculum. Other writers describe the scope from the perspective of the environments (communities) that are concentrically studied. Yet still, others delimit the scope in terms of areas that society's life consider relevant for study.

According to Banks (1990), at the lower grades in schools, the scope of Social Studies should be based on institutions and communities such as the home, the family, the school, the neighbourhood and the community. He goes on to state that at the higher levels a variety of elective courses such as Sociology, Psychology, and the problems of democracy should be offered. In Ghana, the scope of Social Studies appears to echo the ideas put forward by Banks. At the basic level (Primary and Junior High), the subject is organised around eight communities the home, the school, the neighbourhood, the local community, the national community, the West African Community, the African Community and the World Community whiles at the higher levels (Senior Secondary School, Teacher Training Colleges and Universities), the

47

Social Studies programmes combine elements from Geography, Economics, Sociology, Political Science and History. The programmes are structured to reflect the Ghana Education Service(GES) (1988) statement that Social Studies integrate history, geography, civics and element of economics, government and sociology.

Moreover, Martorella (1994) writes that most educators would concede that Social Studies gain some of its identity from the social science, such as History, Political Science, Geography, Economics, Sociology, Anthropology and Psychology. In explaining the scope of Social Studies, GES, (2001) emphasises that Social Studies takes its source from geography, history, economics and civic education and integrates it in a fashion that creates a subject of its own. Ravitch (2003) sums it up by saying, "Social Studies is seen as a broad umbrella that covers a range of subjects, disciplines, and skills" (p.1).For Aggarwal (1982) the scope of Social Studies includes a study of relationships, functional study of natural sciences and arts and a study of current affairs.

With a different dimension on the scope or subject matter for the teaching and learning of Social Studies, Case (1994) opines that the scope of Social Studies should be discipline-based, dimension-based and concern-based. Discipline Based Scope means that the structure and contributions of the individual disciplines especially the social sciences should be used as the building blocks for Social Studies. This point has been explained in the previous paragraph. The philosophy underpinning the Disciplinary-base scope is that the structure and contribution of the individual disciplines are used as the building blocks of Social Studies. The aim here is to promote the

understandings, abilities and values associated with the subject area. It is significant to note that where subject areas are used to define the scope of social studies, the aim is to promote the understandings, abilities and values associated with the subject areas. Consequently, what is selected for examination should be the defining questions or purposes, the central concepts and bodies of knowledge, the attitudes and methods of inquiry and the criteria for judging evidence peculiar to those subject areas. If this is done, it could "provide the most systematic and rigorous (or disciplined) way of organizing our study of the social world" (Case, 1994, p. 3).

Dimension-based scope is predicated upon the belief that the world does not organise itself according to disciplines, hence the focus of Social Studies should be commonplace dimensions of society. The same scope is portrayed by Cobbold (2013) in "Introduction to the Nature and Philosophy of Social Studies" as the Community - Base Scope. Thus the scope from which the perspectives of the social environments or communities in which students' live and function is studied.

The Concern-Based Scope emphasises pressing issues or challenges facing students in local, national and international areas. Examples are environmental education, global education, human rights education, law related education, multicultural education and peace education. Tabachnick (1991) seems to be referring to the two types of scope (dimension-based and concern based) when he states: "Social Studies ought to be the most responsive to social conditions and social events, social transitions, confusions and conflict of interests in a conununity" (p. 726). Such issues need to be explicitly and fully addressed with a multidisciplinary context. Cobbold

49

(2013) buttresses this by writing this scope forms the critical areas or issues of society's life. This is the issue-based scope of the subject. To him, such issues go beyond what Case (1994) has stipulated and not limited to this as well environmental degradation, globalization, modernization, human right abuse and violation, unemployment, war and conflict. It is important that such an issue is addressed in a multidisciplinary context where Social Studies becomes responsive to social phenomena, events, transitions, conflict and areas of interest to the society or the community.

Kankam, Bekoe, Ayaaba, Bordoh and Eshun (2014) claim there are varied conceptions about the scope of content of Social Studies in Ghana. Teachers conceptualized the content of Social Studies to cover: subject-centred; acquisition of problem solving skills; solving issues that threaten human survival; separated into individual subject areas rather than organised as integrated discipline; development of positive attitudes of students; critical examination of controversial issues; on the critical thinking about important social and political issues; and the key social and cultural situations in the community. The focus on subject-matter knowledge is suggesting that teachers have not made the necessary impact on their teaching and that they lack the essential knowledge for teaching their field or area (Ma, 1999).

According to Borhaug (2005), Social Studies is short of a specific didactical standard defining the subject matter's most important purpose, goal, content and teaching methods. This makes the subject matter a vulnerable one, set out to cover topics and themes that the school should be concerned with, but that do not fit into any of the other established school subjects. Such a school subject becomes a difficult one to teach. Altogether, Borhaug (2005)

50

identifies at least three different perspectives on what should be the content of Social Studies.

First, an important purpose is to legitimize the current (technological) structure of the society by transferring democratic values, and teaching students about the established social and political institutions. From a political science perspective this is, of course, important to maintain established structures, such as for example democracy and free speech (March & Johan 1995). There are several ways to teach Social Studies to secure such intentions.

The second perspective on Social Studies, introduced by Borhaug (2005) is to treat Social Studies as a subject that should teach students important skills that may be useful in their everyday life. This would involve for example how one function within the technological society and what welfare rights you have, as well as critical thinking skills and methodological competence. In the most recent national curriculum, this has become an important perspective, suggesting that students should learn the appropriate skills to manage social and political issues. In order to participate in the life of the dynamic society, members need to understand the changes occurring within the society, how these changes came about, how to manage such changes and push for the future. It appears plausible that applying skills and methods becomes difficult without some background knowledge of the society in which new knowledge is to be constructed.

The third perspective suggested by Borhaug (2005) is a more critical approach where the goal of Social Studies teaching is that the students should become reflective upon their own action, and the social and political system.

51

Students should learn to understand that political behaviour and institutions are not given, but subject to evaluation and change. This requires knowledge of the social and political system, as well as the student's position within it. But it also requires political skills and the ability to cooperate with other, as well as the methodological skills to independently evaluate information.

Currently, there has been general agreement that the fundamental purpose of Social Studies is Citizenship Education. According to Blege (2001), "in the context of Ghana, Social Studies is Citizenship Education which aims at producing reflective, competent, responsible and participatory citizens" (p. 13). This goes to support the view of the National Council for Social Studies (1994) in America that "the primary purpose of Social Studies is to help young people develop the ability to make informed and reasoned decisions for the public good as citizens of a culturally diverse democratic society in an interdependent world" (p. 23). The emphasis of Social Studies is on developing the relevant knowledge, skills, attitudes, and values that will enable learners to make reflective decisions and act on them to solve both their personal and societal problems. Therefore, Social Studies in the school setting has a unique responsibility for providing students with the opportunity to acquire knowledge, skills, attitudes and values to function effectively within their local, national and the international society. This goes to declare that there is the need for effective teaching towards the attainment of the goals of Social Studies.

From these perspectives, the scope of Social Studies content at the Senior High Schools in Ghana is concerned with equipping the student with an integrated body of knowledge, skills and attitude that will help the student

52

develop a broader perspective of Ghana and the world. The subject probes the past and provides knowledge for the subject to understand his/her society and be able to solve personal and societal problems (Curriculum Research Development Division [CRDD], 2007; 2010). Moreover, the teaching syllabus for SHS Social Studies is in three sections which focus specifically on Environment; Governance, Politics and Stability; and Social and Economic Development (CRDD, 2007; 2010).

The various type of perspective from which the scope of Social Studies defined is not exclusive. There is some unification and overlap which provide alternative ways of answering the basic question "What content should be selected for study in Social Studies"? The apparent boundless nature portrayed by the scope of Social Studies has led to some individuals to describe the subject in derogatory terms.

In the words of Beard (1963), the scope of Social Studies is a "seamless web too large for any human eye". That the seamless web still exist and will continue to exist because the human experience cannot be taught and comprehended through a single discipline or through the examination of a single aspect of life. In the words of Leming and Ellington (2003) they describe the scope of Social Studies as "boundless, eschewing substantive content and lack focus for effective practice". They add, "students" rank Social Studies courses as one of their least liked subjects and that Social Studies textbooks are largely superficial and vapid" (pp. i-ii).

Zevin (2000) in his "personal prologue" writes that, "part of the reason Social Studies is disliked by so many students is the arguments, knowledge of facts, names, places and all the facts they had to know"(p. xiv). Perhaps the

53

debate about the scope of Social Studies may be partly due to the nature of the subject.

In view of the researcher, Social Studies appears not to have an apparent core content, the challenge for Social Studies curriculum developers is to design an instructional programme that emphasises depth of important ideas within appropriate breath of topic coverage. Thus, the selection of content must shape the needs of the learner and the nature of the society as they complement each other. A well rounded Social Studies scope must therefore provide for the development of competencies and dispositions which will enable the learner to be creative, productive and innovative that serves as gateway to quality of life for learners.

Pedagogical Knowledge (PK) of Social Studies Teachers'

According to Rodgers and Raider-Roth (2006), "many a times teachers are knowledgeable in the subject matter without necessarily being able to decompress it in a way that makes it accessible to their students" (p. 280). Teachers must be competent with the teaching methods, strategies and techniques to effectively use the appropriate pedagogy to teach the content of a subject.

Shulman (1986) says the definition of pedagogical knowledge is any theory or belief about teaching and the process of learning that a teacher possesses that influences that teacher's teaching. This process includes the ability to plan and prepare materials; time and classroom management skills; implementation; problem solving and teaching strategies; questioning techniques; and assessment (Hudson, 2007). The use of a particular teaching

54

pedagogy will influence classroom management, questioning techniques and mode of assessment (Hudson, 2007).

Social Studies is now a distinct part of the curriculum at all levels of the Ghana's educational system. Its relative newness in schools, coupled with the dearth of professionally qualified Social Studies teachers and the inevitable need to have teachers equipped with a high level of competence in the delivery of Social Studies, presents a number of challenges.

According to Rodgers (2003) the importance of teacher pedagogical knowledge or being methodical is as follows:

1. It makes teaching and learning very simple and easy.

2. It enables more learning to take place.

3. The time taken to achieve more learning outcomes is very short. This is particularly so when the learning experiences are interesting and are tailored to the needs and maturational level of the learners.

4. Teaching methods help to implant what is pleasantly learned in the memory of the learners and makes for their easy recall.

5. People who are taught with teaching methods get to realise their import and may in the end acquire them for use in their interactive session in the classroom if they are student-teachers or serving teachers.

6. The use of teaching methods keeps the learners alive to the teaching-learning process.

7. Teaching methods have the potential of reducing learners' classroom disruptive behaviours to the barest minimum and therefore, contribute quite positively to the desired effective classroom management.

55

8. The choice of an appropriate teaching method, to suit a given teaching learning encounter keeps the teacher professionally alive in his preparations to teach very well (p. 53).

The methods of teaching Social Studies are categorized into student-centred and teacher-centred approach (Tamakloe, Amedahe & Atta, 2005). One significant fact derived from the study of Social Studies is the recognition of human being as the most important aspect of learning and development of purposeful skills and knowledge to enable them function well in the society. It is essential for teachers to use student-centred methods to realise the stated objectives, goals and aims of the subject (Abdu-Raheem, 2011).

Abdu-Raheem (2011) observed that the objective of Social Studies is yet to be achieved as a result of poor teaching and lack or inadequacy of instructional materials to motivate students. Cresswell (2004) asserts that effective teachers present information or skills clearly and enthusiastically, are non-judgmental and relaxed, keep the lessons task-oriented, aim at students' achievement, interact with students through probing questions and assist students by elaborating their answers.

In addition, Adewuya (2003) saw brainstorming in discussion method as a way of clarifying certain ideas and explore contributions and feelings of intellectually charged minds to the maximum limit. Stephen and Stephen (2005) states that discussion method is a process of giving and talking, speaking and listening, describing and witnessing which helps expand horizons and foster mutual understanding. Abdu-Raheem (2011) explains that discussion method of teaching engages both teachers and students in thinking and develops in students social skills of talking and listening. Yusuf and Al-

Banawi (2013) also added that involving students in class activities and discussion engages them and promotes their desire to learn the subject.

Again, Abdu-Raheem (2010) suggests inquiry, problem-solving, discussion, discovery and role playing as effective methods. Yewande (2000) and Adewuya (2003) believed that problem-solving is using information and reasoning to overcome obstacle barrier. Abdu-Raheem (2011) also agreed that problem-solving method is effective because students are able to participate actively in the lessons. Richards (2005) and Ogunkunle (2008) also agreed that self-directed learning makes learning effective and meaningful to learners, improve and develop problem-solving abilities in learners and also take care of all categories of learners.

Indeed, according to Thronton (2005), the teaching style of the teacher should match the learning style of the learners in order for learners to understand what the teacher is teaching. They posited that learners should be at the forefront or in the driver's seat and in charge of their own learning while the teacher acts as a facilitator during teaching and learning process.

Adesanya and Adesina (2014) note that meaningful teaching and pleasant learning of basic concepts and processes can only be accomplished within the instructional framework with the combination of teaching strategies and approaches. Lecture method allows a great deal of information to be passed to the learner and favours handling of large classes. In spite of the advantages, Seweje (2000), Adewuya (2003) and Abdu-Raheem (2011) laments that the method does not stimulate students' innovations, inquiry and scientific method. It encourages students to cram facts that are easily forgotten (Okwilagwe, 2000).

Extensive use of this method tends to substitute the teacher for the student and leads to students' fading memories and decreases students' attention (Jekayinfa, 2012). Afolabi (2000) also asserted that teaching and learning is famous of conventional teaching where teacher is the centre of the teaching, a controller of the class activities and a dictator while the learner is a passive learner who takes all the words of the teacher without interaction between him and the teacher. In the same vein, Adelekan in Afolabi, Abidoye and Afolabi (2013) lamented that in spite of the laudable objectives and benefits of Social Studies in the school curriculum, the teaching of the subject is characterized by conventional method of teaching which always lead to ineffective learning and poor attitude of students towards the subject.

On the other hand, Oluwagbohunmi and Abdu-Raheem (2014) stress that old methods of teaching must be discarded and new ones that are activity based and ensure active involvement of learners must be employed to ensure achievement of learning objectives. However, Afolabi (2000) stress the need for a continuous systematic programme of professional improvement to enhance the effectiveness and efficiency of teaching.

Pedagogical knowledge is the knowledge of how to teach. Education courses offered in undergraduate, graduate, certificate and re-certification courses are meant to help develop teacher knowledge about teaching just as content classes develop content knowledge. Teachers need to be well equipped in the methods of teaching as the teacher is responsible for translating policy into action in the classroom. However, effective and efficient Social Studies teachers must have the knowledge of what to teach and how to teach it.

Pedagogical content knowledge (PCK) of Social Studies teachers'

58

Pedagogical content knowledge (PCK) is an "amalgam" (Shulman, 1986) of content and pedagogical knowledge. PCK is expected to create an impact on teaching practice because it is closely related to "the ways of representing and formulating the subject that make it comprehensible to others" (Shulman, 1987, p. 9). PCK is generally defined as a construct of several components associated with how to transform content knowledge into pedagogically powerful strategies, but PCK components need to be identified in a specific subject.

According to Quartey (2011), Social Studies teachers need to possess the philosophy of the subject they teach and learning of students. The philosophy provides guidance and direction in choosing content, objectives, teaching and learning experience and nature of assessment. In order for students to get understanding of facts, concepts and generalisations taught in Social Studies to develop positive attitudes in them, their teachers need to have a strong pedagogical content knowledge in Social Studies. This knowledge comes from Social Studies courses, education courses, experience, and professional development. This goes to support the view of the National Council for the Social Studies (NCSS, 2001. p 54) that the methods course for Social Studies teachers' preparation should focus on the "pedagogical content knowledge that deals specifically with the nature of Social Studies and with ideas, strategies, and techniques for teaching Social Studies at the appropriate level".

The view of the NCSS (2001) is echoed by Shulman (1987) by describing pedagogical content knowledge as the blending of content and pedagogy into an understanding of how particular topics, problems, or issues

59

are organized, represented and adapted to the diverse interests and abilities of learners.

Pedagogical content knowledge involves much more than just content and pedagogical knowledge. Ananga and Ayaaba, (2004) contend that Social Studies teachers must possess conceptual and procedural knowledge that students bring to the learning of a topic, the misconceptions about the topic that they may have developed, and the stages of understanding that they are likely to pass through in moving from a state of having little understanding of the topic to mastery of it. It also includes knowledge of techniques for assessing students' understanding and diagnosing their misconceptions, knowledge of instructional strategies that can be used to enable students to connect what they are learning to the knowledge they already possess, and knowledge of instructional strategies to eliminate the misconceptions they may have developed (Ananga & Ayaaba, 2004).

Social Studies teachers must have the knowledge of the content and master the teaching methods and strategies to facilitate effective interaction between the learners and the content(Parker & Heywood, 2000). They should also give room for students' own process of the exploration and discovery which is otherwise known as problem-solving method of teaching. According to Bandele (2003), the effectiveness of this approach depends largely on the proper orientation of teachers towards the use of the method, the characteristics of the learners and the nature of the content.

Eggen and Kauchak (2001) declare that where pedagogical content knowledge is lacking, "teachers commonly paraphrase information in learner's textbooks or provide abstract explanations that are not meaningful to their

60

students" (p. 137). Bailey, Shaw, Hollified (2006) asserted that teachers' variables such as teachers' knowledge of subject matter, teaching skills, attitude in the classroom, teacher's qualification and teaching experience are noted to have effects on students' academic performance.

Technological Content Knowledge (TCK) of Social Studies Teachers

Technological Content Knowledge (TCK) means knowledge about the method or the manner in which technology knowledge (TK) and content knowledge (CK) are reciprocally related to each other. Although technology limits types of expression which might occur, new technology is mostly more compatible with new and different expression, as well as more flexible. Teachers need not only to know about subject content which they teach but also the method or the manner which that content would be adapted by applying technology.

According to Mishra and Koehler (2006), technological content knowledge is the basis of good teaching with technology and requires that educators understand the representation of concepts using technologies and the knowledge of what makes concepts difficult or easy to learn and how technology can help redress some of the problems that student's face. Moreover, they posit that knowledge of students' prior knowledge, theories of epistemology; knowledge of how technologies can be used to build on existing knowledge and how to develop new epistemologies or strengthen old ones is the responsibility of teachers (Mishra & Koehler, 2006).

It should be noted that the presence of dynamic technology in a classroom is insufficient to encourage higher-order thinking. Today, as

technology becomes ubiquitous in the nation's classroom, computers have begun to be incorporated in a dynamic fashion. The available technology enables teachers to utilize a variety of skills and formats toward a single purpose, such as digital storytelling (Porter, 2006). Oliver and Hannafin (2000) found that teachers' incorporated higher-order thinking in technology-driven tasks only after instruction in critical thinking skills.

Berson and Balyta (2004) posit there are three approaches in integrating technology to the Social Studies content by teachers. They are:

1. Social scientist: This is a problem-solving approach to Social Studies teaching where there are frequent uses of multi-media materials such as maps, diagrams, graphs, tables and pictures to develop a broad range of skills, whilst pupils concurrently acquire facts and concepts. With this approach, there is heavy emphasis on making observations, and interpreting and inferring from these observations in order to solve problems and exemplify concepts. High levels of student talk reflect active participation in the learning process.

2. The knowledge transmitter: This style is characterised by emphasising on the acquisition of facts and concepts, with some convergent problem solving. The approach is teacher-directed and didactic, with high frequencies of teacher statements of facts, and frequent directives to multi-media materials to acquire information. Low levels of talk amongst students confirm the teacher-directed and informational emphasis of this style.

3. The social inquirer: This is a process orientation to Social Studies teaching, with emphasis on intellectual and personal development

62

through probing public issues. Social Studies content is learned to facilitate this aim and to provide a basis for decision-making. There are high levels of teacher questions and statements, with many speculative interactions designed to raise issues, help pupils clarify underlying problems and analyse value stances. There are high levels of talk amongst students and frequent interactions with social and environmental resources.

With regards to the teaching of contemporary issues in the Social Studies, the social inquirer and the social scientist would be regarded as more appropriate so that learners will be put at the centre of learning to discover solutions to problems themselves.

Law (2003) posits that citizenship preparation falls in line with the disposition on responsive curriculum. Law states that a responsive curriculum equip the learner for development in information, communications and technology (ICT); local and global challenges of ensuring peace and resolving conflicts, health concerns and myriads of social, economic and political demands that confront individuals and the entire society on daily basis. The current trend of Social Studies curriculum is well responsive enough to equip students with requisite skills that will make them function effectively and contribute productively to the growth and development of the society.

The global requirements for education include promoting life-long education, re-emphasizing the quality of learners' experiences, re-organizing subject into key learning areas so as to develop broad knowledge base and develop in the learner the ability to think critically and be innovative.

63

Lee (2008) suggests that TPCK, although messy when it comes to Social Studies because of its multiple disciplines, there can be an effective integration of Social Studies teachers' technological and content knowledge (CK) in the classroom. Lee asserts that with proper vetting, Social Studies teachers can effectively add technology to their lesson plans thus allowing students access great amounts of information and thereby providing an authentic audience for their work. According to Lee (2008), there are six specific pedagogical actions that Social Studies teachers might use to frame inherently technological subject matter. They are:

1. locating and adapting digital sources for use in the classroom,

2. facilitating their students' work in non-linear environments, requiring students to make critical decisions about how to select their own resources and navigate through a wide variety of interfaces,

3. working to develop critical media literacy skills among their students,

4. providing students with opportunities to utilize the presentational capabilities of the Web to motivate and encourage students,

5. using the internet to extend collaboration and communication among students, and

6. extending and promoting active and authentic forms of human interaction in technology enabled social networks (Lee, 2008, p.130).

Digitized by UCC, Library

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).

In a current study, Mai and Ken-Neo (2003) contend that multimedia technologies significantly influence students' learning by broadening their scope of learning and knowledge. This implies that educators can transform the subject matter through the use of technological resources such as multimedia/hypermedia to support students to display their ideas and information in terms of the multimedia format and use their higher order thinking skills like analysis, synthesis, and evaluation to become active learners rather than memorizing knowledge.

