UNIVERSITY OF CAPE COAST

INTEGRATING THE TEACHING OF SOCIAL STUDIES WITH SCIENCE IN THE COLLEGES OF EDUCATION IN THE CENTRAL REGION OF GHANA

REBECCA ESI AMPOFO

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BY

REBECCA ESI AMPOFO

Thesis submitted to the Department of Basic Education, Faculty of Educational Foundations of the College of Education Studies, University of Cape Coast, in partial fulfilment of the requirements for award of Master of Philosophy Degree, in Basic Education.

MAY 2020

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: Rebecca Esi Ampofo

Supervisor's Declaration

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

Principal Supervisor's Signature: …… Date: ……

Name: Dr. Hippolyt D. Angbing

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

Name: Dr. Alex Kwao

ABSTRACT

The study sought the possibility of integrating Social Studies with Science in Colleges of Education in Ghana. Many educators have perceived the necessity for a paradigm shift toward interdisciplinary teaching. As mentioned by Campbell and Henning (2010), knowledge today is becoming more interdisciplinary and integrated, which calls for interdisciplinary and integrated learning in public schools. The main purpose of the study was to explore the integrated curriculum approach to the teaching of Social Studies and Science in the Colleges of Education in the Central region. The study employed the descriptive survey, which is non-experimental. The targeted population for the study was all Social Studies and Science educators in the Colleges of Education in the Central Region. The College tutors were 30 in all distributed as such; Foso College of Education 10, Ola College of Education 11 and Komenda College of Education 9 respectively. The researcher decided to use the entire 30 tutor population of Social Studies and Science from within the three Colleges of Education in the Central Region because the number was not too large to take a sample of it; hence census approach was applied here. Four different instruments namely, questionnaire, interview schedules, test items as well as observational lessons were used for data collection and the result from the study indicated that there is positive strong relationship between Social Studies and Science teachers' perception about integrated curriculum in teaching Social Studies with Science. The study recommended that for effective interdisciplinary study of any kind there must be strategies that ought to drive home the desired outcome. And such strategies must endeavour to place the student at the center of the learning process.

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DEDICATION

To my husband Mr. Samuel Ampofo and children Nana Yaa, Kojo Aryeetey,

Kwesi Obinyim and Abena Oye

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CHAPTER ONE

INTRODUCTION

Background to the Study

Education is a way society trains its individuals to fit into that society. The pupil is therefore at the centre of the educational process and as such all activities in the school should aim at developing the pupil's total personality to the fullest. Education is more than fostering understanding and an appreciation of emotions and feelings. It is also concerned with change 'with how people can act with understanding and sensitivity to improve their lives and those of others' (Smith, 2015, p.104). The knowledge and understanding and general objective of Social Studies in the school curriculum is considered an important area of learning to the school programme. Social Studies is one of the right vehicles to convey to the child a sense of heritage of society from the past.

Mortorella, (1994) states that "we believe that the basic purpose of Social Studies is to develop reflective, competent and concerned citizens" (p. 26). Reflective individuals are critical thinkers who make decisions and solve problems on the best evidence available. Social Studies can be defined as educating children, from early childhood, to become clear-thinking and enlightened citizens who participate in decisions concerning society. 'Society' here, is understood in the special sense of a nation with a circumscribed territory which is recognized as a state (Mortorella, 1994).

Knowledge of the nation's institutions, and also an awareness that the rule of law applies to social and human relationships, obviously form part of

any citizenship education course. Taken in this sense, Social Studies is based on the distinction between: The individual as a subject of ethics and law; entitled to all the rights inherent in the human condition (human rights); and the citizen who is entitled to the civil and political rights recognized by the national constitution of the country concerned.

Competent citizens' possess a repertoire of skills to aid them in decision making and problem solving. Concerned citizens investigate their social world, address issues they identify as significant, exercise their rights and carry out their responsibilities while the reflective citizen not only makes reflective decisions but also makes deliberate efforts to influence his or her political environment, including its laws, public policies, values and the distribution of wealth (Martorella, 1994). These are the core purpose of Social Studies education. Over the past decades, there has been an outcry regarding the unsatisfactory attention given to the teaching and learning of Social Studies (Benson, 2000; Honey, Lynch, Burke, & Gilmour, 2011). Many school teachers report that they simply do not have time to teach Social Studies, and therefore, it is often reduced to a place of minor importance (McCaIl, 2004; Van Fossen, 2005; Vogler, Lintner, Lipscomb, Knopf, & Heafner, 2007).

Social Studies instruction at all levels however, is essential for students to become active and responsible citizens in a diverse, interdependent, and democratic society. It appears that teachers will be unsuccessful in preparing effective citizens if Social Studies instruction is neglected at all levels (Benson, 2000. The adoption of integrated curriculum that exposes students to real understanding instead of the mere accumulation of facts, ideas, and

information is what the Ghanaian student teacher needs; this methodology does not encourage learning by rote, the phenomenon of chew, pour, pass and forget. The problems of today are of multidimensional nature hence cannot be categorized under subject compartment. This study is premised on the notion that all subjects are important and none should be neglected; and the general education classroom can be best described as a place for learning with inclusion as the focus. Essential is the need for integrating Social Studies with the teaching of Science and vice versa to enhance inquiry, problem-solving, interest, critical thinking skills, and learning (Virtue, Wilson & Ingram, 2009).

On the time table of schools, Science features prominently and Social Studies are given less attention. By truly integrating other content areas within the realms of Social Studies, teachers might help solve many problems of society (Honey et al., 2011). Integration would also give students opportunities to see how Social Studies concepts fit into the entirety of human experience with the Sciences (Cannon, Klein, Kaste & Magal, 2002). Honey et al., (2011) cautioned that it is time to acknowledge that there has been an unprecedented and precipitous decline in the number of times Social Studies is taught. It is, therefore, the hope of the researcher that every means necessary should be used to teach Social Studies content to students and a good way to do this is to integrate it with Science due to its heavily tested nature as well as great emphasis on this subject in the curriculum.

The paradigm that drove this research study was the constructivist theory of learning. Constructivism, a psychological theory, stems from the work of Piaget in the field of cognitive science prior to his death in 1980 (Ackermann & Mitsakos, 2001). Psychologists recognize constructivism as a

powerful framework for how adults learn and construct their own knowledge (Creswell, 2013; Danielson, 2007; Ravitch, 2016; Rebore, 2015). Constructivism is based on the premise that adult learners construct knowledge structures in their mind in a nonlinear fashion. Through hands on explorations participants develop deep conceptual understandings. Knowledge is created through interaction with the world, people and things (Ackermann & Mitsakos, 2001), and this can be done when the relationship between Social Studies and the Sciences are established. Thus, the study seeks to; (1) ascertain the relationship between Social Studies and Science, (2) determine the perception of college tutors in integrating Social Studies with Science, (3) examine the strategies that account for integration of Social Studies with Science, (4) identify factors that might hinder tutors use of integration of Social Studies with Science and finally, (5) assess the relevance of integration of Social Studies with the teaching of Science in the Colleges of Education

This study addresses the problem of neglect, exemption and restriction in pursuit of Social Studies. With the integration of Social Studies with the teaching of Science to ensure uniformity in the way teacher trainees are trained in the Colleges of Education. The constructivist learning theory suggests that learning is contextual. Individuals do not learn based on isolated facts. Instead, individuals learn in relationship to what is already known, that is, prior knowledge (Richardson, 2003).

Statement of the Problem

The problem this study addresses are exemptions and restriction imposed on teacher trainees due to subject specialty in the Colleges of Education. In the Colleges of Education, content areas are usually taught in

isolation. Science students in the Science and Mathematics Colleges of Education are exempted from offering Social Studies. To these students, Social Studies is restricted area for them. However, the irony of the whole issue is that they are found in many classrooms teaching Social Studies. Social studies is a discipline designed with a focus on the problems of society and how these problems affect the survival and wellbeing of the individual and their development. Restructuring of the country's educational curriculum to be integrated and designed in a way that would focus on problems and issues that are connected with real situation as well as providing continued support and professional development opportunities for teachers would be the catalyst to help future educators understand the craft of integration and this would go a long way to curtail the problem of neglect, exemption and restriction of some students from core discipline for academic progression (Koch, 2014).

Teaching has become increasingly more complex, because of the considerable amount of educational restructuring; numerous innovations have surfaced including integrated curriculum. As educators, we are mandated to constantly search for new ways to help students make sense of the multitude of life's experience and the bits and pieces of knowledge they gain from traditional departmentalized curriculum. Students today continue to move from one discipline to the next forcing the information to be disconnected to anything that resembles real life situations. To lighten some of the fragmentation in the knowledge to be acquired by students, and experience to be gained by teachers, holistic and integrated curriculums are being proposed and adopted by many school districts in the U.S which is a major driving force behind integrated teaching and learning. It is the belief that when themes,

subjects, or projects are combined, students begin to see meaningful connections between the different disciplines (Vars, 1991). Kain (1993) found out that many students felt that integrated curricula were more relevant to the real world, due to real world problems of the interdisciplinary nature, and this increased both their learning and motivation.

Thus, the problem of neglect, restriction and exemption of some students from the study of Social Studies can be best tackled by the integrated approach of teaching if our greatest desire is to use Social Studies to change people to appreciate culture and civic issues. Several studies have been done in the U.S and elsewhere with respect to integration of Social Studies with other subjects; however it seems lack of studies within the Ghanaian context justifies the need for a study that focuses on the integration of Social Studies with the teaching of Science in Colleges of Education, specifically Colleges in Central Region as a way of addressing the problem of neglect, exemption and restriction in pursuits of discipline in the Colleges of Education.

Purpose of the Study

The main objective of the study was to explore the integrated curriculum approach to the teaching of Social Studies and Science in the Colleges of Education in the Central Region. Thus the specific objectives of the study are to:

1. Ascertain the relationship that exists between Social Studies and Science tutors perception about integrated curriculum.
2. Determine the perception of tutors in integrating Social Studies with Science teaching in the Colleges of Education
3. Examine the strategies that account for integration of Social Studies

with Science in Colleges of Education

4. Identify factors that might hinder tutors' use of integration of Social Studies with Science in the Colleges of Education.
5. Assess the relevance of integration of Social Studies with the teaching of Science and vice versa.

Research Questions/ Hypotheses

The study was guided by the following hypothesis and research questions.

Hypotheses

A. Ho: There is no relationship between Social Studies and Science teachers' perception about integrated curriculum in teaching Social Studies with Science

Research Questions

1. What is the perception of tutors in the integration of social studies with the teaching of science in the Colleges of Education in the Central Region?
2. What strategies account for the integration of Social Studies with the teaching of Science?
3. What are the factors hindering tutors' use of integration in the Colleges of Education?
4. What is the relevance of integration of Social Studies with the teaching of Science?

Significance of the Study

The study was to bring to the fore the need for policy makers and other key stakeholders to adopt integrated curriculum as a unique approach in the teaching of key concepts as a way of reducing discipline for study in the basic schools.

This study is to be helpful to National Council for Tertiary Education to know how to structure the curriculum at the Colleges of Education to emphasize the elimination and redundancies associated with the repetition of the same content under different disciplines. Human brain does not separate knowledge into discrete partitions but creates a complex web of information that recognizes patterns. Integrated curriculum is a way to capitalize on the existing features of the human brain and work with it rather than serve as a counter to its natural function (Caine, 1991). Teachers are to learn that branches of Social Studies, as well as branches of Science are interrelated. The study of this kind was to be relevant to the following bodies in these respective contexts.

Students: integrated curriculum would help students address their world with imagination, creativity, inquiry and purpose rather than make them passive consumers of textbook and media-packaged information.

Teachers: Integrating subjects is a way to capitalize on the existing features of the human brain and work with it rather than serve as a counter to its natural function (Caine, 1991). Teachers will learn that branches of Social Studies, as well as branches of Science are interrelated

Educational agencies: Agencies such as NCTE would be well positioned to structure the curriculum at the Colleges of Education to emphasis that the human brain does not separate knowledge into discrete partitions but creates a complex web of information that recognizes patterns.

Policy makers and planners: policy makers' adoption of integrated curriculum would help reduce disciplines for study at all levels of schooling.

Delimitation

It is an undeniable fact that the spectrum under which curriculum integration falls is so wide. The study is descriptive in nature and focused on the use of integrated curriculum in the teaching of Social Studies with Science. The research sample is composed of thirty (30) Social Studies and Science tutors drawn from the three Colleges of Education in the Central Region. The primary data gathering methods used were questionnaire, observation study, test and semi-structured interview to determine the tutors and students perception on integrated study of Social Studies and Science. This research used purposive and convenience sampling in the case of the students selected for the observational study as well as the semi-structured interview in which an equal representation for gender and academic level among the respondents was applied. The gathered quantitative data from the study was analyzed using inferential statistics (Pearson's Moment Correlation PPMC) and descriptive statistics (means-M, standard deviations-Std. D, frequencies, f, and percentages, %). The qualitative data was from the interview conservations which were transcribed verbatim. After the interviews were transcribed, the coding process began by selection, separating and sorting data. Key words and phrases were underlined to make note of what was interesting in each interview. Verbatim quotes from the respondents were used. The research data was based on questionnaire administered to college tutors, observation study by college tutors, test administered to college students and semi-structured interview of college tutors and students based on their perceptions with integrated study of Social Studies and Science.

The study is delimited to tutors and students of Colleges of Education in the Central Region of Ghana out of the 46 public Colleges of Education. This decision is based on the fact that the problem of neglect, exemption and restriction in disciplines is better seen in higher institutions of learning of which the Colleges of Education were of no exception.

Limitation

In research terminology, limitations refer to the weakness of the study. They are those things the researcher may not be able to control, but that may influence the results of the study (Baumgartner, Strong & Hensley, 2002). Due to the nature of the research questions, the study was based largely on qualitative research methods. Again due to sample size for the study, results obtained cannot adequately support claims of having achieved valid conclusions. However the results obtained can be generalized. Biases which usually result either consciously or unconsciously out of interviews were taken care of by the used of trained interviewers used by the researcher. Another limitations envisaged by the researcher was accessibility to the participants due to their work schedules. With this obstacle, the researcher engaged college authorities for permission for the observational studies. Major `constraints of the study was with the problem of finance as every aspect of the research required some financial commitment. The interviewers for the collection of data in the area of semi-structured interview required needed training and this required money and effort. Again, the difficulty of combining teaching with the research work was a great limitation.

Definition of Terms

For the purposes of this study, the following definitions are provided:

Social studies: The integrated study of the Social Sciences and humanities to promote civic competence.

Tutors: Social Studies and Science teachers in the Colleges of Education

Integration: integration is an instructional strategy wherein content areas are taught simultaneously (Mcquitty, 2016).

Constructivism: An approach to learning where learners' construct knowledge structures in their mind in a nonlinear fashion.

Organization of the Study

The study comprises of five main chapters. Chapter One which is the introduction will constitute the background to the study, statement of the problem, purpose, research questions/hypotheses, significance of the study, delimitation, limitation and organization of the study. Chapter Two is the review of related literature which focuses on what some authors have written about the problem area as well as the researcher's analytical framework of the literature expounded. Research Methods is found in chapter Three which outlines the researcher's plan on how data was collected. The chapter includes, research design, population, sample and sampling procedure, data collection procedure, and data analysis plan. Chapter Four is the results and discussion which looks at the data collected and analyzed. The last chapter which is five includes the summary, conclusions and recommendations of the study.

