

Investigating the Technological Pedagogical Content Knowledge of Social Studies Teachers in the Senior High Schools in the Kumasi Metropolis of Ghana

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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 employed descriptive survey. The population comprised all the 136 Social Studies teachers in the nineteen public Senior High Schools in the Kumasi Metropolis. Structured questionnaires and an observation checklist were used to collect data. The mean of means obtained on the various research questions indicated that Social Studies teachers possessed technological knowledge, technological content knowledge, technological pedagogical knowledge as well as technological pedagogical content knowledge. It is recommended that circuit and regional supervisors and school headmasters should engage in some form of persuasion to encourage Social Studies teachers to learn the use of technological resources such as technology journals, publications, educational blogs, online magazines, and newsletters, online tutorials and videos to get the necessary technological pedagogical content competencies. Also, technological integration course among Social Studies teachers should be developed and mounted within our teacher training institutions.

Keywords: Technological Knowledge, Technological pedagogical Knowledge, Technological Content Knowledge, Technological Pedagogical Content Knowledge.

1.0 Introduction

Social Studies, as a core subject 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 content to be discussed in a multi-dimensional approach (Kereluik, Mishra & Koehler, 2010).

The National Council for the Social Studies (NCSS) has also weighed in on the importance of including technology within the curriculum (NCSS, 2010). 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).

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 realize its accomplishment.

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. The unification of teachers' content knowledge (CK), pedagogical knowledge (PK) brings up pedagogical content knowledge (PCK) while 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.

2.0 Statement of the Problem

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 (Friedman & Heafner, 2007), development and implementation has taken place among Social Studies educators to effectively integrate technology into the teaching and learning of the subject.

Mereku, Yidana, Hodzi, Tete-Mensah and Williams (2009) recommended 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 retrospect to Mereku et al., (2009), Moses (2012) also 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. To rise to this call, the researcher adopted Mishra and Koehler (2006) theoretical/conceptual framework “Technological Pedagogical Content Knowledge (TPACK)” to investigate the technological pedagogical content knowledge of Social Studies teachers in SHS in the Kumasi Metropolis.

3.0 Research Questions

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

4.0 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. Firstly, 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. Secondly, it is envisaged that the finding will help Social Studies curriculum specialists/experts to organize technological training programmes for Social Studies teachers to enhance their knowledge on modern trend (technology) for the teaching and learning of the subject “Social Studies” at the Senior High School level. Thirdly, 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. Finally, this research will contribute to the general adaptation of technological pedagogical content knowledge (TPACK) by Mishra and Koehler (2006) within Social Studies education in Ghana during teacher trainee programmes.

5.0 Delimitations of the Study

The scope of the study investigated the technological pedagogical content knowledge (TPACK) of Social Studies teachers. The scope of the study was delimited to the interception of technology with content and pedagogy because a thorough research has being done on Shulman “Knowledge Domain” by the research in the same Metropolis. Moreover, the study was delimited to public S.H.Ss in the Kumasi Metropolis. Furthermore, the study focused on all Social Studies teachers at the S.H.Ss in the Kumasi Metropolis during the 2015/2016 academic year.