March (2003) points out that the best webquest used by instructors motivate students to see richer thematic and conceptual relationships, to provide the real world learning, and to reflect on their own metacognitive skills which are very important to evaluate at the level of higher-order thinking. According to March (2003), scaffolding is at the heart of the webquest mode and can be used to apply such approaches as constructivist strategies, differentiated learning, and situated learning.

Hooper and Rieber (1999) also stress that integration of technology is dependent on technology for delivery of classroom lessons. Therefore, the focus of technology integration must be how to teach students more effectively using a variety of technological tools. In other words, what teachers need to know most importantly is how to teach content more effectively.

Buabeng-Andoh (2012), explored Social Studies teachers perception of technology in giving instruction and revealed that majority of the respondents perceived 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.

Reporting similar findings, Rampersad (2011) indicated that geography teachers perceived technology as an important motivational tool that encouraged them to be creative in their approach to teaching. Kandasamy and 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 (teachers) were of the view that the computer helps students understand concepts in more effective ways and also helps teachers to teach effectively.

Fullan (2000) remind that since technology is everywhere, the issue is not whether they use it, but how they manage it. He stressed that as technology becomes more powerful, good teachers become more indispensable (p. 582). This is because as he explained, technology generates a glut of information which has no particular pedagogical wisdom on its own. This is to say that regarding new breakthroughs in cognitive science about how learners must construct their own meaning for deep understanding to occur, the teacher must know how to manage and utilize technology in ways that would enhance learning.

Starr (2011) defined technology integration as using computers effectively and efficiently in the general content areas to allow students to

66

learn how to apply computer skills in meaningful ways in their studies. According to her, discrete computer skills take on new meaning when they are integrated within the curriculum. Integration is incorporating technology in a manner that enhances student learning. It is using software supported by the business world for real-world applications so students learn to use computers in flexible, purposeful and creative ways. Technology integration is having the curriculum drive technology usage, not having technology drive the curriculum. Finally, technology integration is organizing the goals of curriculum and technology into a coordinated, harmonious whole.

Effective technology integration is achieved when it is usedto support curricular goals. It must support four key components of learning: active engagement, participation in groups, frequent interaction and feedback, and connection to real-world experts (Harkverdi, Gucum & Korkmaz, 2007). It has been widely agreed that instructional technology does, indeed hold a remarkable promise for changing the quality of teaching and learning in schools - it is the catalyst for transformation(Ryan & Cooper, 2006; Honey, 2001).

It is noted that for technology integration to be effective, the teacher should have an open mind to new teaching methodologies and be versatile enough to incorporate them into his or her curriculum (Basilicato, 2005). In other words, teachers must find novel ways in which current computer applications from other fields can be modified to suit their classroom purposes.

Technological Pedagogical Knowledge (TPK) of Social Studies Teachers

67

When you begin to think about incorporating technology into Social Studies, it is interesting to note that Social Studies has been affected by the impact of technology more than any other subject. According to Ayas (2006), researchers report that Social Studies educators are somewhat less likely to integrate technology into the curriculum than instructors in other disciplines, such as Mathematics and Science education. The research disagree with Ayas (2006) because as Social Studies teachers cannot in short term rewrite the Social Studies curriculum, reintroduce Social Studies, redesign teaching methods that integrate technology they can enter into dialogue with the novice and the experienced teachers about the affordance and the constraints concerning the unification of technology in the teaching and learning of Social Studies.

Condie and Munro (2007) conclude that the use of ICT in teaching and learning by teachers has positive effects in a number of subjects, as well as being constructive in assisting students that are marginalized as a result of personal or familial issues. They further concluded that using Computer Aided Instruction (CAI) considerably diverts the teacher's focus to weaker students. Similarly, Rodden (2010) contend that when teachers integrate educational technological software, video and interactivity, they have different intelligences to assist and appeal to all the sense of the students to aid content delivery and understanding.

Lee (2008) suggests that TPCK, although messy when it comes to Social Studies because of its multiple disciplines, can be used to include technology in the Social Studies classroom. Lee asserts that with proper vetting, Social Studies teachers can effectively add technology to their lesson

68

plans thus allowing students access great amounts of information and providing an authentic audience for their work. Using Shulman's term "transformative action", teachers assure their chosen pedagogy is most appropriate. Lee (2008) describes technology as "a dynamic component in this transformative process" (p. 130). He therefore suggests there four pedagogical actions designed to improve instruction that can inform how technology can best be used in the Social Studies classroom. With these actions, Lee sought that Social Studies teachers might chose to improve their instruction through the integration of technology:

1. making use of historical source materials available through online sources,

2. promoting understandings of spatial, human, and physical systems aided by technology,

3. expanding social experiences using technology, and

4. encouraging economic literacy through the use of technology (Lee, 2008, p. 131).

With so many different forms of technology available to be used and integrated into the classroom, how can teachers know which strategies are the most effective? Some of the latest and hottest trends being used to integrate technology into the Social Studies curriculum are virtual or online field trips, WebQuests, educational games online, computer simulation programs, and the digital poster website, Glogster (Ayas, 2006).

Virtual or Online Field Trips

69

Virtual and online field trips are among the best ways to bring Social Studies topics to life in the classroom. In fact, in Wilson, Rice, and Bagley's article, *"Virtual Field Trips and Newsrooms: Integrating Technology into the Classroom"*, the authors had this to say about the benefits of virtual field trips, virtual field trips on the internet provide students with first-hand learning experiences and allow for the interactivity and student control delineated in a student-centred constructivist model (Ayas, 2006).

Thus, virtual or online field trips for students can become an authentic experience, which is one principle of meaningful learning (Ayas, 2006). An interesting example provided by Wilson, Rice, and Bagley was how virtual field trips were integrated into the classroom when high school students participated in a virtual field trip to Mount Vernon. This field trip was used was while the students were studying the American Revolution and George Washington (Ayas, 2006). This is just one example of many on how virtual field trips can be used effectively in the Social Studies classroom.

WebQuest

Another example of integrating technology into Social Studies is through the use of WebQuests. It is "an inquiry-oriented activity in which some or all of the information that learners interact with comes from resources on the internet" (Ayas, 2006, p.22).

Similarly, Zukas, (2000) defines webquest as a structured exercise created by teachers that ask students' to solve a problem or find an answer to a question or questions by finding information on the web. WebQuests have also been praised by Whiteworth and Berson (2000) for having a great potential for

70

cooperative/collaborative learning, by supporting the principles of meaningful learning in the social students' classroom.

One particular example of how a WebQuest has been used in a Social Studies classroom comes from Lipscomb, who was cited in Ayas, (2006), when he used a WebQuest to teach his eighth-grade students about the Civil War. Each student in the class had to take on the role of a person living during the Civil War era, such as a Union soldier, or a Female Abolitionist. This made students enjoy undertaking the project and they came away with a stronger understanding of the people who lived during the Civil War. This is very meaningful especially when students often find the content of Social Studies boring and overwhelmed with a large amount of data (battles, generals, dates, speeches, ect).

Glogtser

Another effective technology tool used in the classroom is the educational-based program "Glogster". Glogter is a website where teachers and students are given personal accounts in order to create "Glogs", which are basically online posters (Zukas, 2000). A virtual poster is a flexible platform, in that students can mix, mash-up, and use almost any form of media for a project on an online canvas. This means that along with a summary of understanding and reflections on a topic, such as a style of bridge or a profile of a mathematician, the student can also embed videos, audio files, images, and more on the poster where items are placed, and replaced, through the simple act of moving a mouse. Also, Ayas (2006) posits that Glogs provide students with an authentic publishing opportunity to have the world as their

71

audience, and improve their visual literacy skills by learning through a mixture of media and words.

Drill-and-Practice, Tutorials and Study Guide

One of the aspects of Social Studies education involves the learning of facts, important dates of history, geographic names and so forth. Therefore, drill-and-practice, tutorial, and study guides have been among the most frequently used programs by Social Studies teachers in the Social Studies classroom (Berson, 2000). One of the first national surveys in the United States about Social Studies teachers' computer use indicated a significant use of drill and practice and tutorials among Social Studies teachers when they want students to memorize certain concepts and theories in classroom (Northup & Rooze, 1990). The data which was collected randomly from selected members of the National Council for Social Studies showed that drill and practice was the third common used strategy among the participants whereas tutorials ranked fifth (Northup & Rooze, 1990).

Likewise, Pye and Sullivan (2001) in a study among middle school Social Studies teachers found that almost 22% of Social Studies teachers use drill and practice and tutorials in their classroom to facilitate rote learning. Although the study indicated that other computer software and the internet are more frequently used teaching tools in Social Studies as opposed to drill, practice, and tutorials, it seems that these applications are still important teaching tools for Social Studies teachers.

Software/CD ROMS, Games and Simulations

According to White (1997), the changes in technology have increased the capability of using more visual aids in the classroom. Therefore, many

72

Social Studies software/CD-ROM programs now available to support teaching strategies in the Social Studies classroom. Rice and Wilson (1996) state that "those programs allow students to engage in activities, such as simulations and problem solving, that encourage them to construct their own knowledge and conduct their own research" (p. 2).

Likewise, Berson (2000) points out how simulations and games can reinforce constructivist learning in the Social Studies classroom. According to Berson (2000), simulations facilitate the development of students' problem-solving skills and place students in the role of decision maker. Also he points out the practicality of simulations which allow students to engage in activities that would otherwise be too expensive, dangerous, or impractical to conduct in the classroom.

A current study conducted by Pye and Sullivan (2001) shows that games and simulations are still among the most common computer-based instructional strategies. The study shows that games and simulations are the most common instructional strategies after the internet used in sieving information.

Developing Database

Another common instructional strategy used among Social Studies teachers is database development. According to Berson (2000), databases are especially useful for managing the extensive knowledge base in the Social Studies; they also foster students' development of inquiry strategies through the manipulation and analysis of information.

As Garcia and Michaekis (2001) assert, databases help teachers to build skills in locating, organizing, indexing, retrieving, and analyzing

73

information. Databases can be made to organize information on students and their families, the community, states, regions, countries, careers, notable people and any other topics. For example, children in primary grades can make mini databases that include drawing, pictures, charts, and local maps related to topics of study. Similarly, students in the middle grades can create more detailed databases with card file and cross-reference systems (Garcia & Michaekis, 2001).

Although teachers have become more capable in using the database software programs, there is a significant improvement in software technology in the last decades, the data showed that there is only a slight increase (approximately 3.5 %) in Social Studies teachers' database usage?

Multimedia / Hypermedia

Multimedia/hypermedia provides students with visual support in order to develop mental models of the problems they are trying to solve. Multimedia/hypermedia refers to the combination of sounds, graphics, texts, and images with a single information delivery system (Rechards, 2005; Earle, 2002). With multimedia/hypermedia, students can create individual or group presentations to develop skills in information retrieval and communication, or they can create presentations that promote evidence of understanding of Social Studies content and their own perspectives (Earle, 1992).

There are a number of multimedia software programs such as Authorware, Hypercard, Hyperstudio, or Linkway which help students to create productions that include video and audio clips of various Social Studies topics. Likewise, concept mapping, clustering, mind maps, and other types of graphic organizers can be used effectively in Social Studies classes today.

74

These visual learning symbols, pictures, and other representative techniques employed by Social Studies teachers' allow students to go deeper into ideas and concepts (Chandler, 2003).

In the light of above, it is said that multimedia technology can provide an alternative to the traditional teacher-centred learning and it enables students to enjoy a richer constructivist learning environment.

Telecollaboration

Telecollaboration can be used efficiently in communication process between students, teachers and faculty members in a distant place. Telecollaboration allows students from one classroom interacting with other students in a distant class and has the potential to offer effective communication and educational experiences for students. According to Driscoll (2000), collaborate technologies are now finding their way into instruction to support learning of students engaged in a learning task as members of a group. Collaborate technologies can be designed for use within a classroom, across classrooms, and outside of classrooms. In this way, students can communicate to others within and outside the immediate learning community.

According to Lee (2008), telecollaboration seems to support social constructivist learning environment. As Lee asserts, Vygotsky's self-regulated learning approach can be used for teaching and assessing analytical, creative, and practical thinking via e-mail project. According to Vygotsky's social constructivist view, students construct knowledge by involving in social contexts such as interacting with peers, teachers, experts, and classmates. In a telecollaborative learning environment, students can have an opportunity to

75

build their own knowledge through the interaction between their peers and teachers.

To buttress the technological resources named aboveAchacoso (2003) contend that there are different kinds of technological resources that are useful for teaching Geography and History. These technological products according to them include: the internet, interactive digital television, video, web-based instruction, computers, and video conferencing.

Fisher (2000) is 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.

Many school systems are using funding opportunities from the Ministry of Education to place interactive whiteboards into their classrooms, hoping to raise achievement scores (Halls & Higgins, 2005), address the learning needs of diverse populations (Berson & Benneth, 2009), and enhance

76

student technology skills (Kennewell, Tanner, Jones& Beauchamp, 2008). In some cases, a teacher can have a classroom filled with a fully interactive whiteboard, audio/video projector, interactive student response systems, and a wireless tablet that can be used to control the computer from across the room (Berson & Benneth, 2009). The addition of this instructional technology allows the teacher to establish a student-centred teaching environment through the use of technology that allows students to interact and visually represent information in real-time.

Koehler and Mishra (2008) attest that modern computers, hardware and software have become obsolete and computers can be used for a variety of pedagogical tasks, such as research, communication, and media consumption and creation by educators during their teaching and learning process.

Popham (2010) defines formative assessment as "a planned process in which assessment-elicited evidence of student' status used by teacher to adjust their ongoing instructional procedures or by students to adjust their current learning tactics" (p. 501). Formative assessments are daily assessment teachers use to track students' progress and guide them to their future lessons. Formative assessments can be short, quick assessments like "ticket-out-the-door", where students must answer a question about the day's lesson as their "ticket-out-the-door". Teachers may also use, "Newspaper Headlines", where they would have their students create a newspaper headline about one of the topics learned in the day's lesson.

Hadley and Sheingolds (1993) asked the question 'if computers are merely add-on activities or fancy work sheets, where is the value?' They also added that technologies must be pedagogically sound. They must go beyond

77

information retrieval to problem solving; allow new instructional and learning experiences not possible without them; promote deep processing of ideas; increase student interaction with subject matter; promote faculty and student enthusiasm for teaching and learning; and free up time for quality classroom interaction. In sum, technology integration must improve the pedagogy. To drive home this point,

Wager (1992) argued that "the educational technology that can make the biggest difference to schools and students is not the hardware, but the process of designing effective instruction" (p. 454), which incorporates computer technology and other media appropriately.Fullan (2000) also reminds teachers that, since technology is everywhere, the issue is not whether they use it, but how they manage it. He stressed that as technology becomes more powerful, good teachers become more indispensable and that teachers must become experts in pedagogical design and use the powers of technology, both in the classroom and in sharing with other teachers what they are doing with technology (p. 582).

Earle (1992) compared technology as it is used to enhance learning with reading because both are content- free and thus incorporate all subject areas. To obtain the full benefit of technology integration in our classrooms, we must entwine technology effectively with the content of what is to be learned. This was what Cuban (2001) referred to as "fitting the computer to the curriculum, not the curriculum to the computer".

Duffield (1997) reminded us that technology is not a subject and that the focus of integration is on pedagogy effective practices for teaching and learning. Teachers need to be able to make choices about technology

78

integration without becoming technocentric by placing undue emphasis on the technology for its own sake without connections to learning and the curriculum.

Technological Pedagogical Content Knowledge (TPACK) of Social Studies Teachers

The idea of technology pedagogical content knowledge (TPACK) emerged as a way to consider the interplay of technology, pedagogy, and academic content in dynamic and productive contexts (Mishra & Koehler, 2006). At its root, TPACK reflects Shulman's (1986) notion that pedagogical content knowledge develops as teachers transform their knowledge of content for pedagogical purposes, but extends this idea by introducing technology as a dynamic component in this transformative process.

Lee (2008) suggests that Social Studies teachers should engage subject matter that is "inherently technological" and by "improving" subject matter given technological adaptations. He further posits that working with subject matter in such contexts requires pedagogical action. Lee (2008) described ten actions a Social Studies teacher can employ in these two contexts. They include:

1. locating and adapting digital resources for use in the classroom,

2. facilitating their students' work in non-linear environments, requiring students to make critical decisions about how to select their own resources and navigate through a wide variety of interfaces,

3.   working to develop critical media literacy skills among their students,

79

4. providing students with opportunities to utilize the presentational capabilities of the Web to motivate and encourage students,

5. using the internet to extend collaboration and communication among students,

6. extending and promoting active and authentic forms of human interaction in technology enabled social networks.

7. making use of historical source materials available through online sources,

8. promoting understandings of spatial, human, and physical systems as aided by technology,

9. expanding social experiences using technology, and

10. encouraging economic literacy through the use of technology (Law, 2008).

These ten pedagogical adaptations of the interplay of technology, pedagogy, and content knowledge in Social Studies emphasize social studies as directed at democratic life.

In addition to the Lee's steps, Doolittle and Hicks (2003) categorized strategies for effective use of technological tools for Social Studies instruction as:

1. Teachers and students should be prepared to implement technology as a tool for inquiry.

2. Teachers should use technology to create authenticity, which facilitates the process of student inquiry and action.

80

3. Teachers should use technology to foster local and global social interaction such that students attain multiple perspectives on people, issues, and events.

4. Teachers should facilitate student knowledge construction by using technology to build on students' prior knowledge and interest.

5. Teachers should embrace the vitality of student knowledge by using technology to provide timely and meaningful feedback.

6. And, teachers should cultivate students' academic independence by using technology to foster autonomous, creative, and intellectual thinking.

Painter (2001) has also brought some key notes to the integration of technology by teachers'. These notes requires teachers' readiness and flexible ability to incorporate technology into teaching activities with a high level of teaching skills based on curriculum knowledge, knowledge of students' abilities, students' needs and reasonable level of technology literacy.

Moreover, the International Society for Technology in Education (1999) has identified three primary principles of infusing Information and Communication Technology into teaching. These are:

1. ICT should be holistically infused into teacher choice of teaching and learning materials and resources;

2. ICT should be introduced in context; and

3. Learners should be exposed to innovative technology support in teacher education programme.

Fullan (2000) also reminds teachers that, since technology is everywhere, the issue is not whether they use it, but how they manage it. He

stressed that as technology becomes more powerful, good teachers become more indispensable (p. 582). This is because technology generates a glut of information which has no particular pedagogical wisdom on its own. This is to say that regarding new breakthroughs in cognitive science about how learners must construct their own meaning for deep understanding to occur, the teacher must know how to manage and utilize technology in ways that would enhance learning.

Teachers must become experts in pedagogical design and use the powers of technology, both in the classroom and in sharing with other teachers what they are doing with technology (Hammond & Manfra 2009; & Doolittle and Hicks, 2003).

Buabeng-Andoh (2012), explored Social Studies teachers' perception of technology in giving instruction and revealed that majority of the respondents perceived 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 those teachers' perceptions on the application of technology in the teaching and learning environment was positive.

In the words of Taylor (2000), "it is not the silver bullet that will solve all of our education problems, but it is certainly a useful tool that enables teachers to link various learning communities together in new and different ways" (p. 4). It is not about what technology by itself can do, but what teachers and learners may be able to accomplish using these tools. Taylor

emphasized that the difference between technology use and technology integration for learning is that integration implies full-time, daily operation within lessons.

Curriculum integration with the use of technology involves the infusion of technology as a tool to enhance the learning in a content area or multidisciplinary setting (Taylor, 2000). Effective integration of technology is achieved when students are able to select technology tools to help them obtain information in a timely manner, analyze and synthesize the information, and present it professionally. The technology should become an integral part of how the classroom functions as accessible as all other classroom tools. The focus in each lesson or unit must be the curriculum outcome, not the technology (International Society for Technology in Education (ISTE), 2010).

As educators, one is more concerned with the effective use of technology both as an instructional tool and a literacy learning tool. Knowing how to make decisions about how one is going to implement technology requires knowledge based on time, research (best practices) and expertise. Moulton (2009) comments there are two types of integration; just using technology in the classroom and using technology to improve student learning and outcome. Certainly, there is a difference between using technology to just play video games and using it as a learning tool. For this reason, teachers need to take steps and become more experienced with different technologies so they can create enriching learning experiences for their students.

Education Technology Research Development (2007) stressed that teachers' need competence in three major skills in order to integrate

83

technology effectively: technology skills, technology-supported pedagogy skills, and technology-related classroom management skills.

It is also important for us to track the various stages of technology integration in our schools. Association for Educational Communication and Technology (2004) made a major contribution in this area by identifying five stages teachers pass through:

1. entry- where teacher uses technology to deliver curriculum content to students;

2. adoption-where teacher directs students in the conventional use of tool-based software;

3. adaptation- where teacher encourages students to select a tool and modify its use to accomplish the task at hand;

4. infusion- where teacher consistently provides for the infusion of technology tools with understanding, applying, analyzing, and evaluating learning tasks; and

5. transformation – where teacher blends technology tools with student-initiated investigations, discussions, compositions, or projects across any content area.

According to Harkverdi, Gucum and Korkmaz, (2007) effective technology integration is achieved when its use supports curricular goals. It must support four key components of learning: active engagement, participation in groups, frequent interaction and feedback, and connection to real-world experts. It has been widely agreed that instructional technology does, indeed hold a remarkable promise for changing the quality of teaching

and learning in schools it is the catalyst for transformation(Ryan & Cooper, 2006; Honey, 2001).

To obtain the full benefit of technology integration in our classrooms, we must entwine technology effectively with the content of what is to be learned. This was what Cuban (1986; 2001) referred to as "fitting the computer to the curriculum, not the curriculum to the computer". On this note,Basilicato (2005) states that technology tool like the interactive whiteboard requires a dedicated teacher who can convey their enthusiasm for the subject to students. Logically, teachers who have taken part in some form of training on how to integrate technology into their classrooms are more likely to have a higher level of confidence in their ability to use instructional technology. Subsequently, this training would spur them on to attempt integrating technology into their classrooms. This would lead to the development of the requisite competence in integrating technology, which will further boost their confidence and the cycle continues.

Effective integration of technology depends on the teachers' competence and ability to shape instructional technology activities to meet students' needs (Gorder, 2008). Teachers know their content and pedagogy, but when it comes to technology, teachers often learn along with students.