CHAPTER TWO

LITERATURE REVIEW

Overview

This chapter reviews the contributions of other researchers on the issues of integration of Social Studies and its relationship in the teaching of Science in Colleges of Education. It is structured under six main parts. The first part deals with the historical overview of Social Studies. The overview examines the perspective of Social Studies focusing on its nature, meaning, scope, purpose and objectives of Social Studies. The second part covers issues on Science and its content that reflects the concept of integration and the forms of integration in education, the strategies that support integration as well as the relevance of integration of Social Studies and Science. The fifth part deals with the theoretical review of the study which examines the theory of constructivism as psychological theory of learning. References cited from articles, journals, books and encyclopedias as well as previous dissertations are well acknowledged.

Historical Overview of the Social Studies Programme in Ghana

The concept of Social Studies is of recent origin. Social Studies originated and developed as part of the school curriculum. Saxe (1991) contends that the Social Studies “had its own set of unique beginnings” and did not originate, as many writers argue, "with the examination of the development of History as a field of study in the nineteenth century and its extension into the twentieth century". He asserts that the "foundations" of

Social Studies originated in Great Britain during the 1820s and quickly moved to the United States. Social Studies emerged as an attempt to use education as a vehicle to promote social welfare, and its subsequent development was influenced both by Americans and others.

The wide spread use of Social Studies started in America way back in 1916. The year 1783 marked the end of the American Revolution and set this country on a path as the "United" States of America. The majority of Americans at this time were uneducated. The home, job, and church all played a greater role in education than did the schools (Barr, Barth, & Shermis, 1977). The citizens of the United States would need, however, to be educated in the values and responsibilities necessary for national cohesion and survival. According to Cremin (1980), the goal was nothing less than a new republican individual, of virtuous character, abiding patriotism, and prudent wisdom, fashioned by education into an independent yet loyal citizen. Only as Americans could awaken and nurture a corresponding independence of manners and opinion would the Revolution be completed and a proper foundation for the Republic established. The task of erecting and maintaining that foundation became the task of American education.

As this country began its experiment with self-government, the seeds for what we call "Social Studies" were planted to ensure the survival of the nation. Benjamin Franklin and other influential citizens saw the need for an educational system that would develop in students a sense of patriotism and nationalistic values. They encouraged instruction that would promote "moral training, training for citizenship, the judgment, and the imagination" (Hooper & Smith 1993, p. 14).

Social Studies is a single composite instructional area which draws its contents from many of the Social Sciences and humanities. Social Studies does not combine Social Science subjects in unrelated way rather it integrates them for the purpose of helping the learners understand human relationship with the society/environment in which they live. Developing the competencies relating to healthy social living is the main aim of Social Studies learning. Social Studies is concerned with the practical aspects of the society. It was built on the foundations of history which was recognized as the central study of Social Studies. The change from the traditional subjects of history to Social Studies occurred in the Jones Report (Ravitch & Viterittis, 2003) on social studies; incorporated into the famous Cardinal Principle Report of the National Education Association in 1918 which suggested that the goal of Social Studies was good citizenship and that historical studies that did not contribute to social change had no value. This report gave a strong boost to Social Studies teaching. The study of History was considered too-academic and far removed from students' immediate needs and that they need no contributions to social efficiency. It was in the field of social efficiency that Social Studies was born.

The idea was to teach students facts and skills that were relevant to the institutions of their own society and also to prepare them for the real world that would confront them when they left school. By the 1930s, the Social Studies programme had displaced History with its expanding environment concept that is, the home, neighbourhood and community (Ravitch & Viterittis, 2003). Social Studies are, therefore, intended to provide an integrative education aimed at students as decision makers.

As African nations achieved independence in the late 1950s and early 1960s, they sought ways to change inherited educational systems to make them more suitable to the needs of new nations. "No courses in the curriculum were viewed as more closely tied to national aspirations than those dealing with the country, its people, and the responsibilities of citizenship" (Dondo, Krystall & Thomas, 1974, p. 6). By the late 1960s, new approaches to inherited History and Geography courses became known in Africa as "Social Studies." Eleven nations founded the African Social Studies Programme (ASSP), and continue to monitor the development of Social Studies curriculum and instruction in the continent. This digest examines (1) the origins and goals of ASSP, (2) ASSP's organization and operation, and (3) ASSP's major achievements and current challenges.

The ASSP is a nonpolitical and nonprofit intergovernmental organization of 17 African nations that stimulates, promotes, and monitors innovative curriculum. In September 1967, concerned educators from 11 African countries (Botswana, Ethiopia, Ghana, Kenya, Lesotho, Malawi, Nigeria, Sierra Leone, Tanzania, Uganda, and Zambia) met at Queen's College, Oxford with representatives of the U.S. Education Development Center (EDC) and the English Centre for Curriculum Renewal and Educational Development Overseas (CREDO) to discuss needs and priorities in curriculum development in Africa. Social Studies were one of these priorities. In Africa, ideas on how to modernize the teaching of Social Studies in the school curriculum were expressed as early as 1961 at the Endicott Summer House Study in Massachusetts Institute of Technology (MIT), USA where prominent African, British and American educationalists addressed

themselves to the issues of education problems facing post-war Africa, especially the newly independent nations and how to find solutions to their educational problems in the humanities and social sciences, language, mathematics, science and teacher education (Tamakloe, 1991).

At the various sub- committees on Social Studies, they decided among other things that, the teaching of Geography, History and Civics as separate disciplines in the primary schools in Africa introduce artificial divisions in the Social Sciences which should be discouraged in the early years of schooling. The child should be introduced to the Social Sciences as an integrated field of study and should be made to appreciate right from the beginning of his education the relationship between the disciplines which later emerge as distinct field of learning (ASSP Report, 1977, p. 57). This, in the view of the group was to make the child aware that he and the community were geographically, historically, socially and economically one. For the appropriate name, the sub-committee suggested that such an integrated area of study should be known as "Social Studies". In 1967, a meeting was held at Queens College, Oxford where participants decided on the need to give attention to the development of social studies in primary schools. This meeting was sponsored by the Education Development Centre (EDC) and Centre for Research and Educational Development Overseas (CREDO). In 1968 another conference was held in Mombassa, Kenya.

According to Tamakloe (1988), the Mombassa conference marked the turning point in the development of social studies in Africa. This conference gave Birth to the African Social Studies Programme (ASSP) whose primary purpose was to assist African countries by:

> Collecting and disseminating information of Social Studies projects in Africa and elsewhere through reports, newsletter and original documents. Assisting member countries to organize workshops, courses, seminars, and conferences for the exchange of ideas and for in-service training of teachers to enable them adapt to the new approach to the teaching of Social Studies. Encouraging the initiation of research in Social Studies teaching in the development of materials for primary and secondary schools in Africa and involve professional and university people (Dondo, Krystall & Thomas, as cited in Melinger & Endwins, 1981).

It is important to note that the major objective of the African Social Studies Programme, now African Social and Environmental Studies Programme (ASESP) is that, Social Studies should be taught as an integrated discipline. On the Ghanaian scene, Bruce (1988) reported that, there had been attempts at integration of a sort in the social sciences. Social Studies is one of the integrated areas of study in Ghanaian school system. The subject was first introduced into the school curriculum in the early 1940s. At that time Social Studies was taught in three teacher training colleges, namely Presbyterian Training College in Akropong Akuapem, Wesley College in Kumasi and Achimota Training College in Accra. However, by 1955 the programme had collapsed due to lack of personnel to teach the integrated subject. Tamakloe (1988) also points out that before 1968, there existed an area of study termed centres of interest in the primary school curriculum which appeared to be an integration of subjects like; History, Geography, and Civics which was only

undertaken at the lower primary level (primary one to three). He further observed that, this programme - consisted of just topics which had been jumbled up in the name of integration; the topics [*however*] lacked cohesion (p. 16).

The development of the Social Studies programme in Ghana began in 1967 with the setting up of the Curriculum Research and Development Division (CRDD). Between August and September 1968, a conference was held at the Advanced Teacher Training College at Winneba under the auspices of the British Council. From there, a pilot programme on Social Studies teaching was started in four selected centres namely; Saltpond and Assin Fosu in the Central Region, and Ho and Hohoe in the Volta Region. According to Tamakloe (1976) "there was a great controversy on the choice of name for the new programme being developed". While one group felt it should be called Social Studies, one group contended it should be called Environmental Studies (p. 16). The programme in its fourth year of pilot testing saw the inauguration of the National Association of Curriculum and Courses (NACC). All primary syllabuses were reviewed and improved with the sub-committee on Social Studies agreeing that the new programme should be officially called Environmental studies.

With the advent of the Education Reform in 1987, the term Social Studies once again was officially used for the subject in all levels of the school system. In 1988, the Curriculum Research and Development Division (CRDD) published new textbook. The 1987 educational reforms also came along with Junior Secondary School concept. In the new educational reform, Social Studies was introduced as compulsory subject in the curriculum of basic

schools, thus at the primary and junior secondary but an elective subject in the training colleges. The University of Cape Coast introduced Bachelor of Education programme in Social Studies to train teachers in teaching the subject at the secondary and college levels. In 1989, the University of Education Winneaba began a diploma programme in Social Studies and also went ahead to mount the degree programme in 1996 to train Social Studies teachers. Thus by the end of the 21st century, the discipline has been fully uy8established as a subject that is examinable for certification at the basic, senior secondary and tertiary levels of Ghanaian education (Tamakloe, 1991). In 1988, the Curriculum Research and Development Division (CRDD) published new textbooks Ghana Social Studies Series to replace the Environmental Studies programme in all schools. In 1996, when the Free Compulsory and Universal Basic Education (FCUBE) was introduced, the term Social Studies was still used for the subject at both the primary and the then junior secondary school but in the syllabus that was introduced in the primary schools in 1988, the term "Environmental Studies" was once again used at the primary school level. Since 1988 the subject has been referred to as Environmental Studies at the primary school while at the junior and senior high schools, the term Social Studies is used. Currently, the subject at the lower primary thus from basic 4 – basic 6 is known as Citizenship Education while at the College of Education, the term 'Social Studies' is used. At the University level such as the University of Cape Coast and the University of Education, Winneba, the term Social Studies is used as a programme. The same term is used in the University of Ghana Legon for a faculty, whereas some private universities, like the Methodist University College, use it as a

Department.

It has been necessary to trace the development of the integrated Social Studies programme from both international and local scenes in order to appreciate the-chequered history of Social Studies. This is with regard to its name and scope and to find out how relevant it is to integrate Social Studies with the teaching of Science in the Colleges of Education in Ghana as the world moves towards the integrated curriculum era.

Theoretical/Conceptual Framework of the study

The Perspective and the Nature of the Social Studies Curriculum

Over the years there has not been consensus among Social Studies scholars as to what the term Social Studies means. Many writers have therefore sought to define Social Studies based on their own cultural background. Longstreet and Shane (1993) indicate that, "the question of definition has plagued the field of Social Studies since its inception in 1916" (p. 262). Similarly, Bar, Barth and Shermis (1977) are of the view that the field of Social Studies is caught up with ambiguity, inconsistency and contradiction that represents a complex educational enigma which defies any final definition acceptable to all. Again on the question of definition, Ravitch (2003) also poses these questions:

> What is Social Studies? Or what are Social Studies? Is it History with attention to current events? Is it a merger of History, Geography, Civics, Economics, Sociology, and all other social sciences? Is it a mishmash of courses such as career education, gender studies, and environmental studies? Is it a field that defines its goals in terms of cultivating skills like

> interpersonal relations and critical thinking? Over time leaders of the field have frequently wrestled with… their definition (p.1).

Then, this is in a clear agreement with Sharp, Leftwich and Resgister (1991) that in trying to find out what Social Studies is, 'one should examine general definitions for Social Studies offered by educators whose special interest is in Social Studies education which will serve as guideline and statement of purpose for Social Studies' (p. 726).

Tamakloe (1994) looks at Social Studies as a subject that deals with man and his relationship to his environment. A careful analysis of this shows that, it has explained the fact that teaching of Social Studies should aim at exposing learners to the way of life of the society and the realization that, humans, plants and all the other animals are dependent on one another for survival. Martorella (1994) said, "the Social Studies are selected information and modes of investigation from the social sciences, selected information from any area that relates directly to an understanding of individuals, groups and societies, and application of the selected information to citizenship education" (p. 7). Linguist (1995) also gave a definition of Social Studies as an integration of knowledge, skill and processes and goes on to say that -the subject provides powerful learning in the humanities and social science for the purpose of helping children learn to be good problem solvers and wise decision makers (p. 1).

The definition by Mortorella (1994) establishes the fact that the conceptual and contextual framework of Social Studies is based on integration which is also the basis of this study. Lindquist (1995) also outline

the purpose of Social Studies instruction as aimed at producing good citizens. Lindquist indicates that good citizens are good problem solvers and wise decision makers. According to Mortorella, three main components can be ascribed. These are the selection of information and mode of investigation from the social sciences, selection of information from any area that relates directly to an understanding of individuals, group and societies and finally the application of the selected information to citizenship education. This is worth noting as it is not every subject matter in social sciences that come within the scope of Social Studies. Subject matter in Social Studies be it knowledge, processes, skills, values and attitudes, is carefully selected. Banks (1990) appears to have given an in-depth description of Social Studies in relation to its nature when he states that: Social Studies is that part of the elementary and high school curriculum which has the primary responsibility for helping students develop the knowledge, skills, attitudes and values needed to participate in the civic life of their local communities, the nation and the world (Banks, 1990).

In 1994, Tamakloe a Ghanaian author of Social Studies described Banks' (1990) definition as an incisive and in-depth description of Social Studies". This is because the definition contains essential ideas which shed more light on the nature of the subject. Firstly, there is reference to the acquisition of knowledge and skills as well as the development of desirable attitudes and values as prerequisites to civic competence, which is the fundamental purpose of Social Studies. Secondly the author mentions the local community, the nation and the world (in that order) as the social environments in which the citizen actor progressively functions. Here, Banks (1990)

implicitly alludes to the concentric nature of the Social Studies curriculum.

What Banks (1990) means is that, learners need knowledge of the contemporary world in which they live and its historical antecedent which guide individual to develop well as good citizens. This definition endorses the use of concentric approach in the teaching and learning of Social Studies. This is what Hanna (1963) stressed as expanding environment concept in which schools centre their activities on the home, neighbourhood and the community. Following this theory, the MOE has adopted it as a model for studying at schools which started from the basic level. Though the concentric approach theory is well known, some do not take it and this is indicated by some writers like Frazee and Aryers (2003) as - the expanding environment is ineffective because they focus on how Social Studies should be taught in elementary classrooms rather than on content knowledge that should be the enterprise for teaching and learning (p. 111). Even though there are dissenters against this approach, it has come to stay in teaching and learning of Social studies due to the numerous advantages it has compared to the other approaches.

The Scope of Social Studies

The term - scope as used in educational sector in syllabuses and textbooks, became very popular after the World War II in 1945. Developments between the two world wars led to the emergence of new patterns of selecting the content for Social Studies programme. Until quite recently the term-scope of Social Studies had been shifting sand (Tamakloe, 1994). What Tamakloe meant was that, the scope of Social Studies was not stable or did not dwell on one thing. Curriculum experts are yet to agree on what the term, scope of Social Studies, is as it varies from writer to writer. A survey of the available

literature reveals, at least, three perspectives from which the scope of Social Studies has been defined. There are some writers who define the scope of the subject in terms of the disciplines that provide subject matter content for the Social Studies curriculum. This is the discipline-based scope.