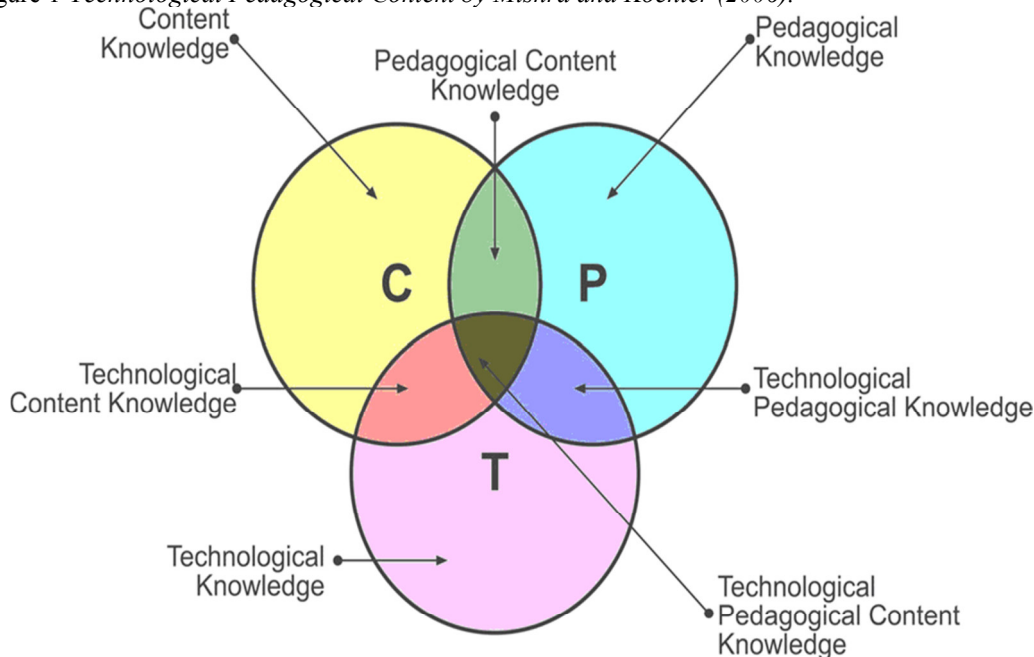
6.0 Literature Review

The theoretical framework that will serve as an appropriate model to direct the use of technology in the teaching and learning of Social Studies would be rooted in Mishra and Koehler’s (2006) “Technological Pedagogical Content Knowledge” (TPACK) model. Pre to the development of TPACK, teacher education focused on Shulman (1986; 1987) knowledge domain called the Pedagogical Content Knowledge (PCK) to ascertain teacher’s competence, effectiveness and ineffectiveness. Within the 21st Century, as technology is within the total continuum of learners and teachers, technology is considered as the third element in assessing teacher’s competence, effectiveness and ineffectiveness in the new paradigm of teacher education (Mishra and Koehler, 2006). This implies that for a Social Studies teacher to be branded globally competent, he/she must be competent in all the three knowledge domains (technological knowledge, pedagogical knowledge and content knowledge) Mishra and Keohler (2006).

TPACK stands for Technology, Pedagogy, and Content Knowledge and was announced as the “Total PACKage” for effectively teaching with technology (Thompson & Mishra 2007). TPACK is represented in a Venn diagram form with three overlapping bodies of knowledge (content knowledge, pedagogical knowledge and technological knowledge) but much emphasis is laid on the centre being the complex chemistry of the three knowledge domains. At the heart of the diagram is assessing the enhancement and constrictions of all the three knowledge domains (technology, content and pedagogy) when teachers shift poles from the four-by-four method of teaching to the new technological paradigm of teaching and learning.

The TPACK consists of seven (7) different knowledge domains. They are: Technology knowledge (TK), Content knowledge (CK), Pedagogical knowledge (PK), Pedagogical content knowledge (PCK), Technological content knowledge (TCK), Technological pedagogical knowledge (TPK), and Technological pedagogical content knowledge (TPCK) (see Figure 1).

6.0.1 Figure 1-*Technological Pedagogical Content by Mishra and Koehler (2006).*



6.0.2 Technological Knowledge (TK) of Social Studies teachers

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).

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, Gulbahar and Guven (2008) reported that teachers believed the use of technology will be of more advantage to them, but they lacked the basic knowledge and skills of computer usage in teaching.

6.0.3 Technological Pedagogical Knowledge (TPK) of Social Studies teachers

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 (Mishra & Koehler, 2006). Lee (2008) describes technology as “a dynamic component in this transformative process” (p. 130) and recommended four pedagogical action which the Social Studies teachers can 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).

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).