According to Fulton (1997), teachers in their daily use of technology focus on teaching students first-level technology skills, which include how to work the technology, but many teachers ignore the second level skills of knowledge integration and a deeper understanding of analyzing information. Sheingold (1990) said integrating technology in the classroom is not about teaching students to operate computers, but integrating technology is about

85

helping students to use technology as a tool for learning. To reinforce the position of Sheingold, the Education Technology Research Development (2007) stress that teachers' need competence in three major skills in order to integrate technology effectively: technology skills, technology-supported pedagogy skills, and technology-related classroom management skills. Most importantly, the integration of these major skills leads to good teaching. That is technological pedagogical content knowledge requires:

a. representation of concepts using technologies and pedagogical techniques that uses technology in constructive ways to teach the content;

b. knowledge of what makes concepts difficult or easy to learn and how technology can help redress some of the problems that students face;

c. knowledge of students prior knowledge and theories of epistemologies and how technological knowledge can be used to build on existing knowledge and develop new epistemology or strengthen old ones (Koehler & Mishra, 2008).

Empirical Review on Technological Pedagogical Content

Knowledge of Social Studies Teachers'

This section of the review of related literature deals with the various works and studies that have been conducted by researchers and scholars as they relate to field of integration of technology in the teaching and learning process. The premise that teachers who know the content of what they teach and how to teach it (using appropriate technological tools) enhance student learning is supported by research.

86

A study conducted by Ruto and 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 Oppong (2009) which reported that apart from the History textbook, History teachers do not make use of other instructional and technologically oriented resources such as audio media, visual media and audio-visual media in History teaching.

A similar study by Adeyinka (1989) also revealed that technological aids such as television and radio, slides, projectors, films and film-strips are never used to teach History in majority of schools.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 studying the perceptions of Social Studies teachers towards the use of technology, Gulbahar and Guven (2008) reported that teachers believed that the use of technology will be of more advantage to them, but they lacked the

87

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. To emphasize the claim of Gulbahar and Guven (2008), Buabeng-Andoh (2012), explored teachers' perception of technology in giving instruction. The study 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 teacher' perceptions on the application of technology in the teaching and learning environment were positive.

Similarly, in a recent study, Abdullah (2012) aimed to identify the degree of using ICT based technology by teachers at early primary levels in the learning process, as well as identifying the teachers' attitudes toward this technology. Moreover, the study aimed to establish whether there are any differences amongst teachers' attitudes regarding the variables of gender, place of working (governorate), academic qualification, length of service and training courses. The researcher relied on an analytical descriptive method. A random sample was selected and consisted of 250 teachers and 90 administrators (principal, librarian, computer lab technician) enrolled in public schools located in Damascus and Al Qunaitera. The study findings revealed that:

1. teachers use ICT-based technology for learning process and administrative affairs moderately,

88

2. the degree of using ICT-based technology as learning aids by teachers was low,

3. the ICT-based impediments perceived by administrators and teachers were high,

4. the teachers have high positive attitudes toward using ICT-based technology in learning,

5. many schools lacked for ICT tools,

6. the students usage for ICT-based technology was ineffective at both schools,

7. the teachers' gender has no effect on the degree of using ICT-based technology,

8. the variables of "governorate", "degree of qualification", "length of service", and "enrolling in training courses" have significant effects on the degree of using ICT-based technology by teachers.

The teachers indicated a significant contradiction between their attitudes toward ICT-based technology and the degree of their usage for it in favour of their attitudes. In fact, this study diagnosed the various factors that may influence the teachers' attitudes towards ICT. However, it failed to consider the students' views.

In another study by Gulbahar and 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.

89

Buabeng-Andoh (2012) made claims on the use of technological resources in the teaching and learning in Ghanaian SHS by examining 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 and 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.

Koh, Chai and Tsai (2010) conducted a study to determine teachers view on technological pedagogical content knowledge (TPACK), their self-efficacy, and whether these views changed according to sex, age, period of service, faculty graduated from, branch access to the internet, the use of technology level and access to in-service training which is oriented to the use of technology (TK), pedagogical knowledge (PK), pedagogical content knowledge (PCK), technological content knowledge (TCK) and technological pedagogical knowledge (TPK). According to this study, teachers' self-efficacy perceptions on, CK and PCK, and did not change according to sex while there was significant statistical difference between teachers' TK (t(278)=3.035, p<0.05) and TPACK (t(278)=2.124, p<0.05) on self-efficacies and the variable of sex. It was concluded that the self-efficacy perceptions of female teachers in these dimensions were higher when compared to those of male teachers. It

90

is detected that the self-efficacy of teachers can change as a result of the faculty graduated from but the study fail to find out if there was a significant difference among the courses thought within the faculty. This is challenge was recommended by Koh etal. (2010) that prospective teachers, sub-structures and program content should be investigated accordingly.

Busaeed (2015) conducted a similar study exploring female teachers' perception of utilizing technology in Social Studies in Saudi public schools. A Likert-scale survey was used to collect data. The sample size used for the research was 32 female teachers from public schools in Saudi Arabia. The resultshowed that the participants had positive perceptions on the use of technology; that they believe technology use to have a positive impact on their teaching and learning of students'. It was concluded that lack of support from their school administrators on the use of modern technology was their greatest challenges with using technology in the classroom. Busaeed (2015) recommended that government should resource public school in Saudia to be able to integrate technology in the teaching learning of Social Studies in school. One setback of Busaeed (2015) study was that it failed to consider the qualification of these Social Studies teacher in respect to the integration of technology in the teaching and learning process.

Ehman (2002)conducted a study on the integration of computer technology in an eighth-grade male Social Studies classroom in the United Arab Emirates. It was conducted in a naturalistic setting where different activities and interactions were observed and explained. Both quantitative and qualitative data were gathered to describe and explain what happened in the eighth-grade Social Studies classroom. A two-tailed paired sample t-test at the

91

.05 significance level was conducted to examine students' change in attitudes regarding each item. The results of the two-tailed t-test showed that the students' perceptions towards computer importance were not significant; in contrast, when it came to the students' perceptions of computer enjoyment and computer anxiety, the results of the two-tailed t-test showed positive improvement. The study recommended that Social Studies teachers need to observe models of integrating computer technology within their various educational context thus they can either adapt models of computer integration or generate their own models to improve students' involvement in the learning process.

Pamuk, Ergun, Cakir, Yilmaz and Ayas, (2013) conducted a study to investigate the application of Information and Communication Technology in instruction is highly emphasized in the contemporary education of science teachers. A total of 222 pre-and in-service science teachers in Singapore were surveyed. Structural equation models analysis was utilized to examine the model. The results confirm the seven-factor model and indicate that the science teachers' perceived TPC significantly and positively correlated with all the other TPACK factors. It further reveals the relationships between the science teachers' perceptions of TPACK and their demographic characteristics such as teaching experience, gender, and age. The findings indicated that female science teachers perceive higher self-confidence in pedagogical knowledge but lower self-confidence in technological knowledge than males. Further, female in-service science teachers' perceptions of TK, TPK, TCK, and TPC significantly and negatively correlate with their age. Pamuk e tal. (2013) recommended that in-service training, workshops and conferences

92

should be conducted to help develop the confidence of female science teachers in the use of technology in the teaching and learning process.

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 Social Studies teachers need to be investigated on the integration of technology in the teaching and learning of the subject.

<div align="center">**Chapter Summary**</div>

The current state of theory and studies on technology integration in the teaching and learning of subject especially Social Studies within the educational cycle of Ghana are inconclusive. It is significant for us as educationalist and Social Studies experts to identify technological theories and resources that apply to our own conditions that will facilitate the effective teaching and learning of Social Studies as we keep a firm grip of our own practice and research.By this, Mishra and Koehler (2006) has provided a suitable starting point in our search for a theoretical and conceptual home for technological integration in Social Studies.

As Berson (2000) asserts, one of the major purposes of Social Studies is to promote effective citizens who possess the critical thinking and decision making skills to function in a democratic society. Thus, reflective inquiry, problem solving and decision making skills are considered essential for the contemporary Social Studies education.

<div align="center">93</div>

CHAPTER THREE

RESEARCH METHODS

Introduction

The purpose of this study is to investigate the technological pedagogical content knowledge of Social Studies teachers in the Kumasi Metropolis. The chapter discusses the methodology that was followed in carrying out the study. This includes the research design, population, the sample as well as the sampling procedure that wasused for the study. The data collection procedure as well as how the data wasanalysed are included.

Research Design

This research is non-experimental in nature thus it sought to investigate the technological pedagogical content knowledge of Social Studies teachers at the SHS in the Kumasi Metropolis. The descriptive survey design was employed to help observe and describe the state of affairs regarding the integration of technology in teaching and learning of Social Studies at the SHS level. According to Frankel and Wallen (2003), descriptive survey will provide the opportunity for the researcher to gain valuable insight into the current status of the phenomenon with respect to the variables under consideration.

Fraenkel and Wallen (2000) identified what they call "the threefold difficulty" in using descriptive survey. First of all, the researcher has to ensure that the questions to be answered are clear and not misleading. Secondly, he/she is faced with the challenge of getting the respondents to answer the questions thoughtfully and honestly as possible; and finally, he/she is faced

94

with the challenge of getting a sufficient number of the questionnaires completed and returned so that meaningful analyses can be done.

In other to addressthese weaknesses, the researcher pilot tested the questionnaire and the observation checklist in order to restructure and clarify items that could be found ambiguous. Secondly, the researcher adequately explained the purpose of the study (solely for academic purpose) to the respondents. Again, to assure them of their confidentiality, respondents were not required to write their names or contact on or in the questionnaire. Finally, the researcher administered the questionnaires and the observation checklist in person to all the Social Studies teachers' in the SHSs in the Kumasi Metropolis.

Descriptive survey was considered the best for this study because it deals with interpreting the relationship among variables and describing their relationships (Gall, Borg& Gall, 1993). Moreover, Burns (2000) confirms the researchers' choice as he/she posits that descriptive survey design involves collection of data in order to test hypotheses or answer questions concerning the current status of the subject of the study.

In order to find out the conditions or relationships that exist, practices that prevail, beliefs, points of views or attitudes that are held, processes that are going on, efforts that are being felt or trends that are developing and moreover help to draw meaningful conclusion from the study, the researcher choose descriptive survey. Also, the descriptive survey chosen will provide the researcher a lot of information from quite a large number of individuals which will create a meaningful picture of events and explain people's opinion and behaviour on the basis of data gathered (Fraenkel & Wallen, 2000).

95

In line with the purpose of this study, descriptive survey design will be appropriate since the study seeks to investigate the technological pedagogical content knowledge of Social Studies teachers' in the Kumasi Metropolis.

Population

The target population for the study consisted of all Social Studies teachers teaching in the Kumasi Metropolis. The study covered only public Senior High Schools in the Kumasi Metropolis. The Metropolis had a total number of nineteen (19) SHS with 136 Social Studies teachers for the 2015/16 academic year. It must be stated that this number excluded teacher trainees and national service personnel.

The justification for this population was their relatedness or significance to the problem identified; the quality Senior High Schools that exist within the Metropolis, and also because Kumasi Metropolis, the capital of the region, is a cradle of education in the country.

Sampling and Sampling Procedure

The researcher usedall the nineteen (19) SHSs in the Kumasi Metropolis as well as all the 136 Social Studies teachers in the Metropolis. This made the sampling census in nature (Sylla, Saito& Ross,2004). The census survey was employed because large sample gives better judgment over smaller ones provided such large samples are available and accessible (Gall, Borg & Galls, 1993). The researcher used all the Senior High Schools (SHS) and all the SHS Social Studies teachers in the Kumasi Metropolis because the researcher wanted to have a better judgment from respondents thereby taking cognizance of individual Social Studies teachers knowledge on and understanding of technology integration in the teaching and learning of Social

96

Studies. The distribution of the population for the Social Studies teachers' is shown in Table 1.

Table 1-*Distribution of Population for Social Studies Teachers*

Senior High Schools	Number of Social Studies Teachers
Prempeh College	8
Ghana Armed Forces SHS	9
Kumasi Girls SHS	7
Seventh Day Adventist SHS	7
Asanteman SHS	6
Kumasi Wesley Girls SHS	8
Opoku Ware SHS	7
St. Hubert Sem./SHS	3
Islamic SHS	6
Anglican SHS	6
T.I. Ahmadiyya High School	7
KNUST SHS	8
Serwaa Nyarkoh Girls SHS	7
St. Louis SHS	8
Osei Kyeretwie SHS	6
Yaa Asantewaa SHS	8
Kumasi Academy SHS	8
Kumasi High School	7
Kumasi Technical Institute SHS	10
Total	136

Source: Field survey, Yalley(2016)

Data Collection Instruments

The main data collection instruments used for the study was questionnairesand observation checklist(See Appendices B and C).

The two instruments were usedtoenable the researchertriangulate the information to test the consistency of the findings obtained from each of the instruments used. Bekoe (2006) supported this view when he stated "triangulation in research is to test for consistency of findings obtained through different instruments". It is therefore important that different instruments will be used to validate the information gathered.

Questionnaire

Questionnaires were used to reach all Social Studies teachers to solicit their views. The questionnaire used was adapted and modified from Schmidt, Baran, Thompson, Mishra, Koehler& Shin (2009b).

The questionnaire hadeight sections and that each section covered each research question. For accurate representation of data, items on the questionnaire were on a five point Likert-scale. Numerical weights assigned to the scales were:

1 – Undecided

2 – Strongly Disagree

3 –Disagree

4 – Agree

5 – Strongly Agree.

The weights were added to get the average for the acceptable mean value (1+2+3+4+5 = 15; 15 /5 = 3). Therefore, mean valueof 3.10 andabove means respondents' agreement to the items whilsta mean score of 3.00

98

andbelow means disagreement to the items on the questionnaire.Forty-five items questionnaire was prepared (see appendix B). The questionnaire wasdivided into eight sections(A, B, C, D, E, F, G and H).

Section A consisted of five items on demographic data. The demographic data provided the researcher with Social Studies teachers' characteristics (schools they teach, sex, educational qualification, university attended and area of specialization).

Section Bconsisted of six items on the technological knowledge of Social Studies teachers;section C also consisted of six items on the content knowledge of Social Studies teachers; section D consisted of five items on the pedagogical knowledge of Social Studies teachers; moreover, sectionE consisted of five items on the pedagogical content knowledge of Social Studies teachers. Furthermore, section Fconsisted of six items on the technological content knowledge of Social Studies teachers;section G consisted of seven items on technological pedagogical knowledge of Social Studies teachers and lastly section H consisted of fiveitems on the technological pedagogical content knowledge of Social Studies teachers.

Observation

Observation guide was used in this research, because "observation brings the investigator into contact with the phenomenon being studied" (Kumekpor, 2002, p.31). In this way, observation becomes an effective means of reporting precisely what prevails about the phenomenon under study with greater reliability. This technique afforded the researcher the opportunity to witness the actual teaching and learning of Social Studies by Social Studies teachers in the study area.

99

An observation checklist was prepared (See Appendix C) to cross check the items asked in the questionnaire on Social Studies teachers' technological pedagogical content knowledge. The items in the observation checklist was adapted and modified from Schmidt et al., (2009b).

Justification of the Triangulation Method

The researcher used questionnaire and observation to cross check the responses that were given on the questionnaire for authenticity. The observation checklist wasused to test the reliability of the responses given in the questionnaire by Social Studies teachers. To do this, personal coding was done on the observation guide to give a clue to the technological pedagogical content knowledge of Social Studies teachers.

Cohen, Manion and Morrison (2007) define triangulation as the use of two or more methods of data collection in the study of some aspect of human behaviour. They further added that triangulation technique in the social sciences attempts to map out, or explain more fully the richness and complexity of human behaviour by studying it from more than one stand point thereby making use of both quantitative and qualitative data.

In view of this, Thomas and Nelson (1996), point out that triangulation is valuable because of the increased quality control achieved by combining methods and data sources. The complementary function of each of these data collection methods enriched the quality of this study.

<div align="center">Test for Validity and Reliability of Instrument</div>

Although the TPACK questionnaire by Schmidt, Baran, Thompson, Mishra, Koehler andShin (2009b) hadan established validity and reliability, in

<div align="center">100</div>

its edited form, the entire questionnaire was pilot-tested to ascertain whether there hasbeen a reduction or further strengthening in the wise.

The validity of the questionnaire instrument, particularly the face and content validity, was ascertained bythe researcher supervisor and peers pursing Master of Philosophy in Curriculum Studies and Teaching (Social Studies). This was done by checking the content to ensure that it measures what it is supposed to measure. With the observation checklist, the items were cross checked with the responses given in the interview with the research supervisor.

All these processes are in line with what Opoku (2005) says about validation of questionnaire so that the test items constituting a questionnaire in survey research measure the construct that the test researcher has designed it to measure. Burns (2000) also says if a study and its findings make sense to participants then, it must at least have some validity. In this research, validity was also addressed by triangulating the findings from the two instruments that were used for the study.

The reliability of the questionnaire was ensured through thepilot testing. Senior High Schools within the Cape Coast Metropoliswere used for the pilot testing. The pilot testing used a sample of twenty (20) SHS Social Studies teachers from seven(7) selected SHSswithin the Cape Coast Metropolis. The Senior High Schools wereEfutu SHS, University Practice SHS, Adisadel College,Academy of Christ the King SHS, Wesley Girls SHS, Saint Augustine SHS and Ghana National College.

The Senior High School Social Studies teachers within the Cape Coast Metropoliswere selected because they share similar characteristics with

101

therespondents for the actual study in terms of teachers' qualification, classes of SHS schools, Social Studies teaching and learning resources.

Pilot testing enabled modification, clarification and the restructuring of items in the questionnaire that appeared ambiguous and misleading to respondents. According to De Vellis (1991), Cronbach alpha is an appropriate measure of internal consistency of an instrument hence the reliability Cronbach alpha co-efficient was used to determine the degree of its validity and reliability of the instruments. De Vellis (1991) and Fraenkel and Wallen (2000) interpretation of Cronbach alpha co-efficient was used to determine the appropriateness of the instrument. The overall validity of the instruments, thequestionnairehad a Cronbach alpha co-efficientof 0.911(See Appendix D) whiles the observation check list also had a Cronbach alpha co-efficient of 0.905 (See Appendix E). According to De Vellis (1991) and Fraenkel and Wallen (2000) a reliability coefficient within 0.6 to 0.9 is considered very respectful for determining the appropriateness of the instrument. Undoubtedly, the items had the potential of eliciting the desired information as expected.

Data Collection Procedures

A letter of introduction was obtained from the Head of Department of Arts and Social Science Education (DASSE) (See Apendix A). The letter waspresented to the Metropolitan Education Director and the various headmasters and headmistresses of the SHSsin the Kumasi Metropolis to seek permission to allow their Social Studies teachers participate, be co-operative and supportive to the researcher in collecting data for the study.

102

It is ethical in research to assure respondents of confidentiality and anonymity; hence the questionnaire was accompanied with a cover letter to clear any doubt among respondents.

Each of the SHSswas contacted separately to arrange for an appropriate time to administer the questionnaires and conduct the observation. The questionnaires were administered to the respondents personally by the researcher and again collected from them by the same researcher. This was done to enable the researcher explain the goals of the study; clarify the instructions for answering; more accurate dataand finally obtain a good return rate. The research retrieved 128 questionnaires and had (94.1%) return rate. According to Dillman (2000), return rate from seventy percent (70%) is classified as a good and acceptable return rate. The observation was conducted and supervised by the researcher. Theentire exercise was done within 11thJanuary – 24th February 2016.

Data Processing and Analysis

The data was organised into eight sections based on the research questions and socio-demographic characteristics respectively. Each section provided answers to the research questions. The response to the items on the questionnaires were edited, cleaned and coded by assigning numbers to the various categories of responses for the purposes of analyses.

Also, the items on the questionnaireswere transferred onto Statistical Product for Service Solution, (SPSS) Window Version 21.0 The data was analysed and discussed using descriptive statistics (frequency, percentages, mean and standard deviation) and inferential statistics (independent sample t-test).

103

The socio-demographic data of the respondents was analysed using frequency and percentages. Research questions one, two, three, four, five, six, sevenand the observational checklist were analysed using mean and standard deviation respectively.Independent sample t-test was used to analyse the hypothesis. No assumption was violated. Quantitative data were tabulated, organised, analysed and interpreted to draw sound conclusions and generalisations.

Chapter Summary

It is envisaged that observing people without their knowledge may pose a challenge during the data collection process. This would result to 'hawthorne effect' thus when people are aware that they are being observed they tend to fake behaviours (Wickstrom & Bendix, 2000). For this reason, some Social Studies teachers might fake behaviours which may affect the validity of the findings. As a result, the researcher sought the consent of the Social Studies teachers to be observed and assured them of confidentiality of response given and their anonymity. In other to gain the trust and confidentiality from the respondents, the researcher attached a contract agreement form to questionnaires to clear any doubt from respondents minds.

104

RESULTS AND DISCUSSION

Introduction

The purpose of the study is to investigate the technological pedagogical content knowledge of Social Studies teachers in the SHS in the Kumasi Metropolis in Ghana. This chapter deals with the presentation and discussion of the results that were collected from the respondents in order to find answers to the research questions. The data collected were analysed with the use of descriptive statistics (frequencies, percentage, means and standard deviation) and inferential statistics. A mean of 3.10 and above indicates an agreement with the item statement whiles a mean of 3.00 and below indicates disagreement to the item statement. The mean scores were used to ascertain the average responses of the respondents. The mean of means was used to draw generalisations on respondents' agreement and disagreement to the research question whereas mean of standard deviation was used to ascertain how far or close the responses are from the mean of means. The results are presented in tabular form with a general discussion of the result at the end of each section aimed at answering the research questions.

Presentation and Discussion of Preliminary Result

This section basically presents the bio-graphic data of respondents. It deals with the school, sex, university attended, current qualification and area of specialization. Table 2 shows the results that were collected.