Other writers describe the scope from the perspective of the social environments or communities in which students live and function. We may call this the communities-based scope. Yet still others define the scope in terms of critical areas or issues of society‘s life. This is the issues-based scope of the subject. According to Banks (1990) at the lower grade in school the scope of the subject is based on institutions and communities such as the home, family, the school, the neighbourhood and the community. That is to say, pupils at the lower levels of schooling such as kindergarten, primary and junior high should study about the social environments in which they progressively develop and function. This way of describing the scope of Social Studies is based on the belief that the world does not organize itself according to discipline; hence the focus of Social Studies should be commonplace dimensions of society. Thus, within the home, for instance, pupils could learn the roles of family members; and within the local or national community, they could learn the rights and responsibilities of citizens and workers. As noted earlier, in Ghana Social Studies in basic school under the 1987 reform was organized around communities. Banks goes on to say that at the higher level a variety of elective courses such Sociology, Psychology, and the problems of democracy are offered. Martorella (1994) also writes that most educators would concede that Social Studies gain some of its identity from the Social Sciences, such as History, Political Science, Geography, Economics,

Sociology, Anthropology and Psychology.

In explaining the scope of Social Studies, MOE (2010) emphasizes 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 and Riterittis (2003) sum it up by saying, "Social Studies is seen as a broad umbrella that covers a range of subjects, disciplines, and skills" (p. 1). It is significant to note that when subject areas are used to define the scope of Social Studies, perhaps the objective is to promote understanding and values associated with the subject areas. For Aggarwal (1982) the scope of Social Studies should include a study of relationships, functional study of Natural Sciences and Arts and a study of current affairs. In keeping with this thematic nature, Tamakloe (1991) writes that 'the structure of the content selected for the teaching and learning process in Social Studies must be such that it cuts across disciplines'. To him this can be possible if the content is thematic in nature. He adds: Themes such as the school community, our local community, the national community, our continent and others like citizenship, cooperation, interdependence and nationalism easily lend themselves to organization which relies heavily on the use of concepts, facts, skills and values from various disciplines.

It must be emphasized, however, that Social Studies and Social Sciences are distinct fields of study. To achieve its overall goals, Social Studies promotes learning experiences that have both a distinct content focus and process focus. The latter, for instance, provides opportunities for learners to become actively involved with interpreting and judging knowledge. It could be inferred from the discussion that the scope of Social Studies is unlimited. It

is in this light that Leming and Ellington (2003) describe the scope of Social Studies as ―boundless, eschewing substantive content and lacking focus for effective practice. They asserted that, - students rank Social Studies courses as one of their least liked subjects and Social Studies textbooks are largely superficial and vapid (p . i-ii). Zevin and Balota (2000) in their - personal prologue write 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 debate about the scope of Social Studies may be partly due to the nature of the subject. According to Tamakloe (1994) the boundless nature exhibited by the scope of the multiplicity of concepts, skills, knowledge, and values that can be utilized to explain issues, phenomena and solve any problem which faces society. Commenting on the nature of Social Studies, Ross and Marker (2005) remarked that Social Studies is the most inclusive of all subjects and determining the boundaries of what is taught in Social Studies requires decision about what social knowledge is most important, which skills and behaviours are most valuable, and what values are most significant. As a result, the field curriculum terrain is, has been, and will continue to be subject to debate.

It is significant to note that where subject areas are used to define the scope of Social Studies, the structure and contributions of the individual disciplines are used as the building blocks for Social Studies (Tamakloe, 1991). The aim here is to promote the understandings, abilities and values associated with the subject areas. Consequently, what is selected for teaching and learning should be the defining questions or purposes, the central concepts and bodied of knowledge, the attitudes and methods of enquiry and the criteria

for judging evidence peculiar to those subject areas.

The various types of perspectives from which the scope of Social Studies is defined are not exclusive. They are interrelated and overlapping; they only provide alternative ways of answering the basic question "What content should be selected for study in Social Studies?" It could also be inferred from the foregoing that Social Studies do not have easily apparent core content. This is because the flexible nature of the discipline allows a variety of subject areas and strategies to be employed in the explanation of issues and problems. It appears the problem of defining scope and selecting content is due partly to the rapid increase in subject matter in Social Studies and also curriculum innovations. These innovations influence not only methods of study but also shape the Social Studies scope and sequence.

It is therefore, unfortunate that the apparently boundless nature exhibited by the scope of Social Studies has led some people 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 (p. 1). The seamless web still exists 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. It appears the problem of selection of scope is due partly to subject matter proliferation in Social Studies and also curriculum innovations. In the words of Preston (1985) -these innovations, influence not only method of study but seek to shape the Social Studies scope and sequence … (p. 34). The broad scope of subject matter and the amount of material that could be included in Social Studies is a serious concern for Social Studies education. All agree that selection of what to study

is a major issue in planning Social Studies instruction due to its-competing vision and contradictions (Evans, 2004).

Although Social Studies appears not to have an apparent core content, the challenge for Social Studies curriculum developers is to design an instructional programme that emphasizes 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.

Goals and Objectives of Social Studies

Most writers in an attempt to define what the term Social Studies is also try to explain its goals and objectives. Various terms are used to describe the terminal expectations of education. These include the words, purpose, aims goals and objectives. The term - goal which is being used interchangeably with the word -purpose refers to the long term expectations of Social Studies as distinct from objectives which are more specific and with short term expectation. Like its scope, there have been contentious debates regarding the goals of Social Studies. Ross and Marker (2005) remarked that, - the very lack of agreement regarding the purpose of the field, perhaps more than any other characteristics has become the hallmark of Social Studies (p. 2). They add - Social Studies educators have always pitched a big tent, with plenty of room for diverse perspectives, and the response to conflicts over goals has most often been to look for how we could all just get along (p. 7). This view is given credence by Ravitch (2003) when she echoes that - over the time, the

leaders of the field Social Studies have frequently wrestled with their goals and purposes. She continues - the Social Studies field has readily redefined its aims to meet what so ever the socio political demands of the age were (p. 1).

The foregoing comments seem to suggest to a great extent the kind of disagreement and factionalism among those who advocate the various - traditions of Social Studies education. It is therefore no wonder that Whelan (2001) comments that-the disagreement has become so adversarial as to threaten the field with factionalism, thereby undermining the pluralism from which Social Studies has frequently benefited (p. 43). While it appears there is no agreement among Social Studies educators over what the goals of Social Studies is, it is generally agreed that the primary pedagogical goal of Social Studies is to support students as they come to understand their world and have urgency as citizens (Vinson & Ross, 2001). The main goal of Social Studies therefore is to promote citizenship education.

Some authors however, have questioned the status of citizenship education as the main purpose of Social Studies. They argue that the term citizenship has not been clearly defined as goal of Social Studies (Leming, Ellington & Porter-Magee, 2003; Longstreet & Shane, 1993). Clearly, the Social Studies contrarians 'position points to the key problem in determining purposes of Social Studies'. But it must be borne in mind that there is no scientifically objective answer to the question of the purposes of citizenship education because those purposes are not things that can be discovered (Ross & Hastings, 2005). In reaction to the above reasoning by the Social Studies skeptics, Banks (1990) writes that: Citizenship education is the primary focus of Social Studies in the school curriculum which promotes desirable

participatory citizenship. According to Banks (1990), while the other curriculum areas also help students to attain some of the skills needed to participate in a democratic society, the Social Studies is the only curriculum area which has the development of civic competencies and skills as its main goals (p. 3).

Subscribing to this view Tamakloe (1991), says that the main goal of Social Studies is to help students to be able to make informed decisions for the purpose of resolving personal problems and influencing public policy. To him these are important for the realization of the aims of citizenship. Ross and Marker (2005) state that- the purpose of Social Studies is citizenship education aimed at providing students opportunities for an examination, critique and revision of past traditions, existing social practices and model of problem solving (p. 140).

Homana, Barber and Torney-Purta (2006) define citizenship education as: The opportunities provided by schools to engage students in meaningful learning experiences…and other teaching strategies to facilitate their development as socially and politically responsible individuals. This is supported by the National Council for the Social Studies, (NCSS, 2006) which has long been a leading advocate in the area of Social Studies. According to the NCSS the primary goal of education is to prepare students to be effective citizens and that through the curriculum students should have the opportunity to apply their civic knowledge to solve problems in schools. Martorella (2001) sums it up by saying that:

> The basic purpose of social studies curriculum across the grade is to develop reflective, competent and concerned

> citizens. Reflective individual are critical thinkers who make decisions and solve problems. Competent citizens possess a repertoire of skills to aid them in decision making and problem solving. Concerned citizens investigate their social world, identify issues as significant, exercise their responsibility as members of a social community. *Social Studies should be seen as* [italics added] the head, the hand and the heart. The head represents reflection; the hand denotes competencies and the heart symbolizes concern (p. 29).

From the foregoing, it means that Social Studies teachers have the sole responsibility of training students not only develop their knowledge and skills but also affective aspect of the individual, these are reflection of good citizens which Martorella referred to as effective citizen. Martorella argues that the general purpose of the Social Studies should be citizenship education; the objective is to produce reflective, competent and concerned citizens who are critical and have an inquiring mind. By thinking reflectively, students are able to apply the best course of action among alternatives. Reflective thinking therefore disrupts prejudices and deliberates on issues that are ―fair to everyone concerned (Parker & Kostic, 2003; p. 111). Since citizenship is the central purpose of Social Studies as well as the bed rock upon which school function (Hamot, 2000), teachers should provide reflective classrooms to help close the chapter on problematic areas of our society. This will require effective method of reflection that should be applied to the school curriculum and organization (Kumashiro, 2004).

Objectives of Social Studies

In order to achieve Social Studies goals, specific objectives need to be stated. Like its goals, different writers state specific objectives for the realization of the general aims. However, despite different words used, the general consensus is to achieve the goal of citizenship. Barth (1983) writes: "teachers should help students gain knowledge, process information, develop skills to examine values and, finally to apply knowledge through an active civic participation. He adds, if students practice these four objectives then Social Studies is taught as citizenship education" (p. 4). According to Barth (1983), Social Studies builds around four capacities and this is given credence by Banks (1990); Parker and Jaromelik (1997); Martorella (2001) and NCSS (2006). These four capacities are acquisition of knowledge, acquisition of skills, development of desirable attitudes and values and civic participation. Each capacity uniquely leads to responsible citizenship as they mirror the essential ingredient that characterizes sound Social Studies education. If students are to be effective citizens then they must possess the knowledge, skills and values which will prepare them to take appropriate civic action as individual or as members of groups devoted to civic improvement.

Gaining knowledge is an integral part of citizenship skills which allows for reflective decision making. According to Taba (1962) knowledge of any sort is an index of one's acquaintance with reality. As an individual increases his knowledge he also increases his understanding of the world around him. Often the maturity and intelligence of an individual is judged by the amount of knowledge he possesses (p. 212). Galston (2001) agrees by positing seven important links between knowledge and citizenship. Civic

knowledge helps citizens understand their interest as individuals and members of groups. The more knowledge we have, the better we can understand the impact of public policies because:

1. Civic knowledge increases the ideological consistency of views across issues and time.
2. Unless citizens possess a basic level of civic knowledge it is difficult to understand political events or integrate new information into an existing framework.
3. General knowledge can alter our view on specific public issues.
4. The more knowledge of civic affairs the likely [citizens] are to experience a generalized mistrust of, or alienation from civic life.
5. Civic knowledge promotes support for democratic values.
6. Civic knowledge promotes political participation (p. 223-224).

From the above quotations it is discernible that if students are to make reflective decisions and participate fully in their civic communities they must build knowledge in order to understand how things work within the society in which they find themselves. It is therefore clear that a rich store of knowledge is an essential base to citizenship. In addition to knowledge, skill goals are essential to Social Studies teaching; they identify in particular what students will be able to do. Skills as goal according to Banks (1990) can be categorized into four groups; these are thinking skills, inquiry skills, academic or study skills and group skills.

Thinking skills include the ability to gather and analyze information before making a decision. According to Banks (1990) thinking skills include the ability to conceptualize, interpret, analyze, generalize, apply knowledge and

evaluate knowledge. Thus through thinking skills students are able to act constructively by evaluating evidence through rational conclusions.

Inquiry skills: These skills include the ability to formulate scientific questions and hypothesis to collect data and to use the data to test hypothesis to derive generalizations. Inquiry raises the curiosity of students and prompts them in seeking further explanations to questionable situations.

Study skills: Studying is the way people learn new ideas. In Social Studies these include the ability to locate, organize and acquire information through listening and observing, communicate orally and in writing, read and interpret maps. Through study skills students make sense of new ideas for meaningful understanding of issues.

Group skills: These include the ability to perform effectively both as a leader and as a follower in solving group problems, to use power efficiently, and fairly in group situation, to make useful contributions to group progress to communicate effectively in a group and to resolve controversy in groups (Banks, 1990).

Attitudes and values: An important area of human development is attitude and values which are mainly concerned with the affective domain. Attitudes in particular affect how people evaluate situations. Positive attitudes allow people to view human conditions from a variety of perspectives. Values on the other hand, constitute essentials of human relations, human likes, patriotism, respect of dignity; hard work and right of others provide an area of reflective development. Since values are so central to decision making it behold on schools to teach students to think critically about issues affecting society by analyzing event both past and present to bring harmony within society. It is in

this light that Maclaughlin and Donahoe (2004) suggest that schools should provide opportunity for the youth to engage in a way that leads to confidence in the value of participatory problem solving.

While desirable attitudes and values are central to what humans do, the central focus and purpose of civic participation is to foster the development of citizens who will participate actively in and outside the school. It must be emphasized that knowledge, skills, attitudes and values gained, provide gateway for active community participation. Social Studies teachers should therefore provide active teaching strategies to facilitate the development of students as responsible individuals. In sum, when teachers help students to gain knowledge, process information, develop the skill to examine values, and finally apply knowledge through an active civic participation, then Social Studies is taught as citizenship education.

Nature and Scope of Science

Humans are curious by nature. This curiosity has driven them since time immemorial to explore the world around them. Initially the pace of exploration was slow. But the availability of better tools of exploration in the last few hundred years and also as a result of industrial revolution in the west, the pace of exploration has increased manifold. The role of Science in the life of humanity cannot be over looked or even pushed under the carpet. This is because the development and growth of any country depend on the skills that the citizens have acquired in Science and how meaningfully the citizens apply the scientific skills that they have acquired in finding solution to their societal problem.

Nature of Science

Science has certain characteristics which distinguish it from other spheres of human endeavor. These characteristics define the nature of Science, these also set the terms on which you can engage with Science. These are:

1. Science is a particular way of looking at nature
2. Science is a rapidly expanding body of knowledge
3. Science is an interdisciplinary area of learning
4. Science is a truly international enterprise
5. Science is always tentative
6. Science promotes skepticism; scientists are highly skeptic people
7. Science as an approach to investigation and as process of constructing knowledge.

Science is defined in several ways by different individuals. According to Fitzzpatrick (2004), Science is a cumulative endless series of empirical observations which result in the formation of concepts and theories with both concepts and theories being subject to modification in the light of further empirical observations. Science is both a body of knowledge and the process of acquiring it. To Skinner (1981), Science is first of all a set of attitudes. It is disposition to deal with facts rather than with what someone has said about them. From the various definitions, the three fold nature of Science is explained as:

a. Science is a body of knowledge
b. Way of investigating and a method of inquiry
c. Science is an attitude towards life: a way of thinking.

The fields of Science are commonly classified along two major lines:

d. Natural Sciences, the study of the natural world, and

e. Social Sciences, the systematic study of human behavior and society.