6.0.4 Technological Content Knowledge (TCK) of Social Studies teachers

Technological content knowledge (TCK) includes an understanding of the manner in which technology and content influence and constrains one another to foster students understanding of the subject matter (Mishra & Koelher, 2006). Berson and Balyta (2004) posit there are three approaches in integrating technology to the Social Studies content by teachers. They are: Social scientist, knowledge transmitter and social inquirer. Effective technology integration is achieved when it is used to 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 (Honey, 2001).

6.0.5. Technological Pedagogical Content Knowledge (TPACK) of Social Studies teachers

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 addition to the Lee (2008) suggested that Social Studies teachers can engage subject matter that is "inherently technological" and by "improving" subject matter given technological adaptations through his ten actions. In addition, 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.
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.

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".

7.0 Methodology

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 in the Kumasi Metropolis in the Ashanti region of Ghana. It was considered the best for the study because it deals with interpreting the relationship among variables and describing their relationships (Gall, Borg & Gall, 1993). The target population for the study consisted of all Social Studies teachers teaching in the Kumasi Metropolis for the 2015/16 academic year. The Metropolis had a total number of nineteen (19) public Senior High Schools with 136 Social Studies teachers. The justification for this population was their relatedness and significance to the problem identified. The researcher used all the nineteen (19) SHSs in the Kumasi Metropolis as well as all the 136 Social Studies teachers in the Metropolis for the study. This made the sampling census in nature (Sylla, Saito & Ross, 2004). The main data collection instruments used for the study was questionnaires adapted and modified from Schmidt, Baran, Thompson, Mishra, Koehler & Shin (2009b) and an observation checklist. The two instruments were used to enable the researcher triangulate the information to test the consistency of the findings obtained from each of the instruments used. For accurate representation of data, items on the questionnaire were on a five point Likert-scale with numerical weights scale of: Undecided (1), Strongly Disagree (2), Disagree (3), Agree (4), Strongly Agree (5). Therefore, mean value of 3.10 and above means respondents' agreement to the items whilst a mean score of 3.00 and below means disagreement to the items on the questionnaire

The validity of the instruments, particularly the face and content validity, was ascertained by Prof.

Kankam Boadu at the Faculty of Arts and Science Education, University of Cape Coast. The instruments were pilot tested using Senior High Schools within the Cape Coast Metropolis. A reliability co-efficient of 0.896 was obtained for the questionnaire while the observation check list had a Cronbach alpha co-efficient of 0.912. According to Fraenkel and Wallen (2000), a reliability coefficient within 0.6 to 0.9 is considered very respectful for determining the appropriateness of the instrument. The research retrieved 128 questionnaires and had a return rate of (94.1%). 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.

8.0 Findings and Discussion

The data collected were analyzed with the use of descriptive statistics (frequencies, percentage, means and standard deviation) and inferential statistics. The mean of means were used to draw generalizations 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.

8.0.1 Preliminary Data

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

It could be observed that 77 (60.2%) of the respondents were male Social Studies teachers whilst 51 (39.8%) were females. The result on Social Studies teachers current qualification, 49 (38.3%) had Bachelor of Education Degree, 39 (30.5%) had Bachelor of Arts Degree while 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.

8.0.2 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. 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 1 shows results that were collected.

Table 1-*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 1 indicates a mean of mean 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 whilst the mean of standard deviation scores (SD = 0.83) signified that their responses were clustered or were more similar to each other. 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. Truly, technology has made life easier and better than previous generations. Also, 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.

8.0.3 Research question 2: 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 2 shows results that were collected and analyzed.

Table 2-*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

Result from Table 2 indicates a mean of mean score of (M = 4.10; SD = 0.80) was obtained signifying that Social Studies teachers agreed they possess the technological content knowledge needed to teach Social Studies. 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.

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. By implication, Social Studies teachers need to be social scientist (problem-solving approach), a knowledge transmitter and a social inquirer to fully navigate his/her technological and content knowledge during teaching and learning process. With regards to the teaching of contemporary issues in the Social Studies, the social inquirer and the social scientist will be more appropriate so that learners will be put at the centre of learning to discover solutions to problems themselves.

Through mutual blending and unification of technology and content of Social Studies, good teaching with technology 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).