105

Table 2-*Distribution of Respondents Biographic Data*

		Frequency (N)	Percentage (%)
Senior High Schools			
	Prempeh College	8	6.3
	Ghana Armed Forces SHS	9	7.0
	Kumasi Girls SHS	8	6.3
	Seventh Day Adventist SHS	6	4.7
	Asanteman SHS	6	4.7
	Kumasi Wesley Girls SHS	8	6.3
	Opoku Ware SHS	7	5.5
	St. Hubert Sem./SHS	3	2.3
	Islamic SHS	6	4.7
	Anglican SHS	6	4.7
	T.I. Ahmadiyya High School	7	5.5
	KNUST SHS	8	6.3
	Serwaa Nyarkoh Girls SHS	7	5.5
	Osei Kyeretwie SHS	6	4.7
	Yaa Asantewaa SHS	8	6.3
	Kumasi Academy SHS	8	6.3
	Kumasi High School	7	5.5
	Kumasi Technical Institute SHS	10	7.8
Total		128	100
Sex			
	Male	77	60.2
	Female	51	39.8
Total		128	100
University Graduated			
	University of Cape Coast	30	23.4
	UEW	51	39.8
	University of Ghana	18	14.1
	Valley View University	2	1.6

106

Table 2, Continued

	Kwame Nkrumah University of Science and Technology	23	18.0
	University of Development Studies	4	3.1
Total		128	100
Current Qualification			
	Bachelor of Education Degree	49	38.3
	Bachelor of Science Degree	3	2.3
	Bachelor of Art Degree	39	30.5
	Master Degree	37	28.9
Total		128	100
Area of Specialization			
	Social Studies	54	42.2
	History	8	6.3
	Geography	15	11.7
	Sociology	21	16.4
	Economics	7	5.5
	Political Science	18	14.1
	Social work	1	0.8
	Government	3	2.3
	Religious Studies	1	0.8
Total		128	100

Source: Field survey, Yalley(2016).

From Table 2, nineteen Senior High Schools were contacted within the Kumasi Metropolis. Kumasi Technical Institute had 10 (7.8%) Social Studies teachers, Ghana Armed Force SHS had 9 (7.0%) Social Studies teachers, Prempeh College, Kumasi Girls SHS, Kumasi Wesley Girls SHS, Kwame Nkrumah University of Science and Technology SHS, Yaa Asantewaa SHS

107

and Kumasi Academy SHS had 8 (6.3%) Social Studies teachers respectively whiles St. Hubert SHS had 3 (2.3%) Social Studies teachers.

From the result in Table 2, it could be observed that 77 (60.2%) of the respondents were male Social Studies teachers whilst 51 (39.8%) were females. This means that there were more males Social Studies teachers within the SHSs in the Kumasi Metropolis than females.

Also, Table 2 shows that 51 (39.8%) of the Social Studies teachers graduated from University of Education Winneba, 30 (23.4%) graduated from University of Cape Coast, 23 (18.0%) graduated from Kwame Nkrumah University of Science and Technology, 18 (14.1%) graduated from University of Ghana, Legon whiles 4 (3.1%) and 2 (1.6%) graduated from University of Development Studies and Valley View University respectively. The result shows that there are unprofessional and out-of-field Social Studies teachers within the SHS in the Kumasi Metropolis. This is because Kwame Nkrumah University of Science and Technology and University of Ghana, Legon do not offer any Bachelor Education programme neither do they offer any Bachelor of Education, Social Studies rather they offer the separate subject disciplines which Social Studies draws its scope and content from thus the Social Science disciplines.

On the areas of specialization for Social Studies teachers, 54 (42.2%) majored in Social Studies, 18 (14.1%) majored in Political Science, 21 (16.4%) majored in Sociology, 15 (11.7%) majored in Geography whiles 8 (6.3%) and 7 (5.5%) majored in History and Economics respectively. This buttresses the fact that out of 128 Social Studies teachers within the SHS in the Kumasi Metropolis 54 (42.2%) of the teachers were professional Social

Studies teachers whiles 74 (57.8%) of them were unprofessional and out-of-field Social Studies teachers.

The result on Social Studies teachers current qualification, 49 (38.3%) had Bachelor of Education Degree, 39 (30.5%) had Bachelor of Arts Degree whiles 37 (28.9%) had a Master Degree. Out of the 37 master degree holders, 6 of them offered masters in Social Studies that are either in Master of Philosophy in Social Studies at University of Education Winneba or Master of Philosophy in Curriculum Studies and Teaching (Social Studies) at the University of Cape Coast.

Research question 1: What is the technological knowledge of Social Studies teachers in the teaching of the subject in SHS in the Kumasi Metropolis?

In order to find out the technological knowledge of Social Studies teachers, they were asked to respond by agreeing or disagreeing with each of the statements on the questionnaire.

Teachers are important elements in classroom interaction and their knowledge and perception do have an impact on what they teach and how they teach it. Technological knowledge is ever-evolving because new technologies are often implemented in the classroom. A teacher with a firm understanding of technology knowledge is able to adapt new technologies to the classroom environment, and understand how the subject matter can be enhanced by the application of technology.

The mean scores (M) and the standard deviations (SD) were computed on a five point Likert-type scale to provide an in-depth understanding of Social Studies teachers' responses. Table 3 shows results that were collected.

109

Table 3-*Technological Knowledge of Social Studies Teachers*

Technological Knowledge	M	SD
Technology is the process by which humans modify nature to meet their needs and wants and to make life easier and better.	4.29	0.58
I have positive attitude towards the use of technology.	4.32	0.69
I have knowledge on standard technologies such as books, dry erasers boards, chalkboards.	4.14	0.95
I have knowledge on modern/advanced technologies such as computer, internet, interactive white board, digital video and overhead projectors.	4.18	0.98
I can use computer software and hardware within the educational context.	4.18	0.86
I possess the technological skills needed to use innovative resources.	4.05	0.92

Source: Field survey, Yalley(2016).　　M = Mean　　　S = Standard Deviation

Mean of Means = 4.193　　　　　　　Mean of Standard Deviation = 0.83

Result from Table 3 indicates a mean value of (M = 4.29; SD = 0.58) signifying that Social Studies teachers agreed that technology is the process by which humans modify nature to meet their needs and wants to make life easier and better. This is in consonance with the definition of Ayas (2006) and Karve (2009) that technology is basically the process and tool by which humans modify nature to meet their needs and wants and to make life easier and better. Hooper and Rieber (1995) posits that technology applies current knowledge

for some useful purpose and uses evolving knowledge to adapt and improve the system to which the knowledge applies.

Also, a mean value of (M = 4.32; SD = 0.69) was obtained signifying that Social Studies teachers agreed they have positive attitude towards the use of technology. This finding is consistent with Woodrow's (1992) claim that any successful transformation in educational practice would require the development of positive user attitudes toward the new technology. Watson (1998) also asserts that the development of teachers' positive attitudes toward ICT is a key factor not only for enhancing computer integration but also for avoiding teachers' resistance to computer use. Also, Gulbahar and Guven (2008) contend 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. Moreover, Zhao (2007) confirms the response from the Social Studies teachers by saying that the powerful state of a particular technology and the extent to which it is used in the teaching and learning process is greatly determined by the attitudes teachers or users have towards it. This implies that the integration of technology into the curriculum is not likely to succeed without teachers' acceptance and commitment to technology use. Furthermore, similar findings were obtained in a study by Isman, Abanmy, Hussein and Al Saadany (2012) on secondary school Social Studies teachers. Those participants had positive attitudes towards the use of interactive whiteboards in the classrooms; few of them indicated that they used it effectively in the classrooms.

111

Moreover, a mean value of (M = 4.14; SD = .95) and (M = 4.18; SD = 0.98) was obtained signifying that Social Studies teachers agreed they have knowledge on standard technologies such as books, dry erasers boards, chalkboards and knowledge on modern/advanced technologies such as computer, internet, interactive white board, digital video and overhead projectors respectively. Archambault and Barnett (2010) confirm the response from the Social Studies teachers that technological knowledge is used when teachers implement technology to help deliver information in the classroom. To Archambault and Barnett (2010), technology can include dry erase boards, books, and even advanced technologies such as computer software and interactive whiteboards. Also, Cox (2008) affirms this statement by saying that teacher's technological knowledge encompasses modern technologies such as computer, internet, audio, digital video and commonplace technologies including overhead projectors, blackboards, and books.

Moreover, Koehler and Mishra (2006) agree that technology knowledge of teachers about various technologies most range from low technologies to digital technologies such as the internet, digital video, interactive whiteboards, and software programmes. Standard technologies, including books, dry erase boards, chalkboards, and traditional overhead projectors which require little training to implement in the classroom where as the advanced technologies would be computers, internet and interactive whiteboards require specialized advanced-level skills that are not always intuitive to the teacher without training (Mishra and Koehler, 2006).

Furthermore, a mean value of (M = 4.18; SD = 0.86) was obtained signifying that Social Studies teachers agreed they can use computer software

112

and hardware within the educational context. This conceptualization implies that technological knowledge does not posit an "end state," but rather developmental, as evolving over a lifetime of generative, open-ended interaction with technology. Niess (2005) attest that technological knowledge includes an understanding of how to use computer software, hardware, presentation tools (document presenters and projects) and other technologies used in educational contexts.

In addition, a mean value of (M = 4.05; SD = 0.92) was obtained signifying that Social Studies teachers agreed they possess the technological skills needed to use innovative resources. The response from the Social Studies teachers confirms what Education Technology Research Development (2007) stresses that teachers' need competence in three major skills in order to integrate technology effectively: technology skills, technology-supported pedagogy skills, and technology-related classroom management skills. To buttress this, Anderson and Speck (2001) contend that technological knowledge within the context of the TPACK can be re-defined to mean a knowledge base that describes teachers ability to use digital technology, communication tools and networks for the purpose of accessing, managing, integrating, evaluating, creating and communicating information; with due consideration of the legalities and ethics governing the use of digital information in the information age.

On the whole, a mean of means score of (M = 4.193; SD = 0.83) was obtained on the technological knowledge of Social Studies teachers' signifying that they agreed to possess the technological knowledge needed in the teaching and learning of Social Studies. The mean of means score of the

113

Social Studies teachers measures the central trend of their response. In consonance with the mean of means, mean of standard deviation scores (SD = 0.83) of Social Studies teachers signified that their responses were clustered around the mean score, thus the Social Studies teachers response to items were more similar to each other.

Research question 2: What is the content knowledge of Social Studies teachers in the teaching of the subject in SHS in the Kumasi Metropolis?

One of the aspects of a highly-qualified teacher from the *"No Child Left BehindAct"* is to be knowledgeable in content of the subject taught. The United States Department of Education (2004) states, "teachers in the middle and high school must prove that they know the subject they teach with a major in the subject they teach" (p. 4). According to Hill, Rowan, and Ball (2005), many professional development activities are aimed at improving content knowledge because evidence has shown that teacher knowledge in the subject area can strongly influence student learning.

One aspect of the subject matter of Social Studies is the nature of the subject. This comprises the meaning, scope, goals and objectives of Social Studies. There are some unification and overlap which provided alternative ways of answering the basic question "What content should be selected for study in Social Studies"? The apparent boundless nature portrayed by the scope of Social Studies made some individuals to describe the subject in derogatory terms. Zevin (2000) in his "personal prologue" writes that, "part of the reason Social Studies is disliked by so many students is the arguments, knowledge of facts, names, places and all the facts they had to know"(p. xiv). Table 4 shows results that were collected.

114

Table 4-*Content Knowledge of Social Studies Teachers*

Content Knowledge	M	SD
Social Studies is an amalgamation of the social science disciplines such as History, Geography, Government and Economics.	4.08	0.94
Social Studies is the study of the dynamic interactions people have with themselves and the elements of their environments.	4.27	0.62
Social Studies gain its identity from the social science discipline such as History, Political Science, Geography, Economics, Sociology, Anthropology and Psychology.	4.13	0.98
Social Studies covers problem and issues that threaten human survival.	4.43	0.81
The scope of Social Studies is based on institutions and communities such as the home, the family, the school.	4.15	0.89
The main goal of Social Studies is to promote citizenship education.	4.29	1.01

Source: Field survey, Yalley(2016).   M = Mean   S = Standard Deviation

Mean of Means = 4.225   Mean of Standard Deviation = 0.88

Result from Table 4 indicates a mean value of (M = 4.08; SD = 0.94) was obtained signifying that Social Studies teachers agree that Social Studies is an amalgamation of the social science disciplines such as History, Geography, Government and Economics. Lindquist (1995) share similar view by defining Social Studies as the integration of knowledge, skills, and processes that provide powerful learning in the humanities and social sciences

115

for the purpose of helping children learn to be good problem solves and wise decision makers. Also, Mehta (2004)attest that Social Studies is an integrated approach to the study of the social sciences subjects and other related subjects like music, art and craft with the view of preparing student's to fit into a society. From a more current perspective, the National Council for Social Studies [NCSS] (2010) states that Social Studies is the integrated study of the social sciences and humanities to promote civic competence within the school programme. This depicts that within the school programme, Social Studies provides coordinated and a systematic study drawing upon disciplines such as Anthropology, Archaeology, Economics, Geography, History, Law, Philosophy, Political Science, Psychology, Religion and Sociology, as well as appropriate content form the humanities, Mathematics and Natural Sciences" (NCSS, 2010).

Also, a mean value of (M = 4.27; SD = 0.62) was obtained signifying that Social Studies teachers agreed that Social Studies is the study of the dynamic interactions people have with themselves and the elements of their environments. Ogunyemi (2006) attest to this respond by saying Social Studies is the study of the dynamic interactions people have with themselves and the elements of their environments. With this definition, Social Studies is seen as a discipline dealing with the study of human behaviour and human institutions which aims at helping the people understand the cultural values of the society in which they live. It is a problem-solving discipline in a multicultural society as it is used in making informed and reasoned decisions for progress and development in the society.

116

Moreover, a mean value of (M = 4.13; SD = 0.98) was obtained signifying that Social Studies teachers agreed Social Studies gains its identity from the social science discipline such as History, Political Science, Geography, Economics, Sociology, Anthropology and Psychology. Martorella (1994) writes that most educators concede that Social Studies gain some of its identity from the social science, such as History, Political Science, Geography, Economics, Sociology, Anthropology and Psychology. Again, Ghana Education Service (2001) emphasis that Social Studies takes its source from geography, history, economics and civic education and integrates it in a fashion that creates a subject of its own. Ravitch (2003) sums it up by saying, "Social Studies is seen as a broad umbrella that covers a range of subjects, disciplines, and skills" (p.1).

Furthermore, a mean of (M = 4.43; SD = 0.81) was obtained signifying that Social Studies teachers agreed that Social Studies covers problem and issues that threaten human survival. Kankam, Bekoe, Ayaaba, Bordoh and Eshun (2014) support the claim that there are varied conceptions about the scope of content of Social Studies in Ghana. Teacher conceptualized the content of Social Studies to cover: subject-centred; acquisition of problem solving skills; solving issues that threaten human survival; separated into individual subject areas rather than organised as integrated discipline; development of positive attitudes of students; critical examination of controversial issues; on the critical thinking about important social and political issues; and the key social and cultural situations in the community.

In addition, a mean value of (M = 4.15; SD = 0.89) was obtained signifying that Social Studies teachers agreed that the scope of Social Studies

117

is based on institutions and communities such as the home, the family, the school. Banks (1990; 2000) attest that at the lower grades in schools, the scope of Social Studies is be based on institutions and communities such as the home, the family, the school, the neighbourhood and the community. In Ghana, the scope of Social Studies appears to echo the ideas put forward by Banks. At the basic level (Primary and Junior High), the subject is organised around eight communities the home, the school, the neighbourhood, the local community, the national community, the West African Community, the African Community and the World Community.

Moreover, a mean value of (M = 4.29; SD = 1.01) was obtained signifying that Social Studies teachers agreed the main goal of Social Studies is to promote citizenship education. In contrast to the mean score, the standard deviation scores (SD = 1.00) means that Social Studies teachers responses flatter, spread out more and differ greatly from the mean. This revealed heterogeneous responses among the respondents. Currently, there are general agreements that the fundamental purpose of Social Studies is Citizenship Education. According to Blege (2001), "in the context of Ghana, Social Studies is Citizenship Education which aims at producing reflective, competent, responsible and participatory citizens" (p. 13). This claim goes to support the view of the National Council for Social Studies (1994) in America that "the primary purpose of Social Studies is to help young people develop the ability to make informed and reasoned decisions for the public good as citizens of a culturally diverse democratic society in an interdependent world" (p. 23).

118

In summary, the mean of means obtained on the content knowledge of Social Studies teachers was (M = 4.225; SD = 0.88). This indicates that Social Studies teachers agreed to possess the content knowledge needed in the teaching and learning of Social Studies. In consonance the mean of means, mean standard deviation scores of (SD = 0.874) of Social Studies teachers signified that their responses were cluster around the mean score, thus the Social Studies teachers response to items on their content knowledge were more similar to each other.

Research question 3: What is the pedagogical knowledge of Social Studies teachers in the teaching of the subject in SHS in the Kumasi Metropolis?

According to Shulman (1986), pedagogical knowledge is any theory or belief about teaching and the process of learning that teachers possess that influence teaching.

Social Studies is now a distinct part of the curriculum at all levels of Ghana's educational system. Its relative newness in schools, coupled with the dearth of professionally qualified Social Studies teachers and the inevitable need to have teachers equipped with a high level of competence in the delivery of Social Studies, presents a number of challenges.

Abdu-Raheem (2011) observed that the objective of Social Studies is yet to be achieved as a result of poor teaching and lack or inadequacy of instructional materials and methods to motivate students. In view of Rodger (2003), the choice of an appropriate teaching method, to suit a given teaching learning encounter keeps the teacher professionally alive in his preparations to teach very well. Table 5 presents the result that was collected.

119

Table 5-*Pedagogical Knowledge of Social Studies Teachers*

Pedagogical Knowledge	M	SD
I can adapt my teaching style to different learners.	4.60	0.52
I know how to organize and maintain classroom management.	4.48	0.65
I use student centred method to achieve specific objective of my lesson.	4.44	0.74
I mostly use problem solving and discovery learning during instructional period.	4.37	0.59
I know how to assess student performance in a classroom.	4.65	0.51

Source: Field survey, Yalley(2016).   M = Mean   S = Standard Deviation

Mean of Means = 4.508   Mean of Standard Deviation = 0.60

Result from Table 5 indicates a mean value of (M = 4.60; SD = 0.523) signifying that Social Studies teachers agreed they can adapt their teaching style to different learners. Indeed, according to Sumber, Ndofirepi and Gwirayi (2012), the teaching style of the teacher should match the learning style of the learners in order for learners to understand what the teacher is teaching. They posited that learners should be at the forefront or in the driver's seat and in charge of their own learning while the teacher acts as a facilitator during teaching and learning process.

Also, a mean value of (M = 4.48; SD = 0.652) was obtained signifying that Social Studies teachers agreed they know how to organize and maintain classroom management. From the position of Hudson (2007), the pedagogical process for teachers includes the ability to plan and prepare materials; time

and classroom management skills; implementation; problem solving and teaching strategies; questioning techniques; and assessment. The use of a particular teaching pedagogy will influence classroom management, questioning techniques and mode of assessment (Hudson, 2007). To buttress the responses from the Social Studies teachers, Rodger (2003) opines that a teacher's teaching method has the potential of reducing learners' classroom disruptive behaviours to the barest minimum and therefore, contribute quite positively to the desired effective classroom management.

Furthermore, a mean of (M = 4.44; SD = 0.740) was obtained signifying that Social Studies teachers agreed that they use student centred method to achieve specific objective of my lesson. The methods of teaching Social Studies are categorized into student-centred and teacher-centred approach (Tamakloe, Amedahe,& Atta, 2005). One significant fact derived from the study of Social Studies is the recognition of human being as the most important aspect of learning and development of purposeful skills and knowledge to enable them function well in the society. For this reason, Abdu-Raheem (2011) attests that it is essential for teachers to use student-centred methods to realize the stated objectives, goals and aims of the subject. Also, Cresswell (2004) asserts that effective teacher's present information or skills clearly and enthusiastically, are non-judgmental and relaxed, keep the lessons task-oriented, aim at students' achievement, assist students by elaborating their answers and interact with students through probing questions.

In addition, the mean value of (M = 4.37; SD = 0.587) was obtained signifying that Social Studies teachers mostly use problem solving and discovery learning during instructional period. With regard to this statement,

Abdu-Raheem (2010) confirms the responses by stating that inquiry, problem-solving, discussion, discovery and role playing are effective methods. Also, Abdu-Raheem (2011) agreed that problem-solving method is effective because students are able to participate actively in the lessons. To buttress this statement, Rechards (2005) and Ogunkunle (2008) agreed that self-directed learning makes learning effective and meaningful to learners, improve and develop problem-solving abilities in learners and also take care of all categories of learners.

With regard to the statement, do Social Studies teachers know how to assess student performance in a classroom, a mean value of (M = 4.65; SD = 0.510). This means that the respondents agreed to the statement. Hudson (2007) and Shulman (1986) attest that teachers should have the ability to plan and prepare materials; time and classroom management skills; implementation; problem solving and teaching strategies; questioning techniques; and assessment. This implies that the use of a particular teaching pedagogy will influence classroom management, questioning techniques and mode of assessment (Hudson, 2007).

The mean of means on research question three "the pedagogical knowledge of Social Studies teacher's was (M = 4.51; SD = 0.60). This implies that Social Studies teachers agreed that they possess the pedagogical knowledge needed to teach the subject at the Senior High Schools in the Kumasi Metropolis. To confirm the conclusion drawn from the mean of means, mean of standard deviation scores (SD = 0.60) of Social Studies teachers signified that their responses were clustered around the mean score,

thus the Social Studies teachers response to items on their pedagogical knowledge were more similar to each other.

Research question 4: What is the pedagogical content knowledge of Social Studies teachers in the teaching of the subject in SHS in the Kumasi Metropolis?

Afolabi (2000)assert that teachers' variables such as teachers' knowledge of subject matter, teaching skills, attitude in the classroom, teacher's qualification and teaching experience are noted to have effects on students' academic performance. This is why Shulman (1987) developed pedagogical content knowledge which is expected to create an impact on teaching practice because it is closely related to "the ways of representing and formulating the subject that make it comprehensible to others" (p. 9). The result would be presented and discussed in table 6.