Science is generally understood as an endeavor to understand, explain and predict the world we live in using distinctive methods of enquiry in an attempt to construct theories. It is however, not easy to find a set of features that define what separates sciences from other attempts to understand and explain the world, such as religion, astrology and fortune telling which are generally not regarded as branches of Sciences (Okasha, 2002). Citing Wittgenstein (2002), who argued that there is no fixed set of features defining what is a "game" but there is rather a loose cluster of features most of which are possessed by most games, Okasha suggests the same may be true for sciences. Based on some of these features, we will contrast two scientific branches, namely the Natural and Social Sciences, in this essay. According to authors such as Anzenbacher (1981, p. 22) and Chmielewicz (1994), both of them are real sciences, as opposed to formal sciences, the latter of which solve imaginary problems and include, for instance, Mathematics or Theoretical Computer Science. Other authors separate real sciences into further categories such as Literary Studies or Applied Sciences, the latter including Medicine and Engineering (Dewey, 2008). While the question of what Science is, and the separation of all of its branches is out of the scope of this thesis, the researcher shall now turn to a comparison of the Natural and Social Sciences.

There are a number of similarities between the Natural and Social Sciences, which include the use of similar methods and partly overlapping epistemological and ontological stances, i.e. stances regarding the creation of knowledge and the nature of reality. However, there are also a number of

elements that distinguish the two, such as their different origins, subjects of study, and limitations.

Among the many branches of Science, the Natural and the Social Sciences stand out as two branches with disciplines that have some similarities, but differ strongly, above all, in what they aim to investigate (Dewey, 2008). Studies of the Natural Sciences began during the 16th and 17th century, whereas the Social Sciences emerged some 300 years later. Commonalities include a number of methods such as experiments and observations, where quantitative methods can be applied for analyses. However, being concerned with the underlying meaning of social interactions, the Social Sciences rely not only on what might be called exact, mathematical methods, but also on a number of qualitative approaches such as interviews and ethnographies. Both branches of Science have limitation that can be similar in nature, e.g., financial issues. Most limitations of the two are another point where they differ starkly. While the Natural Sciences often face technical boundaries, the Social Sciences experience difficulties as they study situations in which environments cannot be controlled easily, which often renders experimental settings impossible and leaves scientists relying on interpretations. Additionally, ethical issues play a much larger role in the Social Sciences.

Relationship that exists between social studies and science

Social Studies teachers often teach in isolation from the other content areas, but cross-curricular content helps students see the connection between class work and their everyday lives. Science and Social Studies content often overlaps; for instance, when addressing standards around human impact on the

environment or the impact of weather patterns and geological events on people. How do governments and people prepare for these events? How does policy affect our planet? How can drought lead to conflict? The possibilities are endless Social Studies instruction should challenge students to think about the events that have made our world the way it is: the lessons should be so engaging and interactive that no child could ever find it boring …… (Patrick, 2007).

A current trend in Social Studies education is concern about the relationships of science and technology to human societies in the past and present. The National Council for Social Studies and the Social Science Education Consortium, for example, have sponsored activities and publications to bring about improvement in teaching and learning about science and technology as powerful shapers of our modern world. Other advocates of education about science and technology in society include the National Science Teachers Association, Carnegie Foundation for the Advancement of Teaching, American Association for the Advancement of Science and the National Endowment for the Humanities. Given the advocacy of national leaders, there appears to be a movement to infuse science- and technology-related topics and issues into the curricula of elementary and secondary schools. There is little evidence however, of widespread classroom adoption of content about science/technology/society Education on STS involves, first of all, consideration of the various interactions of science and technology in a social context. Science and technology affect and are affected by the institutions and values of a society. The following examples of major STS themes suggest the compatibility of teaching and learning about

science/technology/society with education in the Social Studies (Bybee, Faith, Hackman & Patrick, 2006)

Societies of our modern world are increasingly propelled and changed by advances in science and technology, which generate critical public issues. These issues pertain to such matters as the technical efficiency and public safety of nuclear power plants, the hazards of recombinant DNA research and genetic engineering, and the perils posed by modern weapons. A study by Bybee et al., (2006) indicates that science educators perceive the most important STS problem in our world to be world-wide hunger, unchecked population growth, declining air quality, depletion of water resources, and the destructive capacity of modern weapons systems (STS). The processes and skills in thinking about critical public issues associated with Science and Technology. Education about STS issues involves development of higher-order cognitive abilities associated with processes of decision making, problem solving, and critical thinking. Students who confront science- and technology-related social issues have opportunities to inquire about alternatives and their consequences in the process of making rational and defensible choices.

The utility of trade-offs in decision making on STS Issues. Public issues anchored in scientific and technological applications to society often involve trade-offs between conflicting values in which there is no clear view of right or wrong. Many environmental issues, for example, may involve a compromise or trade-off among conflicting value positions (e.g., limiting pollution sufficiently to protect health and environment while still maintaining a satisfactory level of production and employment). Students are required to

think in terms of "more" or "less" of one thing or another instead of making an uncompromising choice of "either" one thing "or" another (Baybee et al., 2006).

The emphasis here is on an individual's capability and willingness to participate in civic decision making about STS issues and to act upon these decisions. Opportunities are provided for testing proposed actions through civic participation. While simulations and role-play activities are included in most STS units of instruction, there is also the need for civic action projects that are consistent with school rules and regulations. STS issues cut across disciplinary boundaries, such as Biology, Geology, Geography, History, and Political Science. Students and teachers are required to flexibly apply content from various subjects to inquire about issues and make warranted choices in responses to them.

Ability to connect information and ideas within and between academic disciplines and to link different fields of knowledge is a key to high-level understanding of social reality. Education for responsible and competent citizenship in an increasingly complex technological society requires that students be able to synthesize and apply knowledge from many disciplines. Every discipline in the Social Studies can be basically connected to content on science and technology in society. To ignore this reality will limit students' abilities to comprehend their world and to act effectively within it. Thus, content on STS must be connected to the study of Geography, Economics, Political Science, History, and other subjects in the Social Studies curriculum to help students make connections among facts and ideas needed for responsible citizenship in today's world. Furthermore, content on STS in the

Social Studies curriculum can and should be connected to education on science/technology/society in the Science curriculum (Bybee et al., 2006).

Perceptions

Perception, according to Longman Dictionary of Contemporary English is

1. The way you regard something and your belief about what it is like.
2. The way that you notice things with your senses,
3. The natural ability to understand or notice something quickly (Summers, 1995, p. 1048).

Perception According to Cambridge International Dictionary of English is

1. A belief or opinion, often held by many people and based on appearances
2. An awareness of things through the physical sense, especially sight (Procter, 1995; p. 1047).

In order to receive information from the environment we are equipped with sense organs e.g. eye, ear, and nose. Each sense organ is part of a sensory system, which receives sensory inputs and transmits sensory information to the brain. A particular problem that confronts psychologists is how to explain the process by which the physical energy received by sense organs forms the basis of perceptual experience. Sensory inputs are somehow converted into perceptions of desks and computers, flowers and buildings, cars and planes; into sights, sounds, smells, taste and touch experiences (MacLoed, 2007).

Student perception is an accepted means of reviewing teaching methods and developing effective teaching methodologies around the world. Therefore, student perception is used to identify which teaching strategies students perceive to be the most effective means to facilitate the learning in

the classroom (Abdulghan & Al-Nagger, 2015). They said students' feedback has been considered an effective methodology for modification of undergraduate curriculum and making pharmacology more interesting and practicable. They also revealed that several studies on students' perceptions regarding learning of pharmacology documented students' improvements in performance through improved teaching and learning processes. Student feedback is thus considered an invaluable tool for improving students' performances when suggestions obtained from students are implemented. They further suggested that students' feedback help to provide several useful inputs for educational improvements. To which they said provide valuable inputs into the curriculum review processes, help in forming a learner-centred knowledge building process, improve on the implementation of recent teaching methods in pharmacology as well as enhance the quality of learning environment (Abdulghani & Al-Nagger, 2015).

A person's perception is his or her ability to notice and understand things that are not obvious to other people. Perception may be defined from physical, psychological and physiological perspectives. However, for the purpose of this study, it would be limited within the scope postulated by Allport (1996), which is the way we judge or evaluate others. Meaning individuals evaluate people with whom they are familiar in everyday life. Eggen and Kauchak (2001) gave cognitive dimension of perception; they see perception as the process by which people attach meaning to experiences. They explained that after people attend certain stimuli in their sensory memories, processing continues with perception. According to Davis (2010), perception is valuable because it influences the information that enters a

working memory. Background knowledge in the form of schemas affects perception and subsequent learning. Glover, Ronning and Bruning (1990), were of the view that research findings have corroborated this claim that background knowledge resulting from experience strongly influence perception. Baron and Byrne (1997) called it 'social perception' which is the process through which we attempt to understand other people.

The term "apperception" can also be used for the term under study. Apperception is an extremely useful word in pedagogy, and offers a convenient name for a process to which every teacher must frequently refer. It means the act of taking things into the mind (Adediwura & Tayo, 2007). The relatedness of this view of perception to the present study is further explained. That is every impression that comes in, be it a sentence, what we hear, an object of vision, no sooner enters our consciousness than it is drafted off in some determinate directions or others, making connection with other materials already there and finally producing what we call our reaction. From this, it is clear that perception is the reaction elicited when an impression is perceived from without after making connection with other materials in the consciousness (memory). From this point of view, one can deduce that, perception cannot be done in vacuum; it depends on some background information that would trigger a reaction. This is consistent with the views of researchers (Allport, 1996; Glover et al., 1990) and the overall research problem of this study. Thus, perception in humans describes the process whereby sensory stimulation is translated into organized experience. That experience, or percept, is the joint product of the stimulation and of the process itself. Relations found between various types of stimulation (e.g., light

waves and sound waves) and their associated percept suggests inferences that can be made about the properties of the perceptual process (Davis, 2010).

Theory of Perceptions

The sense datum theory holds that when a person has a sensory experience, there is something that the person is aware off either willingly or unwillingly and has the sense of doing something about it (Crane, 2005). Perception involves making inferences about what we see and try to make the best hypothesis. What the subject is aware of is the object of experience. When we look at something, we develop a perceptual hypothesis, which is based on prior knowledge. The hypotheses we develop are nearly always correct. However, on rare occasions, perceptual hypotheses can be disconfirmed by the data we perceive. The object of experience is that which is given to the senses, or the sense datum: The theory takes its argument from illusion to show that a sense datum, whatever else it may be, cannot be an ordinary physical object.

The early sense datum theorists like Moore (as cited in Crane, 2005) considered sense data to be minds independent, but non-physical objects. Later theories treat sense data as mind-dependent entities. The conception of perception that most sense data theories proposed is as a relation to a non-physical object. This relation is the relation of ―being given or ―sensing. The relational conception of perception is sometimes called an―act-object conception, since it posits a distinction between the mental―act of sensing, and the object that is sensed. It is straightforward to show how this theory deals with the arguments from illusion and hallucination. The sense-datum theory treats all phenomenal properties that determine the phenomenal

character of an experience as properties of the immediate object of experience. So, when in the case of an illusion, an external object appears to have a property which it does not have in reality, the theory says that some other object, a sense-datum, really does have this property. An analogous move is made in the case of hallucination (Crane, 2005). Perceptions and subjectively indistinguishable phantasms share their phenomenal character. This means that they share their phenomenal properties: the properties that determine what it is like to have an experience of this character. Based on the phenomenal principle, the conclusion is drawn that these properties must be instantiated in an object of the same kind: a sense datum. Therefore, the sense-datum theory retains the claim, that experiences depend on their objects; but it denies that these objects are the ordinary, mind in dependent objects we normally take ourselves to be experiencing.

The sense-datum theory need not deny that we are presented with objects as if they were ordinary, public, mind-independent objects. Nevertheless, it will insist that this is an error. The things we take ourselves to be aware of are actually sense data, although this may only be apparent on philosophical reflection. This is an important point, since it shows that the sense datum theories are not simply refuted as Harman (as cited in Crane, 2005) seems to argue, by pointing to the phenomenological fact that the objects of experience seem to be the ordinary things around us. A consistent sense-data theorist can accept this fact, but insist that the objects of experience are really sense data. The sense datum theory can say, however, that we are indirectly aware of ordinary objects: that is, aware of them by being aware of sense data. A sense-datum theorist will term this as an indirect realist or

representative realist, or as someone who holds a representative theory of perception. A theorist who denies that we are aware of mind-independent objects at all, directly or indirectly, but only of sense data, is known as a phenomena list or an idealist about perception.

The difference between indirect realism and idealism is not over any specific thesis about perception. The difference between them is over the metaphysical issue of whether there are any mind-independent material objects at all. Idealists, in general, hold that all objects and properties are mental or mind-dependent. There are many forms of idealism, and many arguments for these different forms, but what is important in this context is that idealists and indirect realists can agree about the nature of perception considered in itself, but will normally disagree on grounds independent of the philosophy of perception about whether the mind-dependent sense-data are all there is. Thus, Foster (as cited in Davis, 2010) argues for his idealism first by arguing for sense-data as the immediate or direct objects of perceptual experience, and then arguing that idealism gives a better explanation of the reality underlying this appearance, and of our knowledge of it. Hence, idealism and indirect realism are grouped together here as "the sense datum theory" since they agree about the fundamental issue in the philosophy of perception.

Relationship that exists between social studies and science teachers in their perception of integrated curriculum

The survival of Ghana in relation to the training of efficient and qualified scientific citizens through the school system depends not only upon the educational policy decisions that were taken lately, but also upon the

measures in which the teachers can effectively achieve profound and necessary curricular reforms. That implies a pragmatic orientation of the curriculum, a connection to the problems of the contemporary society, an educational paradigm change and a flexible pedagogical conception, dissociated from the principles of the traditional, conservatory and out-dated pedagogy. In this context, the curriculum integrated approach, the alignment with the competences represent - both for the conceivers of educational policy, of scholar curriculum etc., and for the education practitioners - the reference that can move the school out of its old patterns /routine (Draghicescu, et al., 2014).

Perception is the result of one's attitude. For example, two people with different perceptions look at the same thing and thus think about it differently, and end up with different attitudes. By which they all think they are right. According to Adediwura and Tayo (2007), attitude could be defined as a consistent tendency to react in a particular style often positively or negatively toward any matter. Attitude possesses both cognitive and emotional components. Fazio and Roskes (as cited in Davis, 2010) attitudes are important to educational psychology because they strongly influence social thought, the way an individual thinks about and process social information. Eggen and Kauchak (2001) opined that positive teachers' attitudes are fundamental to effective teaching. The teacher must work students into such a state of interest about what the teacher is going to teach the students so that every other object of interest is banished from the students mind. The teacher should also fill the students with devouring curiosity to know what the next steps in connection with the topic are.

A study conducted by McQuitty (2016) on perception of Science teachers regarding the integration of Science into the Social Studies education curriculum has revealed that many Science teachers hold positive attitudes toward the integration of Science into the Social Studies education curriculum. Many Science teachers believe that Social Studies plays a big role in Science. Scientists are historical figures, and their contributions are significant to Science in many ways; for example, astronomers who discovered how the earth fits into our solar system and Thomas Edison many inventions that advanced both science and humanity. Geography and the study of natural resources and land forms are closely tied and can be taught together as well. Science holds many possibilities for learning Social Studies. He recommended that Social Studies must be the easiest subject to integrate since it pertains to practically everything that we do in life. Some of the important aspects in Social Studies do, in fact tie in with other subjects well, but some topics are taught better when the focus can be solely on that topic.

Concept of integration

Review of literature on integration has shown that there are several related terms used in the context of integrated learning and teaching like 'integrated curriculum', 'interdisciplinary teaching', 'multidisciplinary teaching', 'thematic teaching', and 'synergistic teaching'. Every researcher has his or her own definition of an integrated curriculum. Malik and Malik (2011) defined integration as the organization of teaching matter to bring subjects together that is usually taught separately. However these subjects that are taught separately must be such that commonalities can be established. Some definition offered by researchers working on integrated learning and integrated

curriculum are below:

Integrated learning refers to –education that is organized in such a way that it cuts across subject-matter lines, bringing together various aspects of the curriculum into meaningful association to focus upon broad areas of the study. It views learning and teaching in holistic way and reflects the real world, which is interactive (Shoemaker, 1989, p. 5).