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

Social Studies teachers must agree with the novice and find novel ways in which current technological applications from other fields can be modified to suit their classroom purposes. Table 3 presents results that were collected.

Table 3-*Technological pedagogical knowledge 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 Glogster 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

As evident in Table 3, a mean of mean score of (M = 3.71; SD = 1.09) was obtained for research question 3 "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. By implication Social Studies teachers can effectively add technology to their lesson plans thus allowing students access great amounts of information and providing an authentic audience for their work. Appropriately, 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. In fact, Ayas (2006) posits that teachers use of technological

resources and its associated peripherals such as the internet will 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 so that students learning will not be put in a watertight compartments. 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.

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

Table 4-*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

It is evident from Table 4 that 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. 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”.

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. 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.

9.0 Conclusions

The study revealed that Social Studies teachers in the Kumasi Metropolis possessed the technological knowledge, technological content knowledge, technological pedagogical knowledge and technological pedagogical content knowledge needed to use technological resources to effectively teach the subject “Social Studies”. It can be deduced from the findings that, Social Studies teachers possessed technological skills, technological-supported pedagogical skills and technological-related-classroom management skills needed to effectively find novel ways where technological applications can be modified to enhance teaching and learning instructions.

10.0 Recommendation

It is envisaged that these recommendations, when taken into consideration would bring efficiency and effectiveness in the integration of technology in the teaching and learning of Social Studies within the Senior High Schools in Ghana. It is recommended that 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. Also, supervisors and school headmasters should engage in some form of persuasion to encourage Social Studies teachers to learn the use of technological resources such as technology journals, publications, educational blogs, online magazines, and newsletters, online tutorials and videos to get the necessary technological pedagogical content competencies.

References

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.
- 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.
- 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_school.
- 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.
- 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.
- Dillman, D. A. (2000). *Mail and internet survey: The tailored design method*. (2nd ed). New York: John Wiley Co.
- 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.
- Fraenkel, J. R., & Wallen, N. E. (2000). *How to design and evaluate research in education*. (4th ed.). Boston: McGraw-Hill.
- 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.
- Gall, M. D.; Borg, W. R. and Gall, J. P. (1993). *Educational Research: An Introduction* (6th ed). New York: Longman.
- 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 from www.ifets.info/journals/11_3/4.pdf.
- 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.
- 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 from <http://www.edc.org/spotlight/Tech/mhtestimony.htm>.
- Karve, V. (2009). *The meaning of technology*. Retrieved from <http://karvediat.blogspot.com/2009/07/meaning-of-technology.html>.
- 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.
- 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.
- Lee, C. K. (2008). Undergraduate students' gender differences in IT skills and attitude. *Journal of computer assisted learning*, 19, 488-500.
- 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.
- 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)*.
- Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teacher's College Record*, 108(6), 1017-1054.
- Moses, A. (2012). *Technology use among Ghanaian senior high school mathematics teachers' and students' and factors that influence it*. Unpublished Master's dissertation, Faculty of Science Education, University of Education, Winneba.
- 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 from www.socialstudies.org/positions/Social_understanding.
- Schmidt, D. A., Baran, E., Thompson, A. D., Mishra, P., Koehler, M. J., & Shin, M. C. (2009b). *Why kids don't like social studies*. Paper presented at the annual meeting of the National Council for the Social Studies.

- Boston, MA. (ERIC Document Reproduction Service No. ED224765).
- Shulman, L. (1986a). Those who understand: knowledge growth in teaching. *Educational Researcher*, 15(2), 4-14.
- Shulman, L. S. (1987). Knowledge and teaching: Foundation of the new reform. *Harvard Educational Review*, 57(1), 1-22.
- Sylla, K.; Saito, M., & Ross, K. (2004). *SAMDEM: Sample Design Manager*. Paris. International Institute for Educational Planning.
- 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
- Zhao, Y. (2007). Social studies teachers' perspectives of technology integration. *Journal of Technology and Teacher Education*, 15(3), 311-333.