Table 6-*Pedagogical Content Knowledge of Social Studies teachers*

Pedagogical Content Knowledge	M	SD
I can represent and formulate the "Social Studies" content that makes it comprehensible to others.	4.16	0.86
I possess the philosophy of the subject "Social Studies" and learning of students.	4.35	0.74
I can present the content of Social Studies to the diverse interest and abilities of students.	4.40	0.61
I can effectively integrate the content, method and the characteristics of learners.	4.27	0.84
I have techniques in assessing students' understanding and diagnosing their misconceptions.	4.35	0.57

123

Source: Field survey, Yalley(2016).   M = Mean   S = Standard Deviation

Mean of Means = 4.31   Mean of Standard Deviation = 0.72

As evident in Table in Table 6, a mean score of (M = 4.16; SD = 0.86) was obtained to signify that Social Studies teachers agreed they can represent and formulate the content of Social Studies to the divers interest and abilities of students. Also, a mean score of (M = 4.35; SD = 0.74) was obtained to mean that Social Studies teachers agreed they possess the philosophy of the subject "Social Studies" and learning of students. Furthermore, a mean score of (M = 4.40; SD = 0.61) was obtained meaning the Social Studies teachers agreed they can present the content of Social Studies to the diverse interest and abilities of students. Moreover, a mean score of (M = 4.27; SD = 0.84) was obtained meaning the Social Studies teachers agreed they can effectively integrate the content, method and the characteristics of learners. In addition, a mean score of (M = 4.35; SD = 0.57) was obtained meaning the Social Studies teachers agreed they possess the techniques in assessing students understanding and diagnosing students misconceptions.

In effect, a mean of mean score of (M = 4.31; SD = 0.72) was obtained to signify that Social Studies teachersagreed they possess the pedagogical content knowledge. The mean of mean score of the Social Studies teachers measures the central trend of their responses. The mean of standard deviation scores (SD = 0.764) of Social Studies teachers signified that their responses were clustered around the mean score, thus their responses to items on Social Studies teachers pedagogical content knowledge were more similar to each other.Quartey (2011) confirms the responses obtained by saying that Social Studies teachers need to possess the philosophy of the subject they teach and

124

learning of students. The philosophy provides guidance and direction in choosing content, objectives, teaching and learning experience and nature of assessment. The National Council for the Social Studies (NCSS, 2010) also support this position that the methods course for Social Studies teachers' preparation should focus on the "pedagogical content knowledge that deals specifically with the nature of Social Studies and with ideas, strategies, and techniques for teaching Social Studies at the appropriate level" (p. 54).

Furthermore, Ananga and Ayaaba, (2004) contend that Social Studies teachers must possess conceptual and procedural knowledge that students bring to the learning of a topic, the misconceptions about the topic that they may have developed, and the stages of understanding that they are likely to pass through in moving from a state of having little understanding of the topic to mastery of it. It also includes knowledge of techniques for assessing students' understanding and diagnosing their misconceptions, knowledge of instructional strategies that can be used to enable students to connect what they are learning to the knowledge they already possess, and knowledge of instructional strategies to eliminate the misconceptions they may have developed.

From Angeli and Valanides (2005), Social Studies teachers must have the knowledge of the content and master the teaching methods and strategies to facilitate effective interaction between the learners and the content. As Social Studies teachers possess pedagogical content knowledge, Achacoso (2003)assert that teachers' variables such as teachers' knowledge of subject matter, teaching skills, attitude in the classroom, teacher's qualification and

125

teaching experience are noted to have effects on students' academic performance.

Research question 5: What is the technological content knowledge of Social Studies teachers in the teaching of the subject in SHS in the Kumasi Metropolis?

Technological Content Knowledge (TCK) means knowledge about the method or the manner in which technology knowledge (TK) and content knowledge (CK) are reciprocally related to each other. Table 7 shows results that were collected.

Table 7-*Technological Content Knowledge (TCK) of Social Studies Teachers*

Technological Content Knowledge	M	SD
I can transform the content of Social Studies using technological resources.	3.88	0.91
I can use technology to build on students' existing knowledge in developing new knowledge.	4.07	0.64
I can engage students in high-order thinking through the use of technological resources.	4.07	0.71
I can use technology resources to bring the content of Social Studies to life in the classroom.	4.13	0.74
I obtain educational information and facts from the internet to enrich the Social Studies content.	4.38	0.74
I have the technological skills needed to use technology in the classroom.	4.11	1.05

Source: Field survey, Yalley(2016). M = Mean   S = Standard Deviation

Mean of Means = 4.10   Mean of Standard Deviation = 0.80

126

Result in Table 7, shows a mean score of (M = 3.88; SD = 0.91) indicating that Social Studies teachers agreed they can transform the content of Social Studies using technological resources. Mai and Ken-Neo (2003) contend that multimedia technologies significantly influence students' learning by broadening their scope of learning and knowledge. They continue to state that educators thus Social Studies teachers can transform the subject matter through the use of technological resources such as multimedia/hypermedia to support students to display their ideas and information in terms of the multimedia format and use higher order thinking skills like analysis, synthesis, and evaluation to become active learners rather than memorizing knowledge.

Also, a mean score of (M = 4.07; SD = 0.64) and (M = 4.07; SD = 0.71) was obtained on how Social Studies teachers can use technology to build on students' existing knowledge in developing new knowledge and how Social Studies teachers can engage students in high-order thinking through the use of technological resources respectively. According to Mishra and Koehler (2006), technological content knowledge is the basis of good teaching with technology and requires that educators understand the representation of concepts using technologies and the knowledge of what makes concepts difficult or easy to learn and how technology can help redress some of the problems that student's face. Moreover, they posits that knowledge of students' prior knowledge, theories of epistemology; knowledge of how technologies can be used to build on existing knowledge and how to develop new epistemologies or strengthen old ones is the responsibility of teachers. To confirm the responses from the Social Studies teachers, Mai and Ken-Neo

127

(2003) state that multimedia technologies significantly influence students' learning by broadening their scope of learning and knowledge when educators transform the subject matter through the use of technological resources such as multimedia/hypermedia to support students to display their ideas and information in terms of the multimedia format and use their higher order thinking skills like analysis, synthesis, and evaluation to become active learners rather than memorizing knowledge. Oliver and Hannafin (2000) found that teachers' incorporated higher-order thinking in technology-driven tasks only after instruction in critical thinking skills.

Furthermore, a mean score of (M = 4.13; SD = 0.74) was obtained to signify that Social Studies teachers agreed they can use technological resources to bring the content of Social Studies life in the classroom. Fisher (2000) attest that when History teachers use "word processors, spread sheets, statistical packages, databases, simulations, teleconferencing, CD-ROMs, and the internet make History come alive in the classroom" (p. 49).

Moreover, a mean score of (M = 4.38; SD = 0.74) was obtained to indicate that Social Studies teachers agreed they obtain educational information and facts from the internet to enrich the content of Social Studies. Buabeng-Andoh (2012) confirms this claim as he explored Social Studies teachers' perception on technology in a giving instruction. He revealed that majority of the respondents perceived 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. Reporting similar findings, Rampersad (2011) indicated that geography teachers

128

perceived technology as an important motivational tool that encouraged them to be creative in their approach to teaching.

In addition, a mean score of (M = 4.11; SD = 1.05) was obtained to indicate that Social Studies teachers agreed they have the technological skills needed to use technology in the classroom. According to Lee (2008), there are six specific pedagogical actions that Social Studies teachers must use to frame inherently technological subject matter. With the standard deviation scores (SD =1.05) means that Social Studies teachers responses flatter and spread out more. This revealed heterogeneous responses among the Social Studies teachers concerning their possession of the technological skills needed to use technology in the classroom. With this finding, their responses differ from each other.

In effect, it can be deduced from Table 7 that, Social Studies teachers agreed they possess the technological content knowledge needed to teach Social Studies. A mean of mean score of (M = 4.10; SD = 0.80). The mean of standard deviation scores (SD = 0.80) signifies that their responses were clustered around the mean score, thus the Social Studies teachers responses to items were more similar to each other.

Research question 6: What is the technological pedagogical knowledge of Social Studies teachers in the teaching of the subject in SHS in the Kumasi Metropolis?

Effective technology integration is achieved when its supports curricular goals. It must support four key components of learning: active engagement, participation in groups, frequent interaction and feedback, and connection to real-world experts (Harkverdi, Gucum, & Korkmaz, 2007). It

129

has been widely agreed that instructional technology does, indeed hold a remarkable catalyst for transformation(Ryan & Cooper, 2006; Honey, 2001). In other words, Social Studies teachers must find novel ways in which current computer applications from other fields can be modified to suit their classroom purposes.Table 8 presents results that were collected.

Table 8-*Technological Pedagogical Knowledge (TPK) of Social Studies Teachers*

Technological Pedagogical Knowledge	M	SD
I can use computer aid resources to constructively assist weak students during instructional period.	3.58	1.25
I can use virtual/on line field trip to enable student get first hand learning experience.	3.98	1.08
I can use webQuest as an enquiry oriented activity to encourage co-operative learning among students.	3.41	1.23
I can use Glogter to create my teaching and learning material and resource.	2.80	1.43
I can use drill and practice as a teaching strategy to enable student memorize concept and historical aspect of Social Studies.	3.90	1.11
I can use simulation to encourage student construct their own knowledge and conduct research.	4.23	0.66
I can use multimedia resources to create a constructive learning environment to students learning.	4.07	0.92

Source: Field survey, Yalley(2016).   M = Mean   S = Standard Deviation

Mean of Means = 3.71   Mean of Standard Deviation = 1.09

130

As evident in Table 8, a mean score of (M = 3.58; SD = 1.25) was obtained to signify that Social Studies teachers agreed they can use computer aid resources to constructively assist weak students during instructional period. Condie and Munro (2007) concluded that the use of ICT in teaching and learning by teachers has positive effects in a number of subjects, as well as being constructive in assisting students that are marginalized as a result of personal or familial issues. They further concluded that using Computer Aided Instruction (CAI) considerably diverts the teacher's focus to weaker students. Similarly, Rodden (2010) contend that when teachers integrate educational technological software, video and interactivity, they have different intelligences to assist and appeal to all the sense of the students to aid content delivery and understanding to weaker learners.

Also, a mean score of (M = 3.98; SD = 1.08) was obtained to mean that Social Studies teachers agreed they use virtual/on line field trip to enable student get first hand learning experience. In fact, Ayas (2006) posits that Virtual field trips on the internet provide students with first-hand learning experiences and allow for the interactivity and student control delineated in a student-centred constructivist model. It also enables students to gain an authentic experience, which is one principle of meaningful learning (Ayas, 2006).

Furthermore, a mean score of (M = 3.41; SD = 1.23) was obtained meaning the Social Studies teachers agreed they can use webQuest as an enquiry oriented activity to encourage co-operative learning among students. Ayas (2006) attest that WebQuests is "an inquiry-oriented activity in which some or all of the information that learners interact with comes from resources

131

on the internet" (p.22). Whiteworth and Berson (2003) have appraised Webquests for having a great potential for cooperative/collaborative learning, by supporting the principles of meaningful learning in the social students' classroom.

Moreover, a mean score of (M = 2.80; SD = 1.43) was obtained meaning the Social Studies teachers disagreed they can use Glogter to create their teaching and learning material and resource. This was in contrast with Zukas (2000) claim that Glogter is a website where teachers and students are given personal accounts in order to create "Glogs", which are basically online posters to be used for during the teaching and learning process.

In addition, a mean score of (M = 3.90; SD = 1.11) was obtained meaning the Social Studies teachers agreed they can use drill and practice as a teaching strategy to enable student memorize concept and historical aspect of Social Studies. One aspect of the Social Studies education involves learning of facts, important dates of history, geographic names and so forth. Therefore, Berson, (2000) posits that drill-and-practice, tutorial, and study guides have been among the most frequently used programs by Social Studies teachers in the Social Studies classroom. One of the first national surveys in the United States about Social Studies teachers' computer use indicated a significant use of drill and practice and tutorials among Social Studies teachers when they want students to memorize certain concepts and theories in classroom (Northup & Rooze, 1990). Likewise, Pye and Sullivan (2001) in a study among middle school Social Studies teachers found that almost 22% of Social Studies teachers use drill and practice and tutorials in their classroom to facilitate rote learning.

132

Concerning the statement whether Social Studies teachers can use simulation to encourage student construct their own knowledge and conduct research. A mean score of (M = 4.23; SD = 0.66) was obtained to indicate that they possess the knowledge to do so. According to White (1997), the changes in technology have increased the capability of using more visual aids in the classroom. Therefore, many Social Studies software/CD-ROM programs now available to support teaching strategies in the Social Studies classroom. Rice and Wilson (1996) state that "those programs allow students to engage in activities, such as simulations and problem solving, that encourage them to construct their own knowledge and conduct their own research" (p. 2). Also, Berson (2000) points out how simulations and games can reinforce constructivist learning in the Social Studies classroom and facilitate the development of students' problem-solving skills and place students in the role of decision maker. A current study conducted by Pye and Sullivan (2010) attest that games and simulations are still among the most common computer-based instructional strategies.

In sum, a mean of mean score of (M = 3.71; SD = 1.09) was obtained for research question six "the technological pedagogical knowledge of Social Studies teachers. This means Social Studies teachers agreed they possess the technological pedagogical knowledge needed to teach the subject. In contract, the mean of standard deviation scores (SD =1.0) signifying that their responses spread out more from the mean score. This revealed heterogeneous responses among the Social Studies teachers.

Research question 7: What is the technological pedagogical content knowledge of Social Studies teachers in the teaching of the subject in SHS in the Kumasi Metropolis?

The idea of technological pedagogical content knowledge emerged as a way to consider the interplay of technology, pedagogy, and academic content in dynamic and productive contexts. Table 9 shows results that were collected.

Table 9-*Technological Pedagogical Content Knowledge of Social Studies Teachers*

Technological Pedagogical Content Knowledge	M	SD
I can represent and formulate the "Social Studies" content that integrate technology and makes it comprehensible to learners.	4.06	0.78
I can engage subject matter that is "inherently technological" and thereby "improving" subject matter.	3.94	1.03
I have the technological skills to incorporate Social Studies curriculum knowledge and technology for effective teaching.	3.86	1.16
I can use technological resources to extend classroom discussion beyond the four corners of the school.	3.86	1.10
I can provide leadership in helping others to coordinate the use of content, teaching approaches and technology at my school and/or district.	4.24	0.77

Source: Field survey, Yalley(2016). M = Mean   S = Standard Deviation

Mean of Means = 4.00   Mean of Standard Deviation = 0.97

134

It is evident from Table 9 that a mean score of (M = 4.06; SD = 0.78) and (M = 4.24; SD = 0.77) was obtained to signify that Social Studies teachers agreed they can represent and formulate the "Social Studies" content that integrate technology and makes it comprehensible to learners and that they can also provide leadership in helping others to coordinate the use of content, teaching approaches and technology at schools and/or district respectively. Education Technology Research Development (2007) stresses that teachers' need competence in three major skills in order to integrate technology effectively: technology skills, technology-supported pedagogy skills, and technology-related classroom management skills. To obtain the full benefit of technology integration in our classrooms, teachers must entwine technology effectively with the content of what is to be learned. This was what Cuban (1986, 2001) referred to as "fitting the computer to the curriculum, not the curriculum to the computer".

On this note, Basilicato (2005) states that technological tool like the interactive whiteboard requires a dedicated teacher who can convey their enthusiasm for the subject to students. Fullan (2000) affirms that technology is everywhere; the issue is not whether they use it, but how they manage it. He stressed that as technology becomes more powerful, good teachers become more indispensable. This is to say that regarding new breakthroughs in cognitive science about how learners must construct their own meaning for deep understanding to occur, the teacher must know how to manage and utilize technology in ways that would enhance learning.

On the skills needed for integration, Lee (2008) posits that Social Studies teachers should engage subject matter that is "inherently

135

technological" and by "improving" subject matter given technological adaptations. He further posits that working with subject matter in such contexts requires pedagogical action. Lee (2008) described ten actions a Social Studies teacher can employ in these two contexts. These ten pedagogical adaptations of the interplay of technology, pedagogy, and content knowledge in Social Studies emphasize social studies as directed at democratic life. Painter (2001) has also brought some key notes to the integration of technology by teachers'. These notes requires teachers' readiness and flexible ability to incorporate technology into teaching activities with a high level of teaching skills based on curriculum knowledge, knowledge of students' abilities, students' needs and reasonable level of technology literacy.

Moreover, a mean score of (M = 3.94; SD = 1.03), (M = 3.86; SD = 1.16), (M = 3.86; SD = 1.10) was obtained to indicate that Social Studies teachers agreed they can engage subject matter that is "inherently technological" and thereby "improving" subject matter; they have the technological skills to incorporate Social Studies curriculum knowledge and technology for effective teaching and they can use technological resources to extend classroom discussion beyond the four corners of the school respectively. Lee (2008) attest that Social Studies teachers should engage subject matter that is "inherently technological" and by "improving" subject matter given technological adaptations. He further posits that working with subject matter in such contexts requires pedagogical action.

Also, Buabeng-Andoh (2012), explored Social Studies teachers perception of technology in giving instruction and revealed that majority of the respondents perceived that technology can offer opportunities to teachers

136

to obtain educational resources from the internet to enrich course content and also can improve the teaching and learning process. Moreover, Moulton (2009) comments there are two types of integration; just using technology in the classroom and using technology to improve student learning and outcome. Certainly, there is a difference between using technology to just play video games and using it as a learning tool. For this reason, teachers need to take steps and become more experienced with different technologies so they can create enriching learning experiences for their students.

According to Harkverdi, Gucum, and Korkmaz, (2007) attest that effective technology integration is achieved when its use supports curricular goals. It must support four key components of learning: active engagement, participation in groups, frequent interaction and feedback, and connection to real-world experts. It has been widely agreed that instructional technology does, indeed hold a remarkable promise for changing the quality of teaching and learning in schools and it is the catalyst for transformation(Ryan & Cooper, 2006; Honey, 2001). Furthermore, Sheingold (1990) said integrating technology in the classroom is not about teaching students to operate computers, but integrating technology is about helping students to use technology as a tool for learning. To reinforce the position of Sheingold, the Education Technology Research Development (2007) stress that teachers' need competence in three major skills in order to integrate technology effectively: technology skills, technology-supported pedagogy skills, and technology-related classroom management skills.

In effect, it can be deduced from Table 9 that, Social Studies teachers agreed they possess the technological pedagogical content knowledge needed

137

to teach Social Studies. A mean of mean score of (M = 4.00; SD = 0.97) was obtained. The mean of standard deviation scores (SD = 0.97) signifies that their responses were cluster around the mean score, thus the Social Studies teachers responses to items were more similar to each other.

Result from the observation check list shows a mean value of (M =3.79; SD = 0.42) attesting that Social Studies teachers in the Kumasi Metropolis are competent in the use of standard technologies such as books, dry eraser board and chalk boards. Also, a mean value of (M = 3.26;SD = 0.65) was obtained to attest that Social Studies teachers have the competent in the use of modern/advance technologies such as computers, internet, interactive white board, digital videos and overhead projectors.

On other hand, a mean value of (M = 2.58; SD = 1.02), (M = 2.53; SD = 1.02) and (M = 2.58; SD = 1.07) was obtained to indicate that Social Studies teachers are somehow competent in blending technological tools to concepts, theories and information across Social Studies content area; somehow competent in formulating and representing Social Studies content that is integrate technology to make it comprehensible to learns and they are somehow competent in using technological resources to extent teaching Social Studies beyond the classroom.

Technological Pedagogical Content Knowledge (TPACK) Difference between Professional and Non-Professional Social Studies Teachers.

Ho: There is no statistical significant difference between the technological pedagogical content knowledge (TPACK) of professional and non-professional Social Studies teachers in the Kumasi Metropolis.

H1: There is statistical significant difference between the technological pedagogical content knowledge (TPACK) of professional and non-professional social studies teachers in the Kumasi Metropolis.

Table 10 is a summary of the independent sample t-test statistics for the technological pedagogical content knowledge (TPACK) difference between the professional and non-professional Social Studies teachers.

Table 10-*Independent Sample t-test*

Variables	Groups	N	M	SD	T	df	sig
TPACK	Professional	54	19.33	3.41	-1.90	26	0.60
	Non-Professional	74	20.42	3.03			

Source:Field survey, Yalley(2016).

The researcher first considered the Levene's test for equality of variance. The Sig value > 0.05 means the variance is assumed equal. On the other hand, if the Sig is < 0.05, the variance is the not assumed equal. A Sig value of 0.341 was obtained after computing the independent sample t-test which means that variance is assumed equal.

Table 10 shows that there is no statistically significance difference between the technological pedagogical content knowledge (TPACK) of professional and non-professional Social Studies teachers in the Kumasi Metropolis (t = - 1.900; df = 126; p > 0.05). Therefore, the researcher fails to reject the Ho.

An examination of the group means; Professional (M = 19.33; SD = 3.41) and the Non-Professional (M = 20.42; SD = 3.03) indicate that they perform at the same level in respect to the integration of technology in the

139

teaching and learning of Social Studies in the Kumasi Metropolis even though there exist some numerical difference in the mean score, this difference is not statistically significant. The study results indicate there is no real qualification disparity with the integration of technology in the teaching and learning of Social Studies.

Chapter Summary

The data analysis provided adequate information, translating into answers for the questions of the study. The hypotheses were also successfully tested to ascertain the statistically significant difference between the professional and the non-professional Social Studies teachers' unification of technology in the teaching and learning of Social Studies. The study therefore provides objective results that can be used as the bases for conclusions and recommendations for improving technology integration in the teaching of Social Studies in our second-cycle institutions.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Overview of the Study

This chapter seeks to present a summary of the research process as well as the key findings that emerged from the research. The chapter also contains the conclusions and recommendations that were made based on the findings of the study. Areas suggested for further research are also presented in thischapter of the study.

Summary of the Study

The world is experiencing rapid technological changes to which the educational front is becoming more aware of continuous shifts in the learning environments, and the need for the current generation of Social Studies teachers to exhibit and appreciate the need for integration of technology in the teaching and learning process. As Berson (2000) asserts, one of the major purposes of Social Studies is to promote effective citizens who possess the critical thinking and decision making skills to function in a democratic society. Thus, reflective inquiry, problem solving and decision making skills are considered essential for the contemporary Social Studies education. Research shows that computer and internet-supported teaching strategies have crucial roles in facilitating the development of students' critical thinking, problem solving and decision making skills (Berson, 2000; Rice & Wilson, 1999).

Generally, the study aimed at investigating the technological pedagogical content of Social Studies teachers in the Senior High Schools in the Kumasi Metropolis in the Ashanti Region of Ghana.

141

Specifically, the study sought to find out:

1. What is the technological knowledge (TK) of Social Studies teachers in the teaching of the subject in SHS in the Kumasi Metropolis?

2. What is the content knowledge (CK) of Social Studies teachers in the teaching of the subject in SHS in the Kumasi Metropolis?