Jacob on the other hand also defines integrated or interdisciplinary as "a knowledge view and curricular approach that consciously applies methodology and language from more than one discipline to examine a central theme, issue problem, topic, or experience" (1989, p. 8). To Beane (1997), he saw integration as a way to teach students that attempts to break down the barriers between subjects and make learning more meaningful to students. The idea is to teach around themes or organizing centers' that students can identify with, such as the 'The Environment', ' life in school', or more traditional areas like 'Myths and Legends'.(p. 13-14).

In general, all the definitions of integrated curriculum or integrated teaching include the following:

1. A combination of subjects: more than one curricular subject area are combined together to evolve a natural continuum of contents and activities which is related to the earlier experiences and related to the real life issues of the learner.
2. Sources that go beyond textbooks: since the integrated material relate to the direct and real world experiences of the learners, the transaction goes beyond the contrived, abstract and unfamiliar textbook materials.
3. Relationships among concepts: the concepts selected from different

subject for preparing an integrated lesson are interrelated with each other so as to constitute a meaningful whole for the learner. Holistic meaning is more important than fragmented unrelated concepts which carry very little learning for the learners.

4. Thematic units as organizing principles: the integration of the related concepts is invariably around a home familiar to the learners like 'water', 'Energy', 'Environment' and Election (McConney & Maor, 2009, p. 34).
5. An emphasis on projects: a project relates to a social issue concerning the learner which is carried to completion in its natural setting. In order to complete a project, the learners, preferably work in groups, are required to combine all their knowledge and experience relating to different disciplines in order to solve a real life problem.
6. Flexible schedules: the integrated teaching-learning cannot be confined to any fixed period within the classroom time table. Enough of freedom has to be given both in terms of time and space for effective transaction of integration of concepts.
7. Flexible student groupings: in order that the integrated learning to be meaningful and effective for the learners, flexibility in grouping, preferably heterogeneous grouping with student's interest and choice, need to be adopted. Heterogeneous grouping helps in building a natural setting and peer learning (McConney & Maor, 2009 p. 34).

Process and Types of Integration

Integration may be classified in four different ways as shown below.

Integration within Subject Area

Integration within one subject area or intra-disciplinary integration is a process of integration where the knowledge and skills of same subject are connected together during the teaching and learning process. In other words, it is a process of combining different concepts of several topics within the same subject during the process of classroom transaction. For example:

1. In language teaching, one can combine reading, writing and oral communication skills through story telling.
2. In social studies class, different topics like 'Family', 'Neighbourhood', 'Festival', 'Occupation', etc. can be linked together in the context of personal and social relevance of discussing 'Life in Our Community'.
3. In Mathematics the concepts of percentage, decimal fractions, calculation of interests can be combined to learn profit and loss.

Integration between Subject Areas: the process of integrating the knowledge and skills of two or more different subjects during the teaching - learning process may be of two types, Multidisciplinary and Interdisciplinary. In Multidisciplinary integration, the subject area outcomes remain distinct, but due to some meaningful linkages they are together during the process of transaction. Multidisciplinary instruction is an approach that thoughtfully incorporates and connects key concepts and skills from many disciplines into the presentation of a single unit. Langa and Yost (2007, p.65) add that it is a methodology to help students make connections. Mathison and Maston (1989) observe that multidisciplinary instruction helps students connect and use information that they have learned from one discipline to address the problem

at hand.

Interdisciplinary integration entails the use and integration of methods and analytical frameworks from more than one academic discipline to examine a theme, issue, question or topic. The hallmark of interdisciplinary education is integration of notions and guiding principles from multiple disciplines to systematically form a more complete, and hopefully coherent, framework of analysis that offers a richer understanding of the issue under examination. Inter-disciplinary integration is a process of integrating the interdependent or common knowledge and skills from more than one subject areas during transaction process. Interdisciplinary approach has been defined by Executive Director of the Association for Integrated Studies Newell and Green (1982) as "a process which critically draws upon two or more disciplines and which leads to an integration of disciplinary insights". An approach such as interdisciplinary studies enhances the educational experience and allows the student to challenge one's own beliefs through learning not only different 'facts' of information from different disciplines but crucially, different methodologies and ways of thinking.

Inter-disciplinarity encourages innovative thinking as well as a greater informed and critical approach to tackling problems of many natures.

Curricula will have to be reassessed that is for sure and I take on board that there are critics of such an approach. Certainly there is the need to keep specialism and should encourage those who want to specialize their learning path down a very specific line. Again, most challenging part of interdisciplinary instruction is moving beyond examination of an issue from the lens of multiple disciplines, to the synthesis and integration of insights into

a more inclusive framework of analysis.

Relevance of Integrated study

However, I advocate the benefits of an approach that creates innovative thinkers and rewards wide interests. Why the need for integrated curriculum? As educators, we must constantly search for new ways to help students make sense of the multitude of life's experiences and the bits and pieces of knowledge they gain from a traditionally departmentalized curriculum. Students today continue to move from one discipline to the next forcing the information to be disconnected to anything that resembles real life situations. To lighten some of the fragmentation our students and teachers experience, holistic and integrated curriculums are being proposed by many countries.

A major driving force behind integrated teaching and learning is the belief that when themes, subjects, or projects are combined students begin to see meaningful connections between the subject matter as material then serves as a vehicle for learning rather than simple pieces of information. It is important to understand that curriculum integration is an idea that has a strong historical background. Disciplines were created in an attempt to organize the world around them; sometimes this was motivated by political means (Beane, 1991). Educational reform has roots dating as far back as the progressive era. The philosophy behind educational reform during the progressive era centered around and emphasis on student creativity, applicable outcomes, "natural" learning, and student experiences (Rousmaniere, 1997).

The main purpose of an integrated curriculum is to have a student-centered curriculum that engages students, improves student learning, and

increases student interest. Higher-order thinking skills, cooperative learning, and consideration of other students' values are emphasized. Students collaborate with teachers to make lessons that address social issues and students concerns (Vars, 2001). An integrated curriculum allows students the opportunity to notice the meaning and purpose in the material. Students also gain a deeper understanding of the material (Watkins & Kritsonis, 2011). According to Mustafa (2011), an integrated curriculum prepares children for lifelong learning. Students can link their experiences in the classroom to the real world and make sense of experiences from their lives. Integrating the curriculum is an incredibly important issue in the field of education. As mentioned by Campbell and Henning (2010), knowledge today is becoming more interdisciplinary and integrated, which calls for more interdisciplinary and integrated learning in public schools. Teachers are continually looking for ways to engage their students and deepen their understanding of the content. Integrating the curriculum is one way to accomplish that goal. According to Bialach, Bolak, and Dunphy (2005). When students get the opportunity to discover new knowledge and apply that knowledge, they are more likely to succeed on studies on integration.

Several writers report that students in schools focus on and take part in integrated curriculum perform better on standardized tests and state exams than students in schools that do not (Libler, Schlee & Shriner, 2010; Campbell & Henning, 2010; Hinde, Osborn, & Dorn, 2007). Harrell (2010), reports that integrating curriculum enhances student learning. In a three-day workshop, Libler et al. (2010) conducted a survey concerning integrated curriculum. Thirty-six teachers completed the survey with six Likert-type questions and

four open-ended questions regarding integrating multiple standards in each subject area. The results showed that some teachers integrated subjects because it saved time and was student centered. Students were able to obtain more knowledge and connect that knowledge to real life experiences and learning were more enjoyable and gratifying for the students and the teachers. The researchers concluded with three reasons to integrate the curriculum: (1) teachers were better able to develop relationships with students, (2) learning was more enjoyable and relevant to the students' lives, and (3) the bridge linked traditional academic areas to students and the community.

DeCorse (1996) interviewed five teachers asking for their views on integrated curriculum. Most teachers reported that students recognized connections between content, remembered what they did during one class, and applied their knowledge to what they learned later. Teachers also reported that they believed an implemented integrated curriculum was much more student centered. Students could develop individual self-efficacy through the delivery of integrated curriculum. Peer tutoring also evolved, especially during teacher's and students' discussions. Students were given the opportunity to socialize with each other and cooperatively share information. Teachers also reported that students were able to make connections and meaningful transfers among subject areas.

Bialach et al. (2005) integrated arts into the core curriculum. Two 6th-grade classes (51 student's total) took part in a curriculum that infused the arts (music, creative movement, visual arts, and drama) into language arts, social studies, science and mathematics. The unit was created by the principal, community, Gifted and Talented coordinator, physical educator, music

educator, drama teacher, fine arts coordinator, and parents. Results showed those students' socialization skills and standardized test scores increased. Reading scores increased by 15 percent and mathematics scores increased by 18 percent. Parents noticed an increase in their children's interest in going to school.

Becker and Park (2011) studied the effects of an integrative approach among Science, Technology, Engineering, and Mathematics (STEM) based on previous research that concluded that integrated approaches increased students' interest and learning in the STEM subjects. All four STEM subjects were integrated together. Students showed an increase in science knowledge and improvement in higher-level thinking skills on open-ended questions. Students in the Integrated Science course performed exceptionally well on a statistics unit in their Mathematics class. Students in the Integrated Algebra course improved their critical thinking skills and had more positive attitudes toward the subject of Mathematics.

Benefits of integrated curriculum at the college level have been examined. Campbell and Henning (2010) compared a traditional course with an integrated course for designing and interdisciplinary curriculum. Fifty-nine undergraduate students (33 integrated and 26 non-integrated) completed the study. All students received grades on the integrated units and reflections they submitted. Students enrolled in the integrated course scored higher than their counterparts.

An integrated curriculum also has many benefits. Because of integrated teaching students develop a love of learning, increase self-confidence, attain a commitment to the democratic group process, and increase their critical

thinking skills and concern for other people (Vars, 2001). Erlandson and Mcvittie (2001) asked students their opinions about their integrated curriculum experiences in Language Arts and Social Studies. Students reported that they were able to make connections between content knowledge and real life experiences. Their way of thinking has transformed, and they began linking knowledge from their lessons with their personal lives. The students also recognized that integrating the curriculum unified each discipline into a whole.

Challenges of Curriculum Integration

Curriculum integration requires a shift in the traditional role of the teacher. It is more dynamic, interactive and finely nuanced than teaching a thematic unit. It requires teachers to share decision making and the messy process of inquiry, where the outcomes are unknown. As such it can feel both demanding and daunting for those who are new to it. Etim (2005), comments on teachers' feelings of exhaustion when trying curriculum integration because they are required to take on roles different from their usual ways of operating. Some teachers may feel threatened by its approach for a number of reasons, including their reluctance to share decision making and their preference for having activities carefully planned well ahead of time (Etim, 2005).

A further challenge that is known to cause concern is teachers' lack of knowledge about curriculum integration. When not done well, curriculum integration can become as forced or artificial as any poorly executed approach, resulting in lack of student motivation and engagement (Beane, 2005). Another impediment for some is the concern that they will not be covering what the curriculum requires. Teachers do need to remember the big picture

and ensure their social studies or science programme, for instance, is not overlooked just because social studies or science does not feature in an integrated unit. There is place and space for stand-alone subject teaching alongside any integrated unit. The erroneous belief that curriculum integration incorporates all learning areas leads some to raise this concern. Curriculum integration only draws on those learning areas germane to the inquiry at hand.

Finally, time is one of the biggest factors in the successful implementation of curriculum integration, and some believe that curriculum integration requires more time than what is readily available in the classroom schedule (Harrel, 2010). Time however, is a perennial challenge in any approach to teaching and it should not be used as an excuse not to innovate. Anecdotal evidence suggests that teachers save time. In the long run because they are not caught up in the minutiae of narrow planning, teaching and assessing, but are instead liberated to facilitate students' inquiry into deep and compelling issues. Instead of curriculum coverage, the emphasis is on depth of learning.

Paradigm of the Study

The paradigm that drove the study was the constructivism theory of learning. Constructivism a psychological theory stems from the work of Jean Piaget in cognitive science (Ackermann & Mitsakos, 2001; Fosnot & Perry, 1996). The psychological roots of constructivism began with the developmental work of Jean Piaget (1896–1980), who developed a theory (the theory of genetic epistemology) that analogized the development of the mind to evolutionary biological development and highlighted the adaptive function of cognition. Piaget proposed four stages in human development: the sensory

motor stage, the preoperational stage, the concrete operational stage, and the formal operational stage. For Piaget, the development of human intellect proceeds through adaptation and organization. Adaptation is a process of assimilation and accommodation, where external events are assimilated into existing understanding, but unfamiliar events, which don't fit with existing knowledge, are accommodated into the mind, thereby changing its organization.

Countless studies have demonstrated–or tried to discredit–Piaget's developmental stages. For example, it has become clear that most adults use formal operations in only a few domains where they have expertise. Nonetheless, Piaget's hypothesis that learning is transformative rather than a cumulative process is still central. Children do not learn a bit at a time about some issue until it finally comes together as understanding. Instead, they make sense of whatever they know from the very beginning. This understanding is progressively reformed as new knowledge is acquired, especially new knowledge that is incompatible with their previous understanding (Caine & Caine, 1991). This transformative view of learning has been greatly extended by neo-Piagetian research.

The Russian psychologist Vygotsky's (1896–1934) relevance to constructivism derives from his theories about language, thought, and their mediation by society. Vygotsky held the position that the child gradually internalizes external and social activities, including communication, with more competent others. Although social speech is internalized in adulthood (it becomes thinking), Vygotsky contended that it still preserves its intrinsic collaborative character. In his experiments, Vygotsky studied the difference

between the child's reasoning when working independently versus reasoning when working with a more competent person. He devised the notion of the *zone of proximal development* to reflect on the potential of this difference. Vygotsky's findings suggested that learning environments should involve guided interactions that permit children to reflect on inconsistency and to change their conceptions through communication. Vygotsky's work has since been extended in the *situated approach* to learning (Caine & Caine, 1991).

Vygotsky and Piaget's theories are often contrasted to each other in terms of individual cognitive constructivism (Piaget) and social constructivism (Vygotsky). Some researchers have tried to develop a synthesis of these approaches, though some, such as Cole and Wertsch (2005), argue that the individual versus social orientation debate is over-emphasized. To them, the real difference rests on the contrast between the roles of cultural artifacts. For Vygotsky, such artifacts play a central role, but they do not appear in Piaget's theories. For the American philosopher and educator John Dewey (1859–1952), education depended on action–knowledge and ideas emerge only from a situation in which learners have to draw out experiences that have meaning and importance to them. Dewey argued that human thought is practical problem solving, which proceeds by testing rival hypotheses. These problem-solving experiences occur in a social context, such as a classroom, where students join together in manipulating materials and observing outcomes. Dewey invented the method of progressive education in North America. The Fostering Communities of Learners (FCL) program, devised by Ann Lesley Brown and Joseph Campion, is a current attempt to put Dewey's progressive education theory to work in the classroom. In sum, Piaget contributed the idea

of transformation in learning and development; Vygotsky contributed the idea that learning and development were integrally tied to communicative interactions with others; and Dewey contributed the idea that schools had to bring real world problems into the school curriculum (Allen, Duch & Groh, 2001).

Psychologists have recognized constructivism as a powerful framework for how children and adults learn and construct their own knowledge (Creswell, 2013; Daneilson, 2007; Ravitch, 2016; Rebore, 2015 & Richardson, 2003). The formalization of constructivism from within the human perspective is generally attributed to Jean Piaget, who articulated the mechanisms by which information from the environment and ideas from the individual interact and result in internalized structures developed by learners. He identified processes of assimilation and accommodation that are keys in this interaction as individuals construct new knowledge from their experiences.