3. What is the pedagogical knowledge (PK) of Social Studies teachers in the teaching of the subject in SHS in the Kumasi Metropolis?

4. What is the pedagogical content knowledge (PCK) of Social Studies teachers in the teaching of the subject in SHS in the Kumasi Metropolis?

5. What is the technological content knowledge (TCK) of Social Studies teachers in the teaching of the subject in SHS in the Kumasi Metropolis?

6. What is the technological pedagogical knowledge (TPK) of Social Studies teachers in the teaching of the subject in SHS in the Kumasi Metropolis?

7. What is the technological pedagogical content knowledge (TPACK) of Social Studies teachers in the teaching of the subject in SHS in the Kumasi Metropolis?

Hypothesis

Ho: There is no statistical significant difference between the technological pedagogical content knowledge (TPACK) of professional and non-professional Social Studies teachers in the Kumasi Metropolis.

142

H1: There is statistical significant difference between the technological pedagogical content knowledge (TPACK) of professional and non-professional social studies teachers in the Kumasi Metropolis.

A descriptive survey design was adopted for the study. The target population was all Social Studies teachers in the Kumasi Metropolis during the 2015/2016 Academic year. The researcher used all the nineteen SHSs as well as all the 136 Social Studies teachersin the Kumasi Metropolis. A census survey was conducted to collect data. The researcher used questionnaires to collect data from the 136 Social Studies teachers while the observational guide was used to collect data from all the nineteen Heads of Social Studies Department. The data collected were cleaned, edited for completeness, coded and analysed with the use of descriptive statistics for demographic data and the research questions whiles inferential statistics was used to test the hypothesis. The results were presented in the form of tables and each result was analysed, discussed and interpreted.

Key Findings

Some informative and objective findings have been made in this study. The key findings of the study can be summarized as follows:

1. The result of the study revealed a mean of means value of (M = 4.193; SD = 0.83) for the technological knowledge of Social Studies teachers. This signifies that Social Studies teachers agreed to possess the technological knowledge needed in the teaching and learning of Social Studies.

2. The study discovered a mean of meansvalue of (M = 4.225; SD = 0.88) on the content knowledge of Social Studies teachers. This

143

indicates that Social Studies teachers possessed the content knowledge needed in the teaching and learning of Social Studies. In consonance with the mean of mean, mean standard deviation value of (SD = 0.88) was obtained to signify that their responses were clustered around the mean score, thus the Social Studies teachers response to items on their content knowledge were similar to each other.

3. The study further discovered a mean of meansof (M = 4.51; SD = 0.60) on the pedagogical knowledge of Social Studies teachers. This implies that Social Studies teachers agreed that they possess the pedagogical knowledge needed to teach the subject at the Senior High Schools in the Kumasi Metropolis.

4. Also, a mean of meansvalue of (M = 4.31; SD = 0.72) was obtained to signify that Social Studies teachersagreed they possessed the pedagogical content knowledge needed to foster effective teaching and learning of Social Studies at the Senior High Schools in the Kumasi Metropolis.

5. Moreover, Social Studies teachers agreed they possessed the technological content knowledge needed to teach Social Studiesat the Senior High Schools in the Kumasi Metropolis. A mean of means value of (M = 4.10; SD = 0.80) was obtained to this effect.

6. A cursory look at the technological pedagogical knowledge of Social Studies teachers indicate a mean of meansvalue of (M = 3.71; SD = 1.09). This means Social Studies teachers agreed they possessed the technological pedagogical knowledge needed to

144

teach the subject. In contrast, the mean of standard deviation scores (SD =1.09) shows that their responses spread out more from the mean score. This revealed heterogeneous responses among the Social Studies teachers. For example, a mean score of (M = 2.80; SD = 1.43) was obtained to signify that they disagreed on the item "I can use Glogter to create my own teaching and learning material and resource".

7. A cross examination of Social Studies teachers knowledge on the technological pedagogical content knowledge showed a mean of means value of (M = 4.00; SD = 0.97) meaning Social Studies teachers agreed they possessed the knowledge, skills and competence to purposefully integrate technology, pedagogy and content to ensure effective teaching and learning of the subject "Social Studies".

8. The result derived from the independent sample t-test shows that there is no statistically significant difference between the technological pedagogical content knowledge of professional and the non-professional SHS Social Studies teachers in the Kumasi Metropolis. This implies that academic qualification has no significant effect when it comes to the unification of technology, pedagogy and content of Social Studies in the Kumasi Metropolis.

Conclusions

Based on the findings of this study, the following are conclusions drawn.

1. Even though technology is ever-evolving, Social Studies teachers' in the SHS in the Kumasi Metropolis possessed the technological knowledge needed to use technology and technological resources to effectively teach the subject "Social Studies".From the observation checklist, Social Studies teacher'sknowledge and use of technological resources were limited to standardized technological resources.

2. Irrespective of the apparent boundless nature of the scope of Social Studies (Leming & Ellington, 2003), Social Studies teachers in the SHS in the Kumasi Metropolis possessed the requisite content knowledge needed to successfully nurture students to become successful citizens of the society.

3. In contrast to Abdu-Raheem's (2011) claim that the objective of Social Studies is yet to be achieved as a result of poor teaching and lack of or inadequacy of instructional materials, Social Studies teachers in the SHS in the Kumasi Metropolis possessed the pedagogical knowledge and skills needed to ensure effective teaching and learning of Social Studies.

4. Bailey, Shaw and Hollified (2006) assert that teachers' variables such as teachers' knowledge of subject matter, teaching skills, attitude in the classroom, teacher's qualification and teaching experience are noted to have effects on students'

146

academic performance. Social Studies teachers in the SHSs in the Kumasi Metropolis possessed the requisite pedagogical content knowledge to ensure positive effect on students' performance.

5. Furthermore, Social Studies teachers in the SHS in the Kumasi Metropolis confirmMai and Ken-Neo's (2003) statement that multimedia technologies significantly influence students' learning by broadening their scope of learning and knowledge on the subject matter. Thus Social Studies teachers possessed the needed knowledge that can transform the subject matter through the use of technological resources such as multimedia/hypermedia to support students learning to encourage higher order thinking skills like analysis, synthesis, and evaluation to become active learners rather than memorizing knowledge.

6. Again, with regards to the integration of technology and pedagogy, Social Studies teachers in the SHS in the Kumasi Metropolis possessed the technological pedagogical knowledge needed to find novel ways where technological applications can be modified to suit their classroom teaching and learning practices.

7. Lastly, Social Studies teachers in the SHS in the Kumasi Metropolis possessed the competence, the technological skills, technological-supported pedagogical skills and technological-related-classroom management skills needed to effectively fit

147

the computer (technology) to the curriculum and not the curriculum to the computer (Cuban 2001).

Recommendations

The following recommendations have been made regarding the result of the study for policy and practice. It is envisaged that these recommendations, when taken into consideration would bring about efficiency and effectiveness in the integration of technology in the teaching and learning of Social Studies within the Senior High Schools in the Kumasi Metropolis.

1. In order to sustain and improve Social Studies teacher's technological knowledge, it is recommended that Social Studies teachers' technological knowledge must be enhanced through technological training programmes such as frequent delivering of workshops, seminars and in-service technological training about effective technology integration.

2. Due to the boundless nature of the content of Social Studies, it is it is imperative that Regional Director of Education and the Social Studies curriculum specialists/experts from the Ministry of Education organize short fresher coursesand professional development courses for Social Studies teachers to enable them sharpen their academic and professional competences. This would lead to the improvement in the choice of modern trend (technology) for the teaching and learning of the subject "Social Studies".

3. It is also recommended that government and other stakeholders (parents, Social Studies teachers, Social Studies international

148

bodies) within the society should ensure that the curriculum designed for Social Studies is functional to societal needs and trend of societal development in order to create a robust method of content delivery.

4. In order to sustain and improve the pedagogical content knowledge of Social Studies teachers, Social Studies curriculum specialists/experts should frequently organize seminars and workshops and conferences on Social Studies content and pedagogy so as to develop Social Studies teachers knowledge for effective unification of pedagogy and content during instructional periods.

5. There is the need for the Curriculum Research and Development Division (CRDD) of the Ghana Education Service to review the content of Social Studies to make it suitable for technological unification in order to address current global issues.

6. In addition, there should be a collaboration between the Ministry of Education, curriculum designers and application software developers to design applications that are inherently technological and contains the content of Social Studies.

7. Furthermore, it is recommended that government and the Ministry of Education should provide Social Studies teachers with the state-of-the-art technological resources such as computers, projectors, interactive boards and internet connectivity/modem to reinforce them to make Social Studies classroom technologically oriented in nature.

8. Also, supervisors and school headmasters should also engage in some form of persuasion to encourage Social Studies teachers to learn on their own. They can read,subscribe to technology journals, publications, educational blogs, online magazines, and newsletters, online tutorials and videos whenever they can to equip them with het necessary technological pedagogical competences.

9. Moreover, it is recommended that ICT teachers within the second cycle schools should be made the coordinators for technology integration in schools. They must be given the mandate and incentive to offer IT-related assistance to Social Studies teachers in the schools. This of course requires that the ICT teachers themselves receive some form of specialized training in technology integration.

10. Lastly, in order to facilitate effective and efficient technological integration among Social Studies teachers, a new course should be developed and mounted within our teacher training institutions. The course must be developed in two parts. The concentration of the first phase must be the development of technological skills and competencies while the second phase should then focus on helping the Social Studies teacher trainees to blend their technological skills with their pedagogical techniques and subject content.

Suggestion for Further Studies

1. It is suggested that this topic should be replicated in other regions of Ghana to enable a nationwide call and awareness for technological integration in the teaching and learning of Social Studies.

2. It is also suggested that investigation needs to be conducted on the effects of technology integration on teacher and students' achievement.

151

REFERENCES

AACTE (Ed.). (2008*). Handbook of technological pedagogical content knowledge (TPCK) for educators.* New York, NY: Routledge.

Abdu-Raheem, B.O. (2010). *Relative effects of problem-solving and discussion methods on secondary school students' achievement in social studies*. Unpublished Ph. D. thesis, University of Ado-Ekiti, Ado-Ekiti, Nigeria.

Abdu-Raheem, B. O. (2011). Effects of discussion method on secondary school students' achievement and retention in social studies. *European Journal of Educational Studies, 3*(2), 293-301.

Achacoso, M. (2003). *Evaluating technology and instruction: literature reviewand recommendations.* Texas: The University of Texas, pp. 22-45.

Adesanya, A. O., & Adesina, O. J. (2014). Self-directed learning strategy in teaching and learning for development in the third world. *International Journal of Special and General Education, 3,* 60-65.

Adewuya, S. A. (2003). *Principles and concept of social studies*. Ado Ekiti: Yemi Prints.

Adeyinka, A. A. (1989). Current problems of history teaching in some Nigerian senior secondary schools. *Ilorin Journal of Education, 9*(6),55-63.

Afari-Kumah, E.,& Tanye, H. A. (2009). Tertiary students' views on information and communications technology usage in Ghana. *Journal of Information Technology Impact. 9*(2),81-90.

Afolabi, F. O. (2000). Preparation of teachers for the effective implementation

of secondary school curriculum in Ondo State. *Journal of Educational Research and Evaluation, 4*(1),1-8.

Afolabi, A. K, Abidoye, J.A., & Afolabi, A.F. (2013). *Effects of instructional media on the academic achievement of students in social studies in junior secondary schools.* PNLA quarterly. Retrieved 09/11/14 from Unllib.uni.edu/LPP/PNLA%2520Quater.

African Social and Environmental Studies Programme (ASESP) (1994*). Social studies curriculum and teaching resource book for Africa.* Nairobi.

Aggarwal, J. C. (1982). Teaching social studies. Delhi: Vikas Publishing House.

Ahtee, M. & Johnston, J. (2006). Primary student teachers' ideas about teaching a physics topic. *Scandinavian Journal of Educational Research, 50*(2),1-13.

Amedzo, E. K. (2007). *The integration of information and communications technology into rural schools of South Africa: A case study of schools in Malamulele.* Stellenbosch University: Unpublished M.Phil. Thesis.

Amengor, J. (2011). *History teachers' perception of ICT in promoting teaching and learning.* University of Cape Coast: Unpublished Med Dissertation.

Ananga, E. D.,& Ayaaba, D. (2004). *Social studies, educating effective citizens.* Dansoman: Asante and Hittscher Printing Press Ltd.

Anderson, R. E., & Becker, H. J. (2001). *School investment in instructional*

153

technology. Teaching, Learning, and Computing: 1998 National

Survey of schools and teachers. Report 8. Irvine, California: Centre for

Research on Information Technology and Organizations.

Anderson, R. S., & Speck, B. W. (2001). *Using technology in K-8 literacy*

classroom. Upper Saddle River, NJ: Merrill-Prentice Hall.

Archambault, L. M.,& Barnett, J. H. (2010). Revisiting technological

pedagogical content knowledge: Exploring the TPACK framework.

Computers & Education,55(4), *1656-1662.*

Archambault, L.,& Crippen, K. (2009).Examining TPACK among K-12

online distance educators in the United States.*Contemporary Issues in*

Technology and Teacher Education, 9(1), 71–88.

Association for Educational Communications and Technology. (2004). *The*

meaning of educational technology. Definition and Terminology

Committee, Bloomington. Retrieved from http://ocw.metu.edu.tr/file.

Php /118/ molenda_ definition. pdf.

Ayas, C. (2006). An examination of the relationship between the integration of

technology into social studies and constructivist pedagogies. *The*

Turkish Online Journal of Educational Technology, 5(1), 64-72.

Bailey, G., Shaw, E., & Hollifield, D. (2006). The devaluation of social

studies in the elementary grades. *Journal of Social Studies Research,*

30(2),18-29.

Bandele, S. O. (2003). The universal basic education in perspective: Need for

Formative Evaluation. *Nigerian Journal of Educational Research and*

Evaluation. 4(1),54-58.

Banks, J. A. (1990). *Teaching strategies for the social studies inquiry, valuing*

and decision making. New York: Longman.

Banks, J.A. (2008). Diversity, group identity, and citizenship education in a

    global age.*Educational researcher,37*(3), 129-13.

Barr, R., Barth, J., & Shermis, S. S (1977). *Defining the social studies.*

    Bulletin 51. Washington DC: National Council for the Social Studies.

Barth, J. L., & Shermis, S. S. (1970). Defining the social studies: An

    exploration of three traditions. *Social Education, 34,*743-751.

Barker, F. G. (1994). *Integrating computer usage in the classroom curriculum*

    through teacher training. Unpublished Doctoral Dissertation, Nova

    Southern University, Florida.

Basilicato, N. (2005). *Interactive whiteboards: Assistive technology for every*

    classroom.Today's School.

    Retrieved from http://www.peterli.com/archive/ ts/892.shtm>.

Baylor, A. L., & Ritchie, D. (2002). What factors facilitate teacher skill

    teacher morale, and perceived student learning in technology-using

    classrooms? *Computers and Education, 39,* 395-414.

Beard, C. (1963). *A charter for the social sciences in the schools.* New York:

    Charles Scribners.

Becker, H. J. (2001). *How are teachers using computers in instruction?*Paper

    presented at the 2001 meeting of the American Educational Research

    Association.

    Retrieved fromhttp://www.crito.uci.edu/tlc/FINDINGS/special3/

Becker, H. J., & Ravitz, J. L. (2001). *Computer use by teachers: Are Cuban's*

    *predictions correct?*Paper presented at the 2001 Annual Meeting of the

    American Educational Research Association, Seattle, WA.

155

Becker, H., Ravitz, J., & Wong, Y. (1999). *Teacher and teacher-directed student use of computers and software (Technical Report No. 3).* Retrieved from the Centre for Research on Information Technology and Organizations Web site: http://www.crito.uci.edu/TLC/findings/computeruse

Bednarz, S. W., & Van der Schee, J. (2006). Europe and the United States: Theimplementation of geographic information systems in secondary education in two contexts. *Technology, Pedagogy, and Education, 15*(2),191-205.

Bekoe, S. O. (2006). *Assessment and curriculum goals and objectives: Evaluation of the systematic impact of the SSSCEon the senior secondary school, social studies curriculum in Ghana.* An Unpublished Doctoral dissertation: Faculty of Education, University of Strathclyde, Glasgow-United Kingdom.

Bennett, J. M.,& Bennett, M. J. (2003). Developing intercultural sensitivity. Landis, D., Bennett, J., Bennett, M. (red*.): Handbook of Intercultural Training* (s. 147-165).

Berson, M. J. (1996). Effectiveness of computer technology in the social studies: A review of the literature. *Journal of Research and Computing in Education*, *28*(4), 486-489.

Berson, M.J. (2000). Rethinking research and pedagogy in the social studies: The creation of caring connections through technology. *Theory and Research in Social Education, 28*(1), 121-131.

Berson, M. J., & Balyta, P. (2004). Technological thinking and practice in the

social studies: Transcending the tumultuous adolescence of reform. *Journal of Computing in Teacher Education 20*(4), 141-150.

Berson, M. J., & Bennett, L. (Eds.) (2009). Welcome to the digital classroom [Special issue]. *Social studies and the Young Learner, 21*(4).

Berson, M. J., Lee. J. K., & Stuckart, D. W. (2001). Promise and practice of computer technologies in the social studies: A critical analysis. In W. Stanley (Ed.), *Social studies research: Problems and prospects* (pp. 209-223). Greenwich, CT: Information Age Publishing.

Blege, W. (2001). *Social studies: Theory and practice.* Accra: Wallyblege Publications.

Boakyi, K., & Banini, A. D. (2006). Integrating ICT in teaching and learning inWest and Central African Schools: A Case Study of Pioneer Schools in Ghana.

Boakye, K. B., & Banini, D. A. (2008). Teacher ICT readiness in Ghana. In Toure K., Tchombe T. M. S., & Karsenti T. (Eds.), *ICT and changing mindsets in education*. Bamenda, Cameroon: Langaa; Bamako, Mali: ERNWACA/ROCARE

Bolick, C. M. (2004). Technology and social studies in teacher education: A framework. In S. Adler (Ed.), *Critical issues in social studies and teacher education* (pp. 131-144). Greenwich, CT: Information Age Publishing.

Bolick, C., Berson, M., Coutts, C., & Heinecke, W. (2003). Technology applications in social studies teacher education: A survey of social studies methods faculty. *Contemporary Issues in Technology and Teacher Education3*(3). Retrieved from

http://www.citejournal.org/vol3/iss3/socialstudies/article1.cfm

Bolick, C. M., McGlinn, M. M., & Siko, K. L. (2005). Twenty years of
technology: A retrospective view of Social Education's technology
themed issues. *Social Education, 69*(3), 155-161.

Børhaug, K. (2005). *Why excellent teaching*Retrieved fromwww.nbpts.org.

Bransford, J. D., Brown, A. L., & Cocking, R. R. (1999). *How people learn:
Brain, mind, experience, and school.* Washington, DC: National
Academy Press.

Braun, J. A. Fernlund, R., & White, C. S. (1998). Social studies and
technology: Past, present and future. In J.A Braun, R. Fernlund, & C.S.
White (Eds.), *Technology tools in the social studies curriculum* (pp. 1-
13)*.* Wilsonville, OR: Franklin, Beedle & Associates.

Brophy, J., Hahn, C., Thornton, S., & Levstik, L. (2007). *Does social studies
have a future?* Paper presented at the College and University Faculty
Assembly, Washington, DC.

Buabeng-Andoh, C. (2012). An exploration of teachers' skills, perceptions
and practices of ICT in teaching and learning in the Ghanaian second-
cycle schools. *Journal of Contemporary Educational Technology,
3*(1),36-49.

Buabeng-Andoh, C.,& Totimeh, F. (2012). Teachers' innovative use of
computer technologies s in classroom: A case of selected Ghanaian
schools. *International Journal of Education and Development using
Information and Communication Technology (IJEDICT), 8*(3), 22-34.

Bull, G., Park, J., Searson, M. Thompson, A., Mishra, P., & Koehler, M. J.

(2007). Editorial: Developing technology policies for effective classroom practice. *Contemporary Issues in Technology and Teacher Education, 7*(3),129-139.

Burns, R. (2000).*Introduction to research methods*. London, Sage.

Busaeed, G. (2015). *Female teachers' perception of utilizing technology in social studies in Saudi Public Schools*. Unpublished Ph.D thesis. The State University of New York, Fredonia. New York.

Carpenter, T. P., Fennema, E., Peterson, P.L., & Carey, D. A. (1988). Teachers' pedagogical content knowledge of students' problems solving in elementary arithmetic. *Journal for Research in Mathematics Education*, 19, 29-37.

Case, R. (1994). Elements of coherent social studies program. In R. Case & P. Clarke (Eds.), *Design for learning Social Studies* (pp. 2-5). Faculty of Education Centre for Distance Education, Simon Fraser University.

Chai, C. S., Koh, J. H. L., &Tsai, C. C. (2010). Facilitating pre-service teachers' development of technological, pedagogical, and content knowledge (TPACK). *Journal of Educational Technology & Society, 13*(4),63-73.

Chandler, H. (2003).Concept mapping & webquest in social studies. *Media & Methods. 39*(3), 1.

Chiodo, J.,& Byford, J. (2006). Do they really dislike social studies? A study of middle school and high school students. *The Journal of Social Studies Research, 28*(1),16-26.

Clark, D. (1992). *Effective use of computers in the social studies: A review of*

the literature with implications for educators. (ERIC Document
Reproduction Service No. ED370828).

Cobbold, C. (2013). *Introduction to the nature and philosophy of social
studies.*Cape Coast, Ghana: Hampton Press.

Cohen, L., Manion, L.,& Morrison, J. (2007). *Research methods in education*.
London: Routledge Taylor and Francis group.

Condie, R., & Munro, B.(2007).*The impact of ICT in schools a landscape
review.*Becta Research.Retrieved from
http://partners.becta.org.uk/page_documents/research/impact_ict_scho
ols.pdf.

Cox, S. (2008). *A conceptual analysis of technological pedagogical content
knowledge*. Unpublished doctoral dissertation. Brigham Young
University.

Cox, S., & Graham, C. R. (2009). Diagramming TPACK in practice: Using an
elaborated model of the TPACK framework to analyse and depict
teacher knowledge. *TechTrends: Linking Research & Practice to
Improve Learning, 53*(5),60-69.

Creswell, J. W. (2004). *Research design: Qualitative & quantitative
approaches.* California: Sage Publications, Inc.