When individuals assimilate new information, they incorporate it into an already existing framework without changing that framework. This may occur when individuals‘ experiences are aligned with their internal representations of the world, but it may also occur as a failure to change a faulty understanding; for example, they may not notice events, may misunderstand input from others, or may decide that an event is a fluke and is therefore unimportant as information about the world. In contrast their internal representations; they may change their perceptions of the experiences to fit their internal representations (Bruner, 2014). According to the theory, accommodation is the process of reframing one‘s mental representation of the

external world to fit new experiences. Accommodation can be understood as the mechanism by which failure leads to learning: when we act on the expectation that the world operates in one way and it violates our expectations, we often fail, but by accommodating this new experience and reframing our model of the way the world works, we learn from the experience of failure, or others' failure (Tobias & Duffy, 2009). It is important to note that constructivism is not a particular pedagogy. In fact, constructivism is a theory describing how learning happens, regardless of whether learners are using their experiences to understand a lecture or following the instructions for building a model airplane. In both cases, the theory of constructivism suggests that learners construct knowledge out of their experiences.

Constructivism as paradigm or worldview posits that learning is an active, constructive process. The learner is an information constructor. People actively construct or create their own subjective representations of objective reality. New information is linked to prior knowledge, thus mental representations are subjective. According to constructivist theory, adult learners, much like children, construct knowledge structures in their mind in a nonlinear fashion. The constructivist learning theory was used to organize and guide the research. The constructivist theory supports integrated contextual learning. That is, individuals do not learn based on isolated facts; instead, individuals learn in relationship to what is already known (Richardson, 2003). The theory of constructivism also recognizes that learning is a social activity, and that interactions with peers are an integral element of learning (Ackermann & Mitsakos, 2001; Richardson, 2003). Through opportunities for hands- on explorations, learners develop conceptual understandings.

Knowledge is created through interactions with the world, people, and things (Ackermann & Mitsakos, 2001; Fosnot & Perry, 2006). Put in another way, knowledge is actively constructed and constructed through personal experiences (Ackermann & Mitsakos, 2001; Hein, 1991; Richardson, 2003). Constructivist learning theory says that all knowledge is constructed from a base of prior knowledge. Children are not a blank slate and knowledge cannot be imparted without the child making sense of it according his or her current conceptions.

Instead of providing answers to questions, instructors in a constructivist model facilitate the learning process to enable students to build personal knowledge. Constructivist theory is characterized by a student-centered approach to learning and an engagement in dialogue, which leads knowledge creation about a topic. If necessary, direct instruction is offered. Direct instruction is strategy in which the teacher and or researcher guide the participants in how to participate in effective orientation and activities learning to help them become comfortable with the constructivist process. In contemporary times, constructivist learning can involve reference to informational texts, exploring websites, and structured opportunities for Students' to challenge change, or add to previous knowledge and develop their critical thinking (Richardson, 2003).

This study was designed to address the problem of exemption of science students in participating in Social Studies lessons in the Colleges of Education in Central Region in particular and in Ghana as whole. Based on the constructivist theory, as participants collaborate they learn through connections with new information from prior knowledge. As they plan,

implement, and evaluate, they learn through the process of inquiry (Becker, Mentzer, Huang & Park, 2012). Constructivism focuses on activities, processes, and social interaction among children and adults. To enhance the thinking phase, participants need to engage in collaborative professional development. Teachers who share the same practices, ideas, and language increase their knowledge (Ravitch, 2016; Rebore, 2015). Constructivist theorists indicate that learning is an active process that requires changes in mindset (Danielson, 2007; Richle, 2012). Constructivists do not follow a traditional curriculum. Participants in the study will be engaged in active discourses as they plan and evaluate the intervention it also encourages teachers to avoid in working in isolation. Professional learning does not take place in a vacuum hence the need to identify key practices that define constructivist learning environments: (1) Personal constructions of reality (2) Simulated authentic learning environments, (3) Multiple representations of data, (4) Active learning and (5) Collaboration.

Personal Constructions of Reality

The philosophy of constructivism is that knowledge must results from the constructive activity of each individual; it is not an entity outside of the mind one wishes to acquire (Papert 1999; Jonassen 1999 & Boudourides, 1998). What each individual constructs within their own mind is their reality. Knowledge comes from the creation of meaning that occurs as a result of life experiences. Knowledge does not come from someone else, but rather from experience. The constructivist philosophy is recognized only in so far as it determines practical teaching strategies and learning opportunities where learners internalize new experiences and knowledge into their existing

schema. "Constructivist teaching practices help learners to internalize and reshape or transform new information" (Brooks & Brooks, 1993, p. 15).

Authentic Learning Environment

Authentic learning environments occur when instruction is designed to facilitate, simulate and recreate real-life complexities and occurrences (Wolmarans, 2000). To truly capitalize upon complexities one must be willing to invite disorder, disarray, dishevelment and irregularity into our institutions. Constructivist classrooms will reverberate with the movement and sound of "building". This may disturb many regular classroom teachers, administrators, parents and even some students. We have treasured quite, order and adherence for so long that we have begun to measure learning by the existence of it in our schools. Petraglia (1998) contends that sometimes pre-authentication occurs whereby learning materials and the environment are "fixed" by the taskmaster before learner interaction occurs. Often this is to keep the student from "failing", or to save time. Learners and educators alike must recognize that there are great lessons to be learned through failure. Authentic learning is concerned with depth of learning rather than the breadth of information sucked in and then spewed out; where memorization is misdiagnosed as being well-informed. Authentic learning environments provide children with rich experiences and opportunities to construct knowledge in context, and in ways that make sense to their existing knowledge which is based on prior experiences (Cox-Petersen & Olson, 2000).

A constructivist teacher would recognize that learners need to encounter the same concept in a variety of ways and situations with vary goals and expectations in order for the learner to become competent in the

generation of, and transfer of constructed and contextual knowledge (Patraglia, 1998). Here, the emphasis is on knowledge construction, not reproduction; the composition of information rather than the imposition of knowledge; multiple outlooks rather than multiple workbooks. The teacher must prepare with imaginative foresight and imperative insight in order to stimulate effective encounters that resemble real life education. Wyld and Eklund (1997), state that; "confronting learners with problems from multiple perspectives can promote the applicability of their knowledge across varying situations. Learners have to work with the same concept in different environments at different times and with different goals. So they are expected to develop cognitive flexibility and to generate multiple perspectives of their knowledge. Hypertext systems for example can offer 'landscapes' of information which are to be entered and crisscrossed by learners in a random and individual way" (p. 144-164).

Active Learning

Active learning inherently implies a "doing". A classroom where the teacher has adopted a constructivist approach to learning expects performance and persistence from the learners. The students are expected and encouraged to generate their own ideas and knowledge by execution, exertion and expansion of the known (Mustafa, 2011). Learners cannot construct knowledge just by passively receiving, acquiring, or accepting it; or by inertly listening nor heading. Knowledge is not formed during the transmission of it. Therefore the emphasis for instruction must be on the creation of meaning and understanding while encountering new information or new contexts. Active learners need to be involved by partaking, participating, constructing and

cooperating. Active learning must happen in order for knowledge to be owned by the learner (Jonassen, 1999). Jonassen (1999), states that learners must be given opportunities to be active in ways that will promote self-direction, creativity and critical analysis of problems requiring a solution

Collaborative Learning Opportunities

The age-old adage of –iron sharpening iron is indeed true for learners in a variety of guided situations. The natural reaction of mulling over a complex problem or situation with others allows for deeper levels of reasoning, new perspectives, shared responsibilities and greater motivation to remain focused on the task (Davis, 2010). A practical implication when conversation and interaction is encouraged rather than discouraged which is more noisy, less quiet; greater movement reduced lecturing. When teachers have participated in workshops designed with this style of learning they were more likely to incorporate collaborative work opportunities in their classrooms McConney and Maor (2009) refers to Solamon, (1996). Teachers need to recognize collaboration as a viable method of creating individual meaning, rather than viewing it as a means of acquiring information from someone else. Cheating is to defraud, to take; collaborating is to build, cooperate. This action of social negotiation is beneficial and sometimes essential to acquiring specific knowledge.

Wolmarans (2000) reveals that empirical research indicates cooperative learning promotes higher achievement than competitive and individualistic learning do. Collaborative work allows for classrooms to be more cooperative than competitive. Students begin to view one another as resources rather than sources of ridicule. Strommen and Lincoln (1992 p. 43)

found that; constructivism has led to the additional discovery that powerful gains are made when children work together.... children are able to reflect on and elaborate not just their own ideas but those of their peers as well. Children come to view their peers not as competitors but as resources.

To understand a concept to the point of being able to explain it to other, is when real learning has occurred and personal knowledge has been acquired. Worldwide collaboration is also motivating for both students and teachers as it provides an appealing way for students to gain internet skills while attending to regular classroom activities (Papert 1999). Wolmarans, (2000) refers to the work of, Van Der Veen, Boer and Collis (2004) where some of the problems that have arisen in collaborative virtual learning environments are identified as: course momentum and cohesion, structuring of collaboration and communication, intergroup evaluation, workload of the lecturer.

Klemm and Snell (1996) believe that, it is not enough to memories lecture notes. Students must understand, critically evaluate, and apply instructional materials. One of the best ways for students to develop these skills is to perform tasks that can only be accomplished by these higher level learning processes. These processes are leveraged if a group works collaboratively to help each other.

Douglamas (1998) speaks of Vygotsk‘s “zone of proximal development” which argues that students can, with help from adults or children who are more advanced master concepts and ideas that they cannot understand on their own. Douglasmas identifies the characteristics of true co-operative learning environments as: positive interdependence, individual

accountability, heterogeneous grouping, shared leadership, social skills directly taught, lecturer observes and intervenes, and groups processing their own effectiveness (p. 42).

One of the main criticisms of having students work collaboratively is time effectiveness. Knowledge is increasing, out of school activities are increasing and time allotted for specific content is decreasing. The "I-will-tell-you" approach is much quicker than the "go-ahead-and-find-out". Constructivist would argue that since learners must construct their own meaning, the "I will-tell-you" content will rapidly disappear from the learners' databank, making the time spent unproductive and unprofitable at best. This has to do with the method of delivery which emphasis on mere accumulation of facts, ideas and information. The phenomenon of ***'chew, pour, pass and forget"*** is considerably minimize A common complaint among parents is concerning the practice of placing "brighter" students in groups with "slower" students, which then impedes the brighter child's progress (Douglasmas, 1998). Since the constructivist approach to learning recognizes that; the child is not a 'tabula rasa', even in such groupings the child so called the "slower" students has much to offer.

Multiple Perspectives

A classroom committed to constructivist practices would not promote solely sequential, linear-based, didactic assignment or techniques (Petraglia, 1998). In this way the teacher would not be seen as 'the knower', but would depend upon a resource-based approach where students would generate their investigations which would require access to varied and large amounts of current and static data. As students become more adept at gathering their own

resource information, they must understand the importance of evaluating data for gender, racial, religious or political biases as well as authenticity, trustworthiness and credibility (Maor. 1999).

A constructivist teacher would recognize that learners need to encounter the same concept in a variety of ways and situations with varying goals and expectations in order for the learner to become competent in the generation of, and transfer of constructed and contextual knowledge (Bybee et al., 2000).

Specific Approaches based on Constructivism

Specific approaches to education that are based on constructivism include the following:

Constructionism

Constructionism is a constructivist learning theory of instruction. It states that building knowledge occurs best through building things that are tangible and sharable (Ackerman & Mitsakos, 2009, p. 56). Constructionism advocates student-centered, discovery learning where students use information they already know to acquire more knowledge (Alesandrini & Larson, 2002). An approach to learning based on the constructivist learning ideologies presented by Jean Piaget (Harel & Papert, 1991). In his approach, the individual is consciously engaged in the construction of a product (Li, Cheng, & Liu, 2013). The utilization of constructionism in educational settings has been shown to promote higher order thinking skills such as problem-solving and critical thinking. Constructionist learning involves students drawing their own conclusions through creative experimentation and the making of social objects. The constructionist teacher takes on a meditational role rather than

adopting an instructional role. The teacher‘s role is not to be a lecturer but a facilitator who coaches students to attaining their own goals (Alexandrini & Larson, 2002).

Guided instruction

A learning approach in which the educator uses strategically placed prompts, cues, questions, direct explanations, and modeling to guide student thinking and facilitate an increased responsibility for the completion of a task (Fisher & Frey, 2010). On the other hand, guided instruction is a constructivism approach to education. Proponents of guided instruction regard learning as an active and social experience. They believe that students learn best from their interactions with the world (Fisher & Frey, 2010). With guided instructional teaching practices, the students take an active role in the educational process and the instructor acts as a facilitator of guide. With guided instruction, students learn from their experiences, making it an inquiry based or discovery-based model of teaching. According to Fisher and Frey (2010), a variety of teaching strategies fall under the umbrella of guided instruction, including but not limited to the following:

i. Discussions, including the Harkness discussion method
ii. Workshops
iii. Seminars
iv. Case studies
v. Collaborative learning
vi. Project-based learning
vii. Role-play
viii. Debate

ix. Flipped classroom

Guided instruction, like direct instruction, has both advantages and disadvantages. In terms of benefits, guided instructional practices are very student-centered and foster an active learning environment. Often time, guided instruction strategies are grounded in learning experiences that are authentic and have real-world applications. This in turn, facilitates higher-order thinking skills are engaging for students (Greenfield, 1999).

Problem-based learning

It is a structured educational approach which consists of large and small group discussions (Schmidt & Loyens, 2007), Problem –based learning begins with an educator presenting a series of carefully constructed problems or issues to small groups of students (Schmidt & Loyens, 2007). Problem-based learning is a constructionist method which allows students to learn about a subject by exposing them to multiple problems and asking them to construct their understanding of the subject through these problems. This kind of learning can be effective in various classroom situations as it assists students to solve the problems in many different ways, stimulating their minds (Hmelo- Silver & Barrows, 2006). Problem based learning can be incorporated into any learning situation. In the strictest definition of the problem based learning, the approach is used over the entire method of teaching. However, broader definitions and uses range from including problem-based learning in lab and design classes, to using it simply to start a single discussion. Problem-based learning can also be used to create assessment items. The main thread connecting these various uses is the real-world problem. The problems or issues typically pertain to phenomena or

events to which students possess limited prior knowledge (Schmidt & Loyens, 2007). The first component of problem-based learning is to discuss prior knowledge and ask questions related to the specific problems or issues. Following the class discussion, there is typically time in which students individually research or reflect on the newly acquired information and or seek out areas requiring further exploration (Schmidt & Loyens, 2007).

Any subject area can be adapted to problem-based learning with a little creativity. While the core problems will vary among disciplines, there are some characteristics of good problem-based learning problems that transcend fields (Allen, Duch & Groh, 2001):

a. The problem must motivate students to seek out a deeper understanding of concepts.
b. The problem should require students to make reasoned decisions and to defend them
c. The problem should incorporate the content objectives in such a way as to connect it to previous courses/knowledge.
d. If used for a group project, the problem needs a level of complexity to ensure that the students must work together to solve it.
e. If used for a multistage project, the initial steps of the problem should be open-ended and engaging to draw students into the problem.

According to Hmelo-Silver and Barrow (2006, p. 35) the following five strategies make problem based learning more effective:

1. The learning activities should be related to a large task. The larger task is important because it allows students to see that the activities can be applied to many aspects of life and, as a result, students are more likely

to find the activities they are doing useful.

2. The learner needs to be supported to feel they are beginning to have ownership of the overall problem.
3. An authentic task should be designed for the learner. This means that the task and the learner's cognitive ability have to match the problems to make learning valuable.
4. Reflection on the content being learned should occur so that learners can think through the process of what they have learned.
5. Allow and encourage the learners to test ideas against different views in different contexts.

Experiential learning

It is the process of learning through experience, and is more specifically defined as "learning through reflection on doing" (Fin, 2011). Hands-on learning is a form of experiential learning but does not necessarily involve students reflecting on their product. Experiential learning is distinct from rote or didactic learning, in which the learner plays a comparatively passive role (Beard, 2010). Experiential learning has significant teaching advantages. Peter Senge, author of the Fifth Discipline (1990), states that teaching is of utmost importance to motivate people. Learning only has good effects when learners have the desire to absorb the knowledge. Therefore, experiential learning requires the showing of directions for learners (Kim, 2005).

Teacher's Role in a Constructivist Environment

"Many teachers are in favour of adopting constructivist instructional approaches but are unsure of where to begin" (Bruce, 2000). In this

information age, our society is rapidly becoming knowledge-based, teachers are faced with the dilemma of too much to cover in too little time. In one hand the teacher clutches the curricula, while the other the teacher is expected to squeeze in content, academic skills, social skills, and technological skills. The role of the constructivist teacher is to create a learning environment as invigorating, interactive, immersive and informative as the life of the student outside of the time slot for academic work (Schwartz, 1999).

In the constructivist classroom, the teacher‘s role is to prompt and facilitate discussion. Thus the teacher’s main focus should be on guiding students by asking questions that will lead them to develop their own conclusions on the subject. Palmer (1997) suggests that “good teachers join self, subject and students in the fabric of life because they teach from an integral and undivided self, they manifest in their own lives, and evoke in their students, a capacity for connectedness”. Jonassen (1999) identified three major roles for facilitators to support students in constructivist learning environments:

a. Modeling
b. Coaching
c. Scaffolding

A brief description of the Jonassen major roles are:

Modeling – Jonassen (1999) describes Modeling as the most commonly used instructional strategy in Constructivist Learning Environments. Two types of modeling exist: behavioural modeling of the overt performance and cognitive modeling of the covert cognitive processes. Behavioural modeling in Constructivist Learning Environments demonstrates how to perform the

activities identified in the activity structure. Cognitive modeling articulates the reasoning (reflection-in-action) that learners should use while engaged in the activities. Educators must demonstrate or model for students how to approach issues in an interdisciplinary fashion because discipline based learning is the standard teaching structure so they will be unfamiliar with how to synthesize or integrate insights from a range of disciplines into an inclusive framework of analysis.

Coaching – For Jonassen the role of coach is complex and inexact. She acknowledges that a good coach motivates learners, analyzes their performance, provides feedback and advice on the performance and how to learn about how to perform, and provokes reflection and articulation of what was learned. Moreover, she posits that coaching may be solicited by the learner. Students seeking help might press a "How am I Doing?" Button. Or coaching may be unsolicited, when the coach observes the performance and provides encouragement, diagnosis, directions, and feedback. Coaching naturally and necessarily involves responses that are situated in the learner's task performance (Jonassen, 1999).

Scaffolding - Scaffolding is amore systemic approach to supporting the learner, focusing on the task, the environment, the teacher, and the learner. Scaffolding provides temporary frameworks to support learning and students' performance beyond their capacities. The concept of scaffolding represents any kind of support for cognitive activity that is provided by an adult when the child and adult are performing the task together (Taber, 2011).

The role of the teacher in a constructivist environment is not just viewed with a different focus, but through a distinctively different lens. The

learning that is captured within a constructivist environment is pictured as student centered, collaborative, minds-on, and authentic and action packed (Wilson, 1995). For some teachers, this rings with the magic of beanstalk growth while others will be disenchanted with a perceived lesser role of coach, facilitator or guide. Maor and McConney (1999) speaks of the implications of studies that have been completed on constructivist-oriented approaches to teaching and learning, that have substantiated the importance of changing the role of the teacher in the learning process, Maor and McConney (1999) goes on to say that, the teacher becomes the facilitator or coach. He/she does not possess all the knowledge, graciously allowing it to trickle down, to the great fortune of the learner. This may be cause for anxiety for teachers as uncertainty develops and envelops their new role.

Murphy (1997) discusses how important it is for the teacher to utilize errors as a way of providing feedback for the learner's understanding. Petraglia (1998) claims that in a constructivist environment; the best hope for the educator is in the possibility of intervening in the learning that occurring, rather than being in charge of the act of learning. If teachers desire to intervene in the learning game, they must be aware that they are not the one in possession of the puck.

Constructivist teachers must create opportunities for peer scaffolding and teacher-directed scaffolding which is the process of allowing interaction that stimulates knowledge building, and therefore bridges differences of knowledge levels within a classroom. Wilson (1995) has that: As the teacher relinquishes control over content, pacing, and specific activities, students need corresponding increases in decision and performance support. Poorly planned

learning environments are vulnerable to failure due to lack of support, leaving students feeling stranded and faced with unreasonable performance expectations. This problem is complicated by the fact that learners differ dramatically in their need for support.

Dougiamas (1998) and Papert (1998) see constructivism as teaching with an approach that seeks opportunities for students to analyze, investigate, collaborate, share, build and generate based on what they already know, rather than store away facts, skills, and processes they can later parrot. The use of metaphors during instruction is encouraged. This is because; constructivism emphasizes understanding instead of the mere accumulation of facts, ideas and information. It does not encourage learning by rote. The phenomenon of ***'chew, pour, pass and forget"*** is considerably minimized. For effective realization of this purpose, Dougiamas (1998) and Maor and McConney (1999) believe that a teacher needs to be a learner and a researcher. Giving teachers the opportunity to work as a learner, helps them overcome anxieties about novel situations. This provides the impetus for epistemological change within the profession.

In spite of these benefits of the theory of constructivism, a common misunderstanding regarding constructivism is that instructors should never tell students anything directly but, instead, should always allow them to construct knowledge for themselves. This actually is confusing a theory of pedagogy (teaching) with a theory of knowing. Constructivism assumes that all knowledge is constructed from the learners' previous knowledge, regardless of how one is taught. Thus, even listening to a lecture involves active attempts to construct new knowledge.

Summary of Review of Relevant Literature

This review explored both theoretical and empirical perspectives of literature related to the research topic. Conceptually, the review touched on the concept of Social studies, its meaning, nature, scope and purpose. The theoretical perspective covered broadly the constructivism theory of learning and expounded further to look at the practices that define constructivist learning environment: thus, personal constructions of reality, simulated authentic learning environments, multiple representations of data, active learning as well as collaborative learning.

The Social Studies programme, as a field of study, and with its main focus on citizenship education, was introduced into the Ghanaian curriculum way back in 1940 (Boadu, 2012). During this time, the teaching of the discipline was experimental in three main training colleges namely the Presbyterian Training College (Akropong), Wesley College (Kumasi) and Achimota Training College (Accra). The experiment was not allowed to blossom due to un-examinable nature of the subject as well as negative perception of teachers and students toward the subject (Agyemang Fokuo, 1994).

With the 1987 educational reform being the outcome of the 1987 Education Reform Committee which also was on the basis of the recommendation of the 1972 Dzobo committee, re-introduced Social Studies at the Junior Secondary schools as a replacement of the middle schools' History and Geography. Again Social Studies was also introduced at the Training Colleges as elective to train more teachers for the junior secondary schools.

The numerous definitions of Social Studies demonstrate that Social Studies is an integrated field of study, though educators in the field have been divided when it comes to the issue of definition since its inception (Ravitch, 2003). The core purpose of Social Studies is citizenship education. Whether Social Studies is looked at from the perspective of issue based or concern based, the scope emphasizes pressing issues or challenges facing students in local, national and international areas. The fundamental purpose of Social Studies is the development of competent citizen, who needs knowledge, skills and desirable attitudes and values to function effectively in his her civic life in his/her local community, nation and the world at large. Social Studies teachers' perception is that the subject is integrated already hence cannot be infused with other subjects. For this reason, they often teach in isolation from the other content areas, but cross-curricular content helps students see the connection between class work and their everyday lives. Science and Social Studies contents often overlaps; for instance, when addressing standards around human impact on the environment or the impact of weather patterns and geological events on people. How do governments and people prepare for these events? How does policy affect our planet? How can drought lead to conflict? The possibilities are endless.

Students will be able to describe the difference between renewable and nonrenewable resources because they would understand the scientific as well as social benefits. Students will be able to identify the raw materials used to make most of the products they use as they would be abreast with both scientific processes as well as its benefits to man. A current trend in Social Studies education is concern about the relationships of Science and technology

to human societies in the past and present. The National Council for the Social Studies and the Social Science Education Consortium, for example, have sponsored activities and publications to bring about improvement in teaching and learning about science and technology as powerful shapers of our modern world. Other advocates of education about science and technology in society include the National Science Teachers Association, Carnegie Foundation for the Advancement of Teaching, American Association for the Advancement of Science and the National Endowment for the Humanities (Hickman et al., 1987).

Ability to connect information and ideas within and between academic disciplines and to link different fields of knowledge is a key to high-level understanding of social reality. Education for responsible an competent citizenship in increasingly complex technological society requires that students be able to synthesize and apply knowledge from many disciplines. Every discipline in the Social Studies can be basically connected to content on Science and technology in society. To ignore this reality will limit students' abilities to comprehend their world and to act effectively within it (Patrick et al., 1985).

Libler, Schlee and Shriner (2010) believed that an integrated curriculum applies skills and vocabulary from more than one subject area to examine a central topic. Integrating the curriculum is an incredibly important issue in the field of education. As mentioned by Campbell and Henning (2010), knowledge today is becoming more interdisciplinary and integrated, which calls for more interdisciplinary and integrated learning in public schools.

It is important to evaluate the subject of integrated curriculum in education. Classroom lessons that incorporate integrated curriculum can be effective alternatives to the traditional subject-by-subject curriculum. Engaging the students frequently is emphasized for effective curriculum and instruction. In integrated lessons, student's voices are valued, and students have some ownership over their education (Mills & Lehman, 1996). The curriculum is student centered. Students learn about relevant subjects in their entirety and make connections to the real world (Watkins & Kristonis, 2011)

According to Watkins and Kristonis (2011), there is a human need for meaning in life which is met with the integrated curriculum. An integrated curriculum involves compelling life concerns, engages a wide range of knowledge, poses opportunities for in-depth work, and presents possibilities for personal and social action (Ingram, Virtue & Wilson, 2009).

Much discussion is being devoted in current educational circles to the notion of integrating curricular areas in order to foster a sense of the relationships among subjects and skills in the curriculum. It seems then that educators are realizing the potential of making meaningful relationships among learning areas in order for students to be more able to recognize the integrated way in which knowledge is used and viewed in the world. It also seems that we are beginning to acknowledge that making connection with young people may actually reinforce skills and understanding more effectively than teaching in isolated content areas. Students who have the opportunity in schools to relate learning to real-life experiences, in their own lives and in the lives of their community and society, may be more cable of making new connections between previously learned material and new ideas (Jacob, 1989).

During the inaugural lectures in the University of Cape on 14th of October, 2018, Professor Kankam Boadu, a Professor of Social Studies Education at the University of Cape Coast (UCC) in calling for more attention to be paid to ensure the effective teaching of Social studies in schools advocated strong case for the country‘s educational curriculum to be integrated and designed in a way that would focus on problems and issues that are connected with real life situation. He added that “learning is more effective when facts and principles from one field are related to another, especially, when applying knowledge” (Kankam 2018).

The constructivist approach to teaching and learning emphasize that regardless of the philosophy or theories attached to specific teaching methods, all educators should strive towards building educational opportunities that are authentic and challenging, where students are actively involved and allowed at all times to collaborate. Educators should also design their instructional methods in ways that allow for multiple perspectives of targeted concepts to occur and this is exactly what the integrated curriculum advocates (Kankam, 2018).

CHAPTER THREE

RESEARCH METHODS

Introduction

This chapter focuses on the research techniques and methods used to collect information on the study. According to Obanya, (2004), methodology is the most crucial aspect of the piece of work, in the sense that teaching embraces so many different kinds of processes, behaviours and activities and for that matter has been described as an attempt in examining how teachers help someone to acquire a skill, attitudes, knowledge and experience. Precisely how they create desirable changes in behaviour is the methodology. The method seeks to relate Social Studies concepts to those in Science as well as drawing out the similarities and differences in terms of knowledge acquisition. The chapter deals with research design, study area, population, sample and sampling procedure, data collection instruments, data collection procedures and data processing and analysis plan.

Research Design

The study employs the descriptive survey, which is non-experimental. According to Rubin and Babbie (2001) descriptive 'study is study in which your primary goal is to assess a sample at one specific point in time without trying to make inferences' (p. 247). The Descriptive survey design is the research design which deals with specifying the nature of a phenomenon and tries to find answers to the research questions. Descriptive study investigates the relationship between non-manipulated variables in an existing

phenomenon, in this case, integration of Social Studies with the teaching of Science. It is also non-experimental.

Leedy and Ormrord (2002), reiterated that the type of research study that fall under the broad heading descriptive quantitative research are such that they either identify the characteristics of an observed phenomenon or exploring possible correlations among two or more phenomena. In this case the relationship between Social Studies and Science teachers' perceptions. In any case, descriptive research examines a situation as it is. It does not involve changing or modifying the situation under investigation. The purpose of descriptive research is to observe, describe and document aspect of a situation as it naturally occurs. I chose this design because it provides a clear definition of the problems to be solved or the questions to be answered. It serves as a starting point for hypothesis generation. The study made use of this type of method due to the fact that is the best design for reporting variables of this kind in a natural setting or the way things are (Gay, 1992). It basically makes inquiries into the status-quo and attempt to measure what exist without questioning why it exists (Ary, Jacobs, & Raszvieh, 1996). It is a design that can be used to take much information on a large number of people within a short period of time.

Although this design is good to work with, and gives detailed description of phenomenon, it is associated with some demerits. It is easily influenced by distortions as result of biases in its measuring instruments. Due diligence should be given to the construction of the instruments to avoid such biases.

Study Area

The study took place among Social Studies and Science tutors of three colleges found in the Central Region of Ghana. These colleges are Foso College of Education, Ola College of Education and Komenda College of Education respectively. Geographically, Ola College of Education is situated at the heart of the regional capital, Cape Coast with Foso and Komenda Colleges located in Municipal capitals of Assin North and Komenda, Eguafo Ebra Assembly respectively. These colleges are found in the southern part of Ghana, and specifically found in the Central-Western zone. Again, all these colleges are teacher training colleges with Foso and Komenda being mixed sex institutions, Ola is a single sex institution with only female teacher trainees. The study area is located in the southern part of Ghana. In terms of population, these colleges almost have the same intake as its leadership work based on directives (quota system) from government. However, the composition of male to females in the mixed sex institutions may differ depending on course structure as well as availability of accommodation facilities in these colleges.

Population

The target population consisted of Thirty (30) Social Studies and Science tutors from the three Colleges of Education in the Central Region of Ghana. The target population for the study was all college tutors whose ages ranged between 30 to 60 years with as much as 21 being males and 9 being females. The current educational background of the accessible population ranged from masters to doctorate degrees. Their years of experiences also ranged from 5 years to 30 years. The researcher decided to use the entire 30

tutor population of Social Studies and science from within the three Colleges of Education in the Central Region because the number was not too large to take a sample of it. According to Nwana (1992), when the entire population size is small, drawing a sample from it results in an even smaller number and the changes of selecting members whose characteristics are different from those of the entire population are greater. In other words, the investigator can get more erroneous results when sampling from a small population than sampling from a large population (p. 59). The accessible population reflects the characteristics of the target population in the area of the caliber of students they handle as well as the subjects they teach. Table 1 indicates the respective colleges and their population.

Table 1: Population of the Study

College	No. of Social Studies Tutors	No. of Science Tutors
Foso College of Education	3	7
Ola College of Education	3	8
Komenda College of Education	3	6
Total	9	21

Source: Field Data, 2018

Sample and Sampling Techniques

The study was conducted on all Social Studies and Science educators in the Colleges of Education in the Central Region, thus Foso College of Education, Ola College of Education and Komenda College of Education as well as forty college students selected through purposive sampling technique respectively used for the observational study. A purposive sample is a non-probability sample that is selected based on characteristics of a population and

the objective of the study. Those students selected met the characteristics in terms of age, education as well as subject specialization. With respect to the tutor population, when the sample is sizable enough for the study, the entire population must be used for the study; hence census approach was applied here. Shepard and Greene (2003) defined census as-the procedure of systematically acquiring and recording information about the members of a given population. Census can be contrasted with sample in which information is obtained only from a subset of a population, sometimes as interdental estimate census data is for sampling surveys (p. 22).

This method was chosen because the information required for the study can only be conveniently and best provided by the respondents and this will help the researcher to obtain more detailed, accurate and unbiased information for the study. All the tutors for Social Studies and Science were selected for the study because, according to Nwana (1992), when the entire population size is huge, sample technique must be applied. On the other hand, if is small, drawing a sample from it will results in an even smaller number and the chances of selecting members whose characteristics are different from those of the entire population are greater. Hence the census approach or the complete enumeration was adopted for the study; on the other hand, with regards to the students for the observational study, the purposive random sample technique was adopted to select a class of students for that purpose.

Research Instruments

Triangulation enhances the credibility and validity of a study, because multiple types of data collection tools are used (Stringer, 2014). In this study, the researcher used three instruments namely questionnaire, interview guide

and observation checklist in the collection of data. The questionnaire, semi-structured interview questions as well as the items on the observation checklist was self-designed through expert judgment by my supervisors to cover the relevant themes in the study. Despite its limitations such as limited to literate population, questionnaire was used as one of the main instruments for this study because the respondents can read (Amedahe & Gyimah, 2008). Highly structured, closed-ended questions are useful in that they can generate frequencies of response amenable to statistical treatment and analysis. Closed-ended questions and few open- ended types of questions were also adopted.

In his opinion, Oppenheim (as cited in Cohen, Manion, & Morrison, 2007) stated that questionnaires enable comparisons to be made across groups in the sample. These closed-ended questions which may be dichotomous, multiple choice questions, contract sum and rating scale are quick to complete and straight forward to code them. These can be done using the Statistical Product for Service Solution. Irrespective of the above, there is a demerit associated with the closed ended questions being that, they do not enable respondent to include remarks, qualifications and explanations to the categories and there is a risk that the categories will be exhaustive and there might be bias in them (Oppenhem as cited in Cohen et al., (2007, p. 321-322). The questionnaire was made up of five major sections as follows:

Section A of the questionnaire was the bio-data consisting of seven items for tutors. The items included the colleges of respondents, age, sex, highest academic qualification, institutions of training of tutors and years of teaching experience. The purpose of these items was to find out the background characteristics of teachers related to the teaching of Social Studies

and Science. Section B of the questionnaire also consisted of seven items aimed at investigating the perception of tutors' in integrating Social Studies with the teaching of Science in their classroom.

Section C was made up of seven items and these items were crafted to look at the strategies that account for the use of integration of Social Studies with the teaching of Science. Section D comprised ten items which also spelled out the factors that might hinder tutors' use of integration in the College of Education. Section E made up of 8 items also examined the relevance of integration of subjects (integrated curriculum) in the Colleges of Education. The four Point Likert-scale types of items were used. Respondents were asked to indicate whether they strongly agree, agree, disagree and strongly disagree to statements that were formulated in the questionnaire. The four-point format was used because of the recommendations of McMillan (1996) who contents that there is tendency of individuals to select responses in the centre of the scale if an odd number is used.

Again, semi-structured observation which employed a loosely organized and the process of observation is largely left up to the observer to define, was used to observe the use of integration in lessons. Thus, the researcher sat personally in class of subject teachers to observe three different instructions on the following topics; Energy, Water and Environmental Degradation to determine the level of integration made and determined the level of learning that has taken place in the class after the collaborative sessions of preparation before the teaching segments with their colleagues. The collection of data through the observation was done by observation checklist designed with the help of the University of Cape Coast standard

instrument observation checklist. Prior to the observation lessons, pretest was administered and the said test was again administered after the observation. The essence of the test was to test the efficacy of the approach adopted for the study. The observation concentrated on research question one (1) what is the perception of tutors in integrating Social Studies with the teaching of Science in colleges of Education?

A semi-structured interview was adopted as it gives the researcher the opportunity to probe further into the discussion. This is because; the semi-structured interview has no restrictions in the wording of the question, the order of question or the interview schedule. The interviewers have the discretion to form questions on the spot, probe into issues and in some cases follow the order dictated by the situation. These also served as an avenue for discussion as well as a follow up for the questions. The semi-structured interview items were constructed in line with the research questions thus, it captured research questions one (1) What is the perception of tutors in integrating Social Studies with the teaching of Science in the College of Education?‘ and three (3) What are the factors hindering tutors‘ use of the integration in the Colleges of Education?‘ The items for semi-structured interview sessions were administered on the same selected tutors who took part in the observation lessons and 30% of the student population for the observation study. This was based on the recommendations of Kumar 2005. Kumar, (2005) averred that with a population of 40 and below, 10-60% could be selected for the study.

Pre-Testing of Instruments

In order to ascertain the validity and reliability of the questionnaire it was field tested at Akrokerri College of Education in the Ashanti Region. Pre-testing was conducted to ascertain any need for modifications of items. Akrokerri College of Education was selected for the Pre-test because it shared many common characteristics (such the caliber of students they handle as well as the programmes they run) with the three selected Colleges of Education for the main study. The importance of pre-test has been addressed by various writers. Bryan (2004) asserted that it "ensures that the instrument as a whole functions well" (p. 159). in support, Cohen, Manion and Morrison (2005) emphasized that "there is the need for the researcher to select appropriate levels for which to test the independent variables in order for differences to be observed and to identify possible snags in connection with any aspect of the investigations" (p. 215-216). Based on these principles, sample questionnaire for Social S tudies and Science teachers with similar characteristics as those for the actual study was administered. The reliability of the questionnaire was tested by the use of Cronbach's Alpha method.

Result of the Pre-Test

Results from the pre-test were of tremendous help to the research. It revealed weaknesses in the wording of some of the questions which could have disturbed the meaning of the responses. Responses to some of the items and some suggestions from the teachers helped to identify the items that were unclear. These enabled the researcher to arrive at the final instruments that were used for the study. The test of the reliability and validity of the instruments, frequencies and percentages were used to administer each tutors

competency level in applying integrated curriculum in teaching Social Studies and Science in interdisplinary manner. The reliability of the questionnaire was determined through the use of Cronbach Alpha method. Cronbach Alpha reliability co-efficient showing internal consistency of the items on the questionnaire for the tutors was computed to be 0.89. This was deemed good based on Fraenkel and Wallen (2000) view that if the reliability co- efficient value is .70 and above then the instrument is reliable and of good quality for collecting data for study.

Validity and Reliability of Instruments

Validity is a measure of how well a test measures what it is purposed to measure. Validity is the accuracy and meaningfulness of inferences which are based on the research. Assessment of content and construct validity was achieved by the use of non-statistical approaches including peer and/or expert review and was also pilot tested (Cohen, Manion & Morrison, 2007). The pre-testing was done in Akrokerri College which helped in achieving validity as it resulted in correcting and appropriately adjusting areas of weakness in relation to the topic under study. The study supervisors were also involved in scrutinizing the questionnaire and the test items to ensure face and content validity.

Reliability on the other hand is defined as a measure of how consistent the results from the test are. It is a measure of the degree to which a research instrument yields consistent results or data after repeated trials (Cohen et al., 2007). A reliable instrument is one that produces consistent results when used more than once in the process of data collection. The reliability of the instruments was determined using Crouchback‘s alpha analysis. Such

reliability values, according to Cohen et al., (2007) and Fraenkel and Wallen, (2008), give a fair indication of a good internal consistency for reliable instrument. Hence, all the alpha levels were applied to all the instruments.

Data Collection Procedure

The survey was conducted on tutors of Colleges of Education in the Central Region, thus Ola, Komenda and Foso. In administering the questionnaire, a letter of introduction was taken from the Department of Basic Education, University of Cape Coast. This letter was sent to the selected Colleges of Education for permission in order to enable the researcher to have easy access to the Social Studies and Science teachers within the college. The selected teachers were informed of the purpose of the study as well as their anonymity and confidentially were assured. Thirty (30) copies of the questionnaire were distributed to all Social Studies and Science teachers in the three selected colleges for the study. The collection of data through the observation was done by the use of report writing where information from the observation was written verbatim in summary or in key words.

Semi-structured interviews in which the questions are not fully predetermined were employed as the third instrument. The questions were strictly based on the questionnaire. The semi-structured interview schedule made room for adjustments as the need arises. According to Harding (2013), if a relationship has been developed between the researcher and participants, the interviews are more apt to provide useful data. The results from the interview for tutors on instructional content, methodology and pedagogical strategies designed to improve student understanding of concepts as well as students interviews on methodological and pedagogical strategies employed

for instruction and their impact on understanding of concepts were transcribed verbatim and coded based on Harding (2013) constant comparative method. The purpose was to determine the perception of tutors on the integration of Social Studies with the teaching of Science in the Colleges of Education and the factors that might hinder the use of integration among college tutors. The data collection exercise started on 1st April to 31st May, 2019. Thus, the data collection exercise lasted for a period of two months. The said data was collected by the researcher with the help of other two trained assistants sequentially. Some of the challenges encountered by the researcher included delay on the part of tutors to complete the questionnaires as well as the lack of commitment on the part of the tutors for the observational studies.

Ethical Consideration

For ethical issues that borders around this particular intended study, Ethical clearance form was sought from the Institutional Review Board of the University of Cape Coast before the researcher embarked on the study. This addressed all the protocol procedures that borders on confidentiality, trust, justice and moral issues.

Data Processing and Analysis Plan

The data obtained was organized into various themes and categories (six sections) based on the research questions of the study such that each section provides answer for each of the research questions. Prior to coding and tabulating the questionnaires for analysis, all the items were checked for corrections. This helped greatly to determine if the instruments have been followed uniformly and whether all items had been responded to. These responses to the questionnaires were then coded by assigning numbers to the

various categories of responses for the purposes of analysis.

A short list was also prepared from a master list of responses for the open ended items in order to get the key responses that were given by the respondents. This followed the preparation of a sheet showing the coding scheme. This helped to provide interpretation for the variables in the analysis. Variables such as sex, gender, age range, academic qualification, teaching experience as well as subject of specialism were analyzed in terms of frequency count (percentages), means, standard deviations, and Pearson Product Moment Correlation were considered. After checking for accuracy, the questionnaires were coded. The data was cleaned by examining them for any errors before finally analyzing them using the latest version (25) of SPSS. Thus, the data processing and analysis in conclusion followed this pattern. The Pearson‘s correlation was used to < test the hypothesis one. This was used to determine whether there existed any relation between Science and Social Studies tutors’ perception about integrated study of Science and Social Studies. A correlation coefficient of - 1< r < 0 implied the two disciplines being dealt with are inversely related. A correlation coefficient of 0< r < also implies a direct relationship exist between the two disciplines dealt with. A correlation coefficient of one (r=1) implied there is a relationship that exist between the two disciplines dealt with in the study. In addition to that, means and standard deviation were also used to discuss teachers’ perception of the integrated curriculum of Social Studies and Science in the Colleges of Education, strategies for teaching integrated lessons as well as relevance of the use of integrated curriculum.

An observation was used to capture as much data as possible to develop an accurate account of what occurred in teachers' classrooms. A checklist (see Appendix B) of these categories was created and used during the observations to gather data. The results from the observation were analysed with the help of mean scores.

The semi-structured interview was conducted face to face with participants in their own classrooms to provide a setting that is familiar to the respondents. Due to the fact that the researcher had previously established rapport with the teachers because we either teach in the same college or were colleagues and we have had several interactions in the past. However, the researcher was more careful during the interview to make sure that anything heard did not bias the analysis. The questions for the semi-structured interview are labeled Appendix C and D respectively for both teachers and students. The analysis of interviews followed the protocol identified by (Harding, 2013). This process is called the constant comparative method. The constant comparative method was used to identify both similarities and differences within the data set. After all interviews were finalized, research findings were identified, descriptive summaries addressed similarities and differences in relation to the study's research questions. The details of the data analysis are presented in chapter four.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

The chapter presents the analysis and interpretation of the findings of this study. The purpose of the study was to assess the possibility of integrating Social Studies into the teaching of Science in the Colleges of Education in the Central Region. Descriptive survey which was non-experimental design was used. The purpose of descriptive research is to observe, describe and document aspect of a situation as it naturally occurs. The researcher chose this design because it provides a clear definition of the problems to be solved or the questions to be answered. The analysis and interpretation of data were carried out based on the results of the research questions set for the study. The analysis was based on the 100% return rate data obtained from 30 tutors selected for the study. The quantitative data were analysed using inferential statistics (Pearson Product Moment Correlation, PPMC) and descriptive statistics (means-M, standard deviations-Std. D, frequencies, f, and percentages, %). The qualitative data was from the interview conversations which were transcribed verbatim. After the interviews were transcribed, the coding process began by selection, separating and sorting data. Key words and phrases were underlined to make note of what was interesting in each interview. The first part of this chapter describes the demographic characteristics of the respondents. In the second part, the research findings are presented based on the research questions formulated for the study.

Description of Respondents

This section discusses the background information of respondents. These include the respondents' colleges, ages, sex, academic qualification, areas of specialty and years of teaching experience. Table 2 shows the description of respondents.

Table 2: Distribution of the Respondents by Colleges

Variable Colleges	Subscale	Freq.	Percent %
	College Ola of College of Education	11	36.7
	Foso College of Education	10	33.3
	Komenda College of Education	9	30.00
	Total	30	100.0

Source: Field Data, (2019)

Table 1 displays the total respondents drawn from the three Colleges of Education for the study. From the Table 1, out of the three colleges, Ola College had the highest number of respondents (n=11, 36.70%). Foso College followed suit with second highest in terms of respondents (n=10, 33.30%). Komenda College of Education tutors were least represented by (n=9, 30%). In ascertaining the qualification, the results indicated all the tutors used for the study were master degree holders. From the above, there is clear inference that Ola has enough tutors to handle Social Studies and Science with Komenda having the least tutors to handle the subjects under study adequately with all conditions being the same. Table three displays the age group of the respondents drawn for the study fell.

Table 3: Distribution of the Respondents by their Age Range

Variable Age Range	Subscale	Freq.	Percent %
	30-35	3	10.0
	36-40	16	53.3
	41-45	6	20.0
	56-60	5	16.7
Total		30	100.0

Source: Field Data, (2019)

The questionnaire administered asked respondents to indicate their ages. Majority of the respondents from the three colleges used for the study fell within the age bracket of 36 – 40 (n=16, 53.3%). The tutors who were within 41-45 years followed with (n=6, 20.0). Those within the range of 30 – 35 were the least represented with total number of 3 constituting