Cuban, L. (1986). *Teachers and machines: classroom use of technology since
1920.* New York: Teacher College Press.

Cuban, L. (2001). *Oversold and underused: Computers in the classroom*.
Cambridge, MA: Harvard University Press.

Cummings, C. A. (1998). *Teacher attitudes and effective computer
integration.* (ERIC Document Reproduction Service No. ED 419512).

160

Curriculum Research and Development Division (CRDD) (2007). *Social Studies teaching syllabus for Senior High Schools.* Accra: Ministry of Education.

Curriculum Research and Development Division (CRDD). (2010*). Social studies teaching syllabus for Senior High Schools.* Accra: Ministry of Education.

Curriculum Research and Development Division (CRDD) (2012). *Social studies syllabus for senior high schools.* Accra: Ministry Of Education.

Davis, K. S., & Falba, C. J. (2002). Integrating technology in elementary pre-service teacher education: orchestrating scientific inquiry in meaningful ways. *Journal of Science Teacher Education, 13*(4), 303-329.

Dawson, K., Pringle, R., & Adams, T. L. (2003). Providing links between technology integration, methods course and school-based field experience: A curriculum-based and technology-enhanced microteaching. *Journal of Computing in Teacher Education, 20*(1), 41-47.

Dee, T. S.,& Cohodes, S. R. (2008*). Out-of field teachers and student achievement: Evidence from matched-pairs comparison*. Public Finance Review 2008 36:7 32

Retrieved fromhttp://pfr.sagepub.com/content/36/1/7.

De Vellis, R. F. (1991). *Scale development: Theory and applications.* Newbury Park, CA: Sage.

Diem, R. A. (1999). *Technology and reform: A retrospective view.* Lillehammer, Norway: Social Science Education Consortium.

161

Dillman,D. A. (2000).*Mail and internet survey: The tailored design method.*
(2nd ed). New York: john Wiley Co.

Dockstader, J. (1999). Teachers of the 21st century know the what, why
and how of technology integration. *T.H.E. Journal, 26*(6),73-74.

Doolittle, T., & Hicks, D. (2003). Constructivism as a theoretical foundation
for the use of technology in the social studies. *Theory and Research in
Social Education, 31(1),* 72–104.

Doppen, F. H. (2002). *Beginning social studies teachers' use of technology in
the teaching of history.*Unpublished Ph.D Dissertation, University of
Florida, Gainesville, USA.

Driscoll, P. M.(2000). Psychology of learning for instruction.Needham
Heights, MA: *A Pearson Education Company*, 373-395.

Duffield, J. A. (1997). Trials, tribulations, and minor successes: Integrating
technology into a pre-service preparation program. *Tech Trends, 42*(4),
22–26.

Dunmire, R. E. (2010). *The use of instructional technology in the classroom:
selection and effectiveness.*Unpublished Masters' Thesis, United States
Military Academy, New York.

Earle, R. S. (1992). *Talk about teaching*: New lamps for old. Vol. 42, No. 1,
January-February, 2002, P. 5-13 ET Magazine Website:
http://BooksToRead.com/etp.

Education Technology Research Development. (2007). *Integrating technology
into K-12 teaching and learning: current knowledge gaps and
recommendations for future research.* Association for Educational
Communications and Technology:Author.

Eggen, P., & Kauchak, D. (2001). *Educational psychology: Windows on classrooms.* New Jersey: Prentice Hall, Inc.

Ehman, L. (2002). Why haven't secondary social studies teachers adopted information technologies? *The International Social Studies Forum,* (2),175–178.

Ehman, L., & Glenn, A. (1991). Interactive technology in social studies. In Shaver, J. P (Ed.), *Handbook of research on social studies teaching and learning (pp. 513-522).* New York: Macmillan.

Ezegbe, M. O. (1991). Social Studies curriculum and instruction. In Joof, G.W and Amadi, H.C (Eds). *Social Studies in schools: teaching methods, techniques, approaches and perspectives.* Onitsha, Nigeria: Outrite publishers.

Fatoba, J.O. (2008). Teacher competency in handling integrated science in the junior secondary schools in Ekiti State. *Journal of Educational Foundations and Management, 6*(1),222-2.

Field, A. (2003). *Encouraging history teachers to use ICT- history teachers' discussion forum.*Retrieved from http://www.schoolhistory.co.uk/forum/index.php?showtopic1254.

Fisher, D. (2000). History teaching with ICT: The 21st century's gift of prometheus'? *ACE Research Papers, 7*(2), 46-58.

Fraenkel, J. R., & Wallen, N. E. (2000). *How to design and evaluate research in education*. (4th ed.). Boston: McGraw-Hill.

Fraenkel, J. R.,& Wallen, N. E. (2003). *How to design and evaluate research in education*. (5th ed). Boston: McGraw-Hill.

Freeman, J. (2002). *The total cost of technology*. School Business Affairs, 68(9), 23-26.

Friedman, A. M., & Heafner, T. (2006).*Website construction in ninth grade social studies*. In K. Swan (Chair), Technology Research in the K-12 History Classroom. Symposium conducted at the annual meeting of the College and University Faculty Assembly, Washington, DC.

Friedman, A. M., & Hicks, D. (2006). The state of the field: Technology, social studies, and teacher education. *Contemporary Issues in Technology and Teacher Education, 6*(2). Retrieved from http://www.citejournal.org/vol6/iss2/socialstudies/article1.cfm.

Fullan, M. (2000). The three stories of education reform. *Phi Delta Kappan, 81*(8), 581–584.

Fulton, K. (1997). *Learning in a digital age: Insights into the issues: The skills students need for technological fluency*. Retrieved from http://www.mff.org/pubs/ME164.pdf.

Gall, M. D.; Borg, W. R. and Gall, J. P. (1993*). Educational Research: An Introduction* (6th ed). New York: Longman.

Garcia, J., & Michaelis, J. U. (2001). Social studies for children. By Allyn & Bacon. Needham Heights, MA: *A Pearson Education Company*, 264-292.

Gess-Newsome, J. (1999). Pedagogical content knowledge: An introduction and orientation In J. Gess-Newsome & N. G. Lederman (Eds.), *Examing pedagogical content knowledge: The contruct and its implications for science education* (pp. 3-17). Dordrecht: Kluwer Academic Publishers.

164

Gess-Newsome, J., Blocher, J. M., Clark, J., Menasco, J., & Willis, E. M. (2003). Technology infused professional development: A framework for development and analysis. *Contemporary Issues in Technology and Teacher Education, 3*(3), 324-340.

Gess-Newsome, J., & Lederman, N. B. (Eds.). (1999). PCK: How teachers transform subject matter knowledge. J. Gess-Newsome & N.G. Lederman (Eds.), *Examining pedagogical content knowledge.* (pp. 51-94). The Netherlands: Kluwer Academic Publishers.

Ghana Education Service (GES). (1988). *Social studies syllabus for primary schools*. Accra: GES.

Ghana Education Service (GES). (2001). *Social studies syllabus for primary schools*. Accra: GES.

Gorder, L (2008*).* A study of teacher perceptions of instructional technology integration in the classroom. *Delta Phi Epsilon50*(2). Retrieved from www.dpc.org.

Gulbahar, Y.,& Guven, I (2008). A Survey on ICT Usage and the Perceptions of Social Studies Teachers in Turkey. *Educational Technology & Society, 11*(3),37-51.

Retrieved fromwww.ifets.info/journals/11_3/4.pdf.

Hadley, M.,& Sheingold, K. (1993) Commonalities and distinctive patterns in teachers' integration of computers. *American Journal of Education, 101,*261-315.

Hall, I., & Higgins, S. (2005). Primary school students' perceptions of interactive whiteboards. *Journal of Computer Assisted Learning, 21*, 102-117.

Hammond, T. C., & Manfra, M. (2009a). Digital history with student-created multimedia: Understanding student perceptions. *Social Studies Research & Practice, 4*(3),139-150.

Hammond, T. C., & Manfra, M. (2009b). Giving, prompting, making: Aligning technology and pedagogy within TPACK for social studies instruction. *Contemporary Issues in Technology and Teacher Education (CITE Journal), 9*(2),160-185.

Harkverdi, M.,Gucum, B., & Korkmaz, H. (2007). Factors influencing pre-service science teachers' perception of computer self-efficacy. *Asia – Pacific forum on Science Learning and Teaching, 8*(1), Article 13.

Haydn, T. (2001). The use of computers in the history classroom in Britain: myth, reality and some reasons for the differences between the two, in J. Lehners, A. Werne, A. Martin and F. Hendrickx (Eds.),*Information technologies for history education*, Luxembourg, University of Luxembourg.

Heinich, R., Molenda, M., Russell, J. D.,& Smaldino, M. (2002). *Instructional media and the new technologies of instruction*. New York:Macmillan.

Hill, H. C., Rowan, B., & Ball, D, L. (2005). Effects of teachers' mathematical knowledge for teaching on student's achievement. *American Educational Research Journal,42,* 371-406.

Honey, M. (2001). *Technology's effectiveness as a teaching and learning tool. Testimony and statement for the record before the Labour, HHS, and Education.* Appropriations Subcommittee of the U.S. Senate. Education Development Centre, Inc. Retrieved fromhttp://www.edc.org/spotlight/Tech/mhtestimony.htm.

166

Hooper, S.,& Rieber, L. P. (1995). Teaching with technology. In: Ornstein, A.

    C. (Ed.), *Teaching: Theory into practice,* (154-170).Needham Heights,

    MA: Allyn and Bacon Inc.

Hooper, S., & Rieber, L. P. (1999). Teaching, instruction, and technology. In

    A.C. Ornstein & L.S. Behar-Horenstein (Eds.), *Contemporary issues in*

    curriculum (pp. 252-264). Boston: Allyn and Bacon.

Hope, W. C. (1996). Why technology has not realized its potential in schools.

    American Secondary Education, *25*(4), 29.

Hudson, P. (2007). Examining mentors' practices for enhancing pre-service

    teachers' pedagogical development in mathematics and science.

    Mentoring & Tutoring: Partnership in Learning, 15(2), 201-207.

International Society for Technology and Education. (1999). *Will new*

    teachers be prepared to teach in a digital age? A national survey on

    information technology in teacher education. Eugene, OR:

    International Society for Technology and Education.

International Society for Technology in Education (ISTE) (2002). *ISTE*

    standards. Retrieved from http://www.iste.org

International Society for Technology in Education (2008). *National*

    educational technology standards for teachers: Preparing teachers to

    use technology. Eugene, OR: International Society for Technology and

    Education.

International Society for Technology in Education (2010). *National*

    Educational Technology Standards (NETS) for teachers. Retrieved

    from http://cnets.iste.org/teachers

Ingersoll, R. (2003). Out-of-Field Teaching and the Limits of Teacher Policy.

Report of the centre for the study of teaching and policy and the consortium for policy. *Research in Education*, 1-32.

Isman, A., Abanmy, F. A., Hussein, H. B., & Al Saadany, M. A. (2012). Saudi secondary school teachers' attitudes towards using interactive whiteboard in classrooms. *The Turkish Online Journal of Educational Technology, 11*, 286-296.

Jekayinfa, A. A. (2012). *Fundamentals of instructional methods.* Ilorin: Olives Productions Ltd.

Kandasamy, M.,& Shah, P. B. M. (2013). *Knowledge, attitude and use of ICT among ESL teachers*. Proceedings of the Global Summit on Education. Retrieved fromhttp://worldconferences.Net/proceedings

Kankam, B., Bekoe, S. O., Ayaaba, D. A., Bordoh, A., & Eshun. I. (2014). Curriculum conceptions of the scope of content of social studies in the colleges of education in Ghana. *American Journal of Social Sciences. 2*(6),137-144.

Karve, V. (2009). *The meaning of technology*. Retrieved fromhttp://karvediat.blogspot.com/2009/07/meaning-of-technology.html.

Kennewell, S., Tanner, H., Jones, S. & Beauchamp, G. (2008). Analysing the use of interactive technology to implement interactive teaching. *Journal of Computer Assisted Learning, 34,* 61-73.

Kereluik, K., Mishra, P., & Koehler, M .J. (2010). The song remains the same: Looking back to the future of educational technology. *TechTrends, 53*(5), 48-53.

Kiper, A., & Tercan S. S. (2012). The usage of information technologies in

168

classroom environment among primary school teachers and their perception on in-service training programs on it (sample of sakarya).*Turkish Online Journal of Educational Technology, 11*, 386-392.

Koc, M.,& Bakir, N. (2010). A needs assessment survey to investigate pre-service teachers' knowledge, experiences, and perceptions about preparation to use educational technologies. *The Turkish Online Journal of Educational Technology 9*(1),13-22.

Koehler, M. J., & Mishra, P. (2005a). What happens when teachers design educational technology? The development of technological pedagogical content knowledge. *Journal of Educational Computing Research, 32*(2), 131-152.

Koehler, M. J., & Mishra, P. (2005b). Teachers learning technology by design. *Journal of Computing in Teacher Education, 21*(3), 94-102.

Koehler, M. J., & Mishra, P. (2008). What is technological pedagogical content knowledge? *Contemporary Issues in Technology and Teacher Education (CITE Journal), 9*(1), 60-70.

Koehler, M. J., Mishra, P., & Yahya, K. (2007). Tracing the development of teacher knowledge in a design seminar: Integrating content, pedagogy and technology. *Computers & Education, 49*(3), 740-762.

Koh, J. L., Chai, C. S., & Tsai, C. C. (2010). Examining the technological pedagogical content knowledge of Singapore pre-service teachers with a large-scale survey. *Journal of Computer Assisted Learning, 26*(6), 563-573.

Koehler, M., Yadav, A., Phillips, M., & Cavazos-Kottke, M. (2005).

Designing case-based hypermedia for developing understanding of children's mathematical reasoning.*Cognition and Instruction, 20*(2), 151-195.

Kumekpor, T. K. (2002). *Research methods & techniques of social research.* Accra: SonLife Printing Press & Services, Adenta.

Law, E. (2003). Teachers' perceptions about ICT for teaching, professional development, administration and personal use. *International Journal of Education and Development using Information and Communication Technology (IJEDICT),7*(3), 36-49.

Lee, C. K. (2008). Undergraduate students' gender differences in IT skills and attitude. *Journal of computer assisted learning*, *19*, 488-500.

Lee, J. K., & Hicks, D. (2006). Editorial: Discourse on technology in social education. *Contemporary Issues in Technology and Teacher Education, 6*(4),414-417.

Leming, J. S., & Ellington, L. (2003). The state of social studies: A national random survey of elementary and middle school social studies teachers. *Social Education, 70*(5),322-326.

Linquist, T. (1995). *Seeing the whole through social studies.* Portsmouth, Mh: Heinemann.

Lybarger, M. B. (1991). The historiography of social studies. In J. Shaver (Ed.), *The handbook of research on social studies teaching and learning.* New York: Macmillan.

Ma, L. (1999). *Knowing and teaching elementary mathematics: Teachers understanding of fundamental mathematics in China and the United States*. Hillsdale, NJ: Erlbaum.

Mai, N., & Ken Neo., T.K. (2003). Developing a student-centered learning

      environment in the Malaysian classroom – A multimedia learning

      experience. *Turkish Online Journal of Educational Technology.2*(1).

      Retrieved from http://www.tojet.sakarya.edu.tr.

Magnusson, S., Krajcik, L., & Borko, H. (1999). Nature, sources and

      development of pedagogical content knowledge. In J. Gess-Newsome

      (Eds.), *Examing pedagogical content knowledge* (pp.95-132).

      Dordrecht: Kluwer Academic publishers.

March, T. (2003). The learning power of webquests. *Educational*

      Leadership.61(4), 42-48.

March, J. G., & Johan, P. O. (1995). The international dynamics of

      international politics order. *International Organization 52*(4), 943-969.

Margerum-Leys, J., & Marx, R. W. (2004). The nature and sharing of teacher

      knowledge of technology in a student teacher/mentor teacher pair.

      Journal of Teacher Education, 55(5),421-437.

Martorello, P. H. (2001). Teaching social studies in middle and secondary

      schools (3rd ed.). Upper Saddle River, NJ: Merrill Prentice Hall.

Martorella, P. (1997). Technology and the social studies or: Which way to the

      sleeping giant? *Theory and Research in Social Education, 25*(4), 511-

      514.

Martorella, P. H. (1994). *Social studies for elementary school children.*

      Englewood Cliffs, New Jersey: Prentice-Hall Inc.

McDonald, R. P. (1989). *Test theory: A unified treatment.* Mahwah, NJ:

      Lawrence Erlbaum.

Mehta, D. D. (2004).*Teaching of social studies.* Ludhiana: Tandon Pub.

171

Mereku, R. D., Yidana, I., Hodzi, W., Tete-Mensah, I., & Williams, J. B. (2009). Pan-African agenda on pedagogical integration of ICT: Phase 1 Ghana report. University of Education, Winneba. *Canada: International Development Research Centre (IDRC)*.

Miima, F.,Ondigi, S., & Mavisi, R. (2013). Teachers' perception about integration of ICT in teaching and learning of Kiswahili language in secondary schools. *International Journal of Arts and Commerce, 2*(3),27-32.

Mishra, P., & Koehler, M.J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teacher's College Record, 108*(6), 1017-1054.

Mishra, P., Koehler, M. J., & Kereluik, K. (2009). The song remains the same: Looking back to the future of educational technology. *TechTrends, 53*(5), 48–53.

Mishra, P., Spiro, R. J., & Feltovich, P. J. (1996). Technology, representation, and cognition: The prefiguring of knowledge in cognitive flexibility hypertexts. In H. van Oostendorp & A. de Mul (Eds.), *Cognitive aspects of electronic text processing* (pp. 287–305). Norwood, NJ: Ablex.

Mitcham, C. (1994). *Thinking through technology*. Chicago: The University of Chicago Press.

Moses, A. (2012). *Technology use among Ghanaian senior high school mathematics teachers' and students' and factors that influence it.* Unpublished Master's dissertation, Faulty of Science Education, University of Education, Winneba.

172

Moulton, J. (2009). *Enhancing learning opportunities in Africa: Distance education and information and communication technologies for learning.* Africa region human development working paper series. Washington DC: The World Bank.

Musa, H. B. (2004). *Preface to teachers' code of conduct.* Kaduna: Teachers' Registration Council of Nigeria.

National Council for the Social Studies (1994*). Expectations for excellent: curriculum standards for social studies.* Washington, D. C.: NCSS.

National Council for Social Studies (2001). *Creating effective citizens.* A position statement by the NCSS task force on revitalizing citizenship education as approved by the NCSS Board of Directors in May, 2001.

National Council for the Social Studies *(2010). Building social understanding and civic efficacy.*

Retrieved fromwww.socialstudies.org/positions/Social understanding.

Niess, M. L. (2005). Preparing teachers to teach science and mathematics with technology: Developing a technology pedagogical content knowledge. *Teaching and Teacher Education, 21*(5),509-523.

Niess, M. L., Sadri, P., & Lee, K (2007). *Guiding inservice mathematics teachers in developing TPCK.* Paper presented at the American Education Research Association Annual (AERA) Conference, San Francisco, CA.

Northup, T., & Rooze, G.E. (1990). Are social studies teachers using computers? A national survey. *Social Education 54*(4), 212-214.

Nyame-Kwarteng, R. (2006). *Towards effective teaching and learning of environmental and social studies.* Kumasi: Golfrin Hi-Tech Ross.

Obanya, P. A. I. (2003). Quality evaluation of basic education: A comprehensive model. *Nigerian Journal of Educational Research and Evaluation, 4*(1),87-89.

Ogunkunle, O. J. (2008). Towards enhancing self-learning in teaching creative arts in our secondary schools. Art Monitor.*A Journal of the Department of Creative Arts,1*, 120-128.

Ogunyemi, B. (2006). Teaching the social sciences and social studies. In S.Y. Erinosho, A. Adesanya and B. Ogunyemi, (eds.), *Teaching effectiveness in Nigerian schools*, Ibadan: Sam Bookman, pp. 269-286

Okandeji, C. O. (2007). Quality assurance in higher education. In J. B. Babalola, G. O. Akpa, A. O. Ayeni & S. O. Adedeji (eds.), Access, *Equity and Quality in Higher Education*. NAEAP Publications.

Okwilagwe, E. A. (2000). Quality assurance of teaching and learning process of the UBE primary education through effective monitoring and education. *Nigerian Journal of Educational Research and Evaluation, 4*(1),79-86.

Oliver, K., & Hannafin, M. (2000). Developing and refining mental models in open-ended learning environments: A case study. *Educational Technology Research and Development, 49*(4), 5-32.

Oluwaghohunmi, M. F., & Abdu-Raheem, B. O. (2014). Sandwich undergraduates' problem of improvisation of instructional materials in social studies: The case of Ekiti State University. *Journal of International Academic Research for Multidisciplinary, 1*(12),824-831.

Opoku, J. Y. (2005*). A short guide to research writing in the social sciences and education.*(2nd ed.). Universities Press. Accra, Ghana, pp 1-74.

174

Oppenheimer, T. (2003). *The flickering mind: The false promise of technology in the classroom and how learning can be saved.* New York: Random House.

Oppong, C. A. (2009). *An evaluation of the teaching and learning of history in senior high schools in the Central Region of Ghana.*Unpublished M. Phil. Thesis, University of Cape Coast, Ghana.

Owolabi, O.T. (2003). *Effect of error correcting instructional packages on prevalent errors in physics practical in Nigerian secondary schools.* Unpublished Ph.D Thesis, Unversity of Ado-Ekiti, Nigeria.

Oxford English Dictionary (2008). London: Oxford University Press.

Parker, W. C. (2001). *Social studies in elementary education (11th ed.*).Upper Saddle River, NJ: Merrill-Prentice Hall.

Painter, R. (2001). Issues in the observation and evaluation of technology integration in K-12 classrooms. *Journal of Computing in Teacher Education, 17*(4), 21–25.

Pamuk, S., Ergun, M., Cakir, R., Yilmaz, H. B., & Ayas, C. (2013). The use of tablet PC and interactive board from the perspectives of teachers and students: evaluation of the faith project. *Educational Sciences: Theory & Practice, 13*, 1815-1822.

Parker, J. & Heywood, D. (2000). Exploring the relationship between subject knowledge and pedagogic content knowledge in primary teachers' learning about forces. *International Journal of Science Education*, 22 (1), 89-111.

Peck, C., Cuban, L.,& Kirkpatrick, H. (2001). High access and low use of

technologies in high school classrooms: Explaining an apparent paradox.*American Educational Research Journal, 38*(4), 813-834.

Pfundt, H., & Duit, R. (2000). *Bibliography: Students' alternative frameworks and science education* (5th ed.). Kiel, DE: University of Kiel.

Pierson, M. (2001). Technology practice as a function of pedagogical expertise. *Journal of Research on Computing on Education*, *33*(4), 413-430.

Popham, W. J. (2010). *Classroom assessment what teachers need to know*? Boston: Allyn & Bacon/Pearson.

Porter, A. (2006). *The problems with technology in schools.* Retrieved from http://:www.washing-tonpost.com.

Prensky, M. (2001). Digital natives, digital immigrants.*On the Horizon, 9*(5).

Pye, J., & Sullivan, J. (2001). Use of computer-based instruction in teaching middle school social studies. *The International Journal of Social Education, 15*(2), 92-102.

Ravitch, D. (2003). A brief history of social studies. In J. Leming, L. Ellington & K. Porter-Magee (Eds.), *Where did social studies go wrong?* (pp.1-5). Washington DC: Thomas Fordham Institute.

Rampersad, C. (2011). *Teachers' perceptions of the contribution of information and communication technology to the teaching of modern studies: Using an integrated system, in an urban secondary school.*Unpublished Master's Thesis, University of the West Indies, Mona.

Rechards, L. J. (2005). *Development a decision model to describe levels of self-directed based upon the key assumptions of andragogy.*Unpublished M. Ed Thesis, Taxas & M University. Taxas. Retrieved from http://:handle.tamu.edu/1996.1/2685

Riedl, J. (1995). *The integrated technology classroom: Buildingself-reliant learner*s. Boston: Allyn and Bacon.

Rice, M. L., & Wilson, E. K. (1996). How technology aids constructivism in the social studies classroom.*The Social Studies, 90*(1), 28-33.

Ritchie, D., & Wilburg, K. (1994). Educational variables influencing technology integration. *Journal of Technology andTeacher Education*, *2*(2), 143–153.

Roblyer, M. D. (2000). *Integrating educational technology into teaching,* (4th ed.). Upper Saddle River, NJ: Prentice Hall.

Roblyer, M. D.,& Doering, A. (Eds.). (2009). *Integrating educational technology into teaching.* (5th ed.). Upper Saddle River, NJ: Pearson Education, Inc.

Rodden, N. (2010). *An investigation into the barriers associated with ICT use in the Youthreach classroom: A case study of a centre for education in the North West.* Unpublished Master's thesis, University of Limerick, Ireland.

Rogers, E. M. (2003). *Diffusion of innovations*. (5th ed.). New York: Free Press.

Rogers, C. & Raider-Roth, M. (2006). Presence in teaching. *Teachers and Teaching:Theory and Practice, 12*(3), 256-287.

Rooney, D. (1996). *Playing second fiddle: A history of the relationship*

between technology and organisation in the Australian music economy 1901 – 1990.*Unpublished Ph.D Dissertation,Griffith University, Austrialia.

Ross, E.W. (1997). *The social studies curriculum: Purposes, problems, and possibilities*. New York: State University of New York press.

Ross, E.W. (2000). *The social studies curriculum: Purposes, problems, and possibilities*.New York: State University of New York press.

Russell, W. B.,& Waters, S. (2010). Instructional methods for social studies: Asurvey of what middle school students like or dislike about social studies instruction. *Journal for the Liberal Arts and Sciences 14*(2), *1-4*

Ruto, Z. J.,& Ndaloh, A. M. (2013). Overcoming the challenges of using instructional methods and materials encountered by teachers of history and government in Wareng district, Kenya. *Journal of Emerging Trends in Educational Research and Policy Studies, 4*(2),265-273.

Ryan, K., & Cooper, J. (2006). *Those who can, teach.* (14th ed.)*.* Boston, MA: Cengage Learning.

Quartey, S. M. (2011).*Lecture Notes on Nature and Philosophy of Social Studies*.

Sarfo, F. K., Ameartei, A., Adentwi, K. I., & Brefo, C. (2011). Technology and gender equity: Rural and urban students' attitudes towards information and communication technology. *Journal of Media and Communication Studies 3*(6), 221-230. Retrieved fromhttp://www.academicjournals.org/jmcs.

Schmidt, D. A., Baran, E., Thompson, A.D., Mishra, P., Koehler, M. J., &

Shin, M. C. (2009b*). Why kids don't like socialstudies.* Paper presented
at the annual meeting of the National Council for the Social Studies.
Boston, MA. (ERIC Document Reproduction Service No. ED224765.

Seweje, R. O. (2000). The challenges of science teaching in Nigeria today.
Journal of Educational Foundations and Management, 1(1),208-222.

Shane, S. (1993). Cultural influences on national rates of innovation. *Journal
of Business Venturing, 8*, 59-73

Shane, A. H. (2008). *The technological teacher: How educational technology
is changing the role of teachers in the high school
classroom.*Unpublished Master's Thesis, Georgetown University,
USA.

Shaughnessy, J. M.,& Haladyna, T. M. (1985). Research on student attitude
toward social studies. *Social Education, 49,* 692-695.

Sheingold, K. (1990). Restructuring for learning with technology. The
potential for synergy. In K. Sheingold & M. Tacher (Eds.),
Restructuring for learningwith technology (pp. 9-27). New York:
Center for Technology in Education.

Sheumaker, F., Slate, J. R., & Onwuegbuzie, A. J. (2001). The role of intech
training in the integration of technology into instructional practices
among Georgia middle school teachers. *Journal of Research on
Technology in Education, 33*(5).
Retrieved from http://www.iste.org/jrte/33/5/sheumaker.cfr

Shin, T. (2009b). 'Technological pedagogical content knowledge (TPACK):

179

the development and validation of an assessment instrument for pre-service teachers', *Journal of Research on Technology in Education, 42*(2), 132–149.

Shiveley, J., & Van Fossen, P. (1999). Critical thinking and the internet: Opportunities for the social studies classroom. *The social studies 4*(2), 42-46.

Shulman, L. (1986a). Those who understand: knowledge growth in teaching. *Educational Researcher, 15*(2), 4-14.

Shulman, L. S. (1986b). Paradigms and research programs in the study of teaching: A contemporary perspective. In M. C. Wittrock (Ed.), *Handbook of research on teaching.* (3rd ed.). New York, NY: Macmillan.

Shulman, L. S. (1987). Knowledge and teaching: Foundation of the new reform. *Harvard Educational Review, 57*(1),1-22.

Sofoluwe, A. O. (2003). Evaluation of the total quality management of primary education in Nigeria. *Nigerian Journal of Education Research and Evaluation, 4*(1),25-33

Sotonwa, O. O. (2003). Quality teacher and quality teaching towards achieving quality in Universal Basic Education. *Nigerian Journal of Educational Research and Evaluation, 4*(1),69-78.

Spiro, R., &Jehng, J. (1990). Cognitive flexibility and hypertext: Theory and technology for the nonlinear and multidimensional traversal of complex subject matter. In D. Nix & R. Spiro (Eds.), *Cognition, education and multimedia: Exploring ideas in high technology (*pp. 163-205).Hillsdale, NJ: Lawrence Erlbaum

180

Starr, L. (2011). *Integrating technology in the classroom: It takes more than just having computers.*Retrieved from http://www.educationworld.com/a_tech/tech/tech146.shtml.

Stephen, D.,& Stephen, P. (2005). *Discussion as a way of teaching.* United State of America. Jossey Bass Press. A Willey Imprint. Retrieved from www.josseybass.com.

Sylla, K.; Saito, M., & Ross,K. (2004). *SAMDEM: Sample Design Manager.* Paris. International Institute for Educational Planning.

Taba, H. (1962). *Teaching strategies and cognitive functioning in elementary school children.* (Co-operative Research Project No. 2404). Washington, DC: US Office of Education.

Tabachnick, B. R. (1991). Social studies: Elementary school programs. In A. Lewy (Ed.), *The International Encyclopaedia of Curricullum* (pp. 725-731). Oxford: Pergamon Press.

Tamakloe, E. K., Amedahe, E. K., & Atta, E. T. (2005). *Principles and methods of teaching.* Accra: Ghana Universities Press.

Taylor, D. R. (2000). Developing powerful learning communities using technology. *AACTE Briefs, 21*(14), 4–5.

Thomas, L. H. (1999). *A study of pre-service teachers' integration of technology application into the elementary classroom.* Unpublished Doctoral Dissertation, Mississippi State University.

Thomas, J. R., & Nelson, J. K. (1996). *Research methods in physical activity.* Champaign, IL: Human Kinetics.

Thompson, A., & Mishra, P. (2007–2008). Breaking news: TPCK becomes TPACK!*Journal of Computing in Teacher Education, 24*(2), *38–6.*

Thornton, S. J. (2005). *Teaching social studies that matters: Curriculum for active learning.* New York: Teachers college, Columbia University

Thompson, A. D., Schmidt, D. A., & Davis, N. E. (2003). Technology collaborative for simultaneous renewal in teacher education. *Educational Technology Research and Development, 5*(9), 124-128

Tomei, L. A. (2005). *Taxonomy for the technology domain*. USA: Information Science Publishing.

Trautmann, N. M., & MaKinster, J. G. (2010). 'Flexibly adaptive professional development in support of teaching science with geospatial technology'. *Journal of Science Teacher Education, 21,*351–370.

United States Department of Education (2004).*Federal funding for educational technology and how it is used in the classroom: A summary of findings from the integrated studies of educational technology.* Washington, D.C. Retrieved fromhttps://www2.ed.gov/rschstat/eval/tech/iset/summary2003.pdf.

Vrasidas, C.,& McIsaac, M. (2001). Integrating technology in teaching and teacher education: Implications for policy and curriculum reform. *Educational Media International, 38*(2/3),127-132.

Vrasidas, C., Pattis, I., Panaou, P., Antonaki, M., Aravi, C., Avraamidou, L., &Theodoridou, K. (2010). *Teacher use of ICT: Challenges and opportunities*. Proceedings of the 7th International Conference on Networked Learning. Retrieved from http://www.lancaster.ac.uk/fss/organisations/netlc/past/nlc2010/abstracts/PDFs/Vrasi das.pdf.

Wager, W. (1992). Educational technology: A broader vision. *Educational andUrban Society, 24*(4), 454–465.

Waring, S. (2008). Inquiring about one's community: Conducting community histories with K-12 students. *Social Studies Research and Practice, 3*(3),86-100.

Watson, D. M. (1998). Blame the technocentric artefact! What research tells us about problems inhibiting teacher use of IT. In G. Marshall, & M. Ruohonen (Eds.), *Capacity building for IT in education in developing countries*, (pp. 185– 192). London: Chapman & Hall.

White, C. S. (1983*). Computers in social studies classrooms.* Bloomington, IN: ERIC Clearinghouse for Social Studies/Social Science Education. (ERIC Document Reproduction Service No. ED296950

White, C. S. (1997). Technology and social studies: An introduction*. Social Education, 61*(3),147-148.

White, C. (1999). Technology and social studies: An introduction. *Social Education, 61*(3),147-149.

Whitworth, S., & Berson, M. J. (2003). Computer technology in the social studies: An examination of the effectiveness literature (1996- 2001). *Contemporary Issues in Technology and Teacher Education, 2*(4),472-509.

Wickstrom G., & Bendix T. (2000). The "hawthorne effect" what did the original hawthorne studies actually show?*Scand J Work Environ Health. 26*(4):363–367.

Wilson, S.M., Shulman, L.S.,& Richert, A. E. (1987). 150 Different ways of

knowing: Representations of Knowledge in Teaching. In J. Calderhead (Ed.), *Exploring Teachers' Thinking* (pp. 100-124). London: Cassell Educational Limited.

Woodrow, J. E. (1992). Educators' attitudes and predispositions towards computers. *Journal of Computers in Mathematics and Science Teaching, 6*(3),27-37.

Yeager, E. A. (2000). Thoughts on wise practice in the teaching of social studies. *The Official Journal of National Council of the Social Studies. 64* (6), 67-82.

Yeager E. A., & Morris S. J. (1995). The role of empathy in the development of historical understanding. In O. L. Davis, Jr., E. A. Yeager, & S. J. Foster (Eds.), *Historical empathy and perspective taking in the social studies* (pp. 97-114). New York, NY: Rowman & Littlefield.

Yewande, (2000). *The effect of problem-solving techniques on students' achievement in senior secondary Chemistry*. M. Ed. Project, University of Ibadan, Ibadan.

Yidana, I. (2007). *Faculty perceptions of technology integration in the teacher education curriculum: A survey of two Ghanaian universities.* Ohio University: Unpublished Ph.D Dissertation.

Yusuf, N., & Al-Banawi, N. (2013). The impact of changing technology: The case of e-learning, *The Clute Institute, 6*(2), 173-180.

Zevin, J. (2000). *Social studies for the twenty first century*.

Zhao, Y. (2007). Social studies teachers' perspectives of technology integration. *Journal of Technology and Teacher Education, 15*(3),311-333.

Zukas, A. (2000). Active learning, world history, and the internet: Creating knowledge in the classroom. *International Journal of Social Education, 15*(1), 62-79.

185

UNIVERSITY OF CAPE COAST

COLLEGE OF EDUCATION STUDIES

DEPARTMENT OF ARTS AND SOCIAL SCIENCE EDUCATION

QUESTIONNAIRES FOR SOCIAL STUDIES TEACHERS

The aim of this questionnaire is to elicit information with regard to the integration of technology in the teaching of Social Studies in Senior High Schools in the Kumasi Metropolis. The aim is to investigate the technological pedagogical content knowledge of SHS Social Studies teachers. The study is being conducted in connection with a thesis at the Department of Arts and Social Science Education, University of Cape Coast, Cape Coast. I would be grateful if you could provide frank answers to the questions.

Every information given would be treated as confidential and would be used solely for academic purposes. Besides, your anonymity is assured. Thanks for being part of this study.

Please tick [√] the appropriate backer or write applicable.

CLARKE EBOW YALLEY

DEMOGRAPHIC DATA

Please, tick [√] where appropriate.

1. School: …………………………………………

2. Sex :

    Male   [   ]

    Female   [   ]

3. University Graduated

    University of Cape Coast   [   ]

    University of Education Winneba   [   ]

    University of Ghana Legon   [   ]

    Kwame Nkrumah University of Science and Technology [   ]

    University of Development Studies   [   ]

    University of Professional Studies   [   ]

    Others, please specify: …………………………………

4. Current Qualification:

    Bachelor of Education Degree   [   ]

    Bachelor of Science Degree   [   ]

    Bachelor of Arts Degree   [   ]

    Master Degree   [   ]

5. Area of Specialization/Major

    Social Studies   [   ]

    History   [   ]

    Geography   [   ]

    Sociology   [   ]

    Economics   [   ]

    Political Science   [   ]

    Anthropology   [   ]

    Social Work   [   ]

    Government   [   ]

    Others, please specify: …………………………………..

188

For section B, C, D, E, F, G and H indicate the extent to which you agree or disagree to the statement on a scale: 1- Strongly Disagree (S.D), 2- Disagree(D), 3- Undecided(U), 4- Agree(A) and 5- Strongly Agree(S.A).

SECTION B

TECHNOLOGICAL KNOWLEDGE OF SOCIAL STUDIES

TEACHERS

	Technological Knowledge	S.D	D	U	A	S.A
6	Technology is the process by which humans modify nature to meet their needs and wants and to make life easier and better.					
7	I have positive attitude towards the use of technology					
8	I have knowledge on standard technologies such as books, dry erasers boards, chalkboards.					
9	I have knowledge on modern/advanced technologies such as computer, internet, interactive white board, digital video and overhead projectors.					
10	I can use computer software and hardware within the educational context.					
11	I possess the technological skills needed to use innovative resources.					

189

CONTENT KNOWLEDGE OF SOCIAL STUDIES TEACHER

Please read the items carefully and tick [√] the response which best express your belief.

	Content Knowledge	S.D	D	U	A	S.A
12	Social Studies is an amalgamation of the social science disciplines such as History, Geography, Government and Economics.					
13	Social Studies is the study of the dynamic interactions people have with themselves and the elements of their environments.					
14	Social Studies gain its identity from the social science discipline such as History, Political Science, Geography, Economics, Sociology, Anthropology and Psychology.					
15	Social Studies covers problem and issues that threaten human survival.					
16	The scope of Social Studies is based on institutions and communities such as the home, the family, the school.					
17	The main goal of Social Studies is to promote citizenship education					

190

PEDAGOGICAL KNOWLEDGE OF SOCIAL STUDIES TEACHER

Please read the items carefully and tick [√] the response which best express your belief.

	Pedagogical Knowledge	S.D	D	U	A	S.A
18	I can adapt my teaching style to different learners					
19	I know how to organize and maintain classroom management					
20	I use student centred method to achieve specific objective of my lesson.					
21	I mostly use problem solving and discovery learning during instructional period.					
22	I know how to assess student performance in a classroom.					

191

SECTION E

PEDAGOGICAL CONTENT KNOWLEDGE OF SOCIAL STUDIES

TEACHER

Please read the items carefully and tick [√] the response which best express your belief.

	Pedagogical Content Knowledge	S.D	D	U	A	S. A
23	I can represent and formulate the "Social Studies" content that make it comprehensible to others.					
24	I possess the philosophy of the subject "Social Studies" and learning of students.					
25	I can present the content of Social Studies to the diverse interest and abilities of students.					
26	I can effectively integrate the content, method and the characteristics of learners.					
27	I have techniques in assessing students' understanding and diagnosing their misconceptions.					

SECTION F

TECHNOLOGY CONTENT KNOWLEDGE OF SOCIAL STUDIES TEACHER

Please read the items carefully and tick [√] the response which best express your belief.

	Technology Content Knowledge	S.D	D	U	A	S.A
28	I can transform the content of Social Studies using technological resources.					
29	I can use technology to build on students' existing knowledge in developing new knowledge.					
30	I can engage students in high-order thinking through the use of technological resources.-					
31	I can use technology resources to bring the content of Social Studies to life in the classroom.					
32	I obtain educational information and facts from the internet to enrich the Social Studies content.					
33	I have the technological skills needed to use technology in the classroom.					

SECTION G
TECHNOLOGY PEDAGOGICAL KNOWLEDGE OF SOCIAL
STUDIES TEACHER

Please read the items carefully and tick [√] the response which best express your belief.

	Technological Pedagogical Knowledge	S.D	D	U	A	S.A
34	I can use computer aid resources to constructively assist weak students during instructional period.					
35	I can use virtual/on line field trip to enable student get first hand learning experience.					
36	I can use webQuest as an enquiry oriented activity to encourage co-operative learning among students.					
37	I can use Glogter to create my teaching and learning material and resource.					
38	I can use drill and practice as a teaching strategy to enable student memorize concept and historical aspect of Social Studies.					
39	I can use simulation to encourage student construct their own knowledge and conduct research.					
40	I can use multimedia resources to create a constructive learning environment to students learning.					

194

TECHNOLOGY PEDAGOGICAL CONTENT KNOWLEDGE

(TPACK) OF SOCIAL STUDIES TEACHER

Please read the items carefully and tick [√] the response which best express your belief.

	Technology Pedagogical Content Knowledge	S.D	D	U	A	S. A
41	I can represent and formulate the "Social Studies" content that integrate technology and makes it comprehensible to learners.					
42	I can engage subject matter that is "inherently technological" and thereby "improving" subject matter					
43	I have the technological skills to incorporate Social Studies curriculum knowledge and technology for effective teaching.					
44	I can use technological resources to extend classroom discussion beyond the four corners of the school.					
45	I can provide leadership in helping others to coordinate the use of content, teaching and learning materials, and teaching approaches at my school and/or district.					

APPENDIX C

OBSERVATION CHECK LIST

TECHNOLOGY PEDAGOGICAL CONTENT KNOWLEDGE

(TPACK) OF SOCIAL STUDIES TEACHER

Statement Scale: 1= Not at all competent, 2=Somehow competent, 3=Competent, 4=Very competent

TPACK	1	2	3	4
Teachers have knowledge on standard technologies such as books, dry erasers boards, chalkboards.				
Teachers have knowledge on modern/advanced technologies such as computer, internet, interactive white board, digital video and overhead projectors.				
Teacher uses technological resources to deliver the curriculum content of Social Studies to students.				
Teachers blend technological tools with student-initiated investigations, discussions, compositions, or projects across Social Studies content area.				
Teachers can represent and formulate the "Social Studies" content that integrate technology and makes it comprehensible to learners.				
Teachers can use technological resources to extend teaching of Social Studies beyond the classroom.				

196

RELIABILITY FOR THE QUESTIONNAIRE

/VARIABLES=Q6 Q7 Q8 Q9 Q10 Q11 Q12 Q13 Q14 Q15 Q16 Q17 Q18 Q19 Q20 Q21 Q22 Q23 Q2

4 Q25 Q26 Q27 Q28 Q29 Q30 Q31 Q32 Q33 Q34 Q35 Q36 Q37 Q38 Q39 Q40 Q41 Q42 Q43 Q44 Q45

/SCALE ('TECHOLOGICAL PEDAGOGICAL CONTENT KNOWLEDGE')

ALL/MODEL=ALPHA

/STATISTICS=DESCRIPTIVE SCALE.

Reliability

[DataSet1] C:\THESIS WORK\clark sort out\THESIS SUBMITTED DOC\TPCK KSI.sav

Scale: TECHOLOGICAL PEDAGOGICAL CONTENT KNOWLEDGE

Case Processing Summary

		N	%
Cases	Valid	127	99.2
	Excluded[a]	1	.8
	Total	128	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.911	40

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
165.13	278.921	16.701	40

197

APPENDIX E

RELIABILITY FOR THE OBSERVATION CHECKLIST

/VARIABLES=q1 q2 q3 q4 q5 q6 /SCALE('OBSERVATION CHECK LIST') ALL

/MODEL=ALPHA

/STATISTICS=SCALE.

Reliability

[DataSet1] C:\THESE WORK\clark sort out\THESIS SUBMITTED DOC\observation tpack.sav

Scale: OBSERVATION CHECK LIST

Case Processing Summary

		N	%
Cases	Valid	19	100.0
	Excluded[a]	0	.0
	Total	19	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.905	6

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
17.74	19.205	4.382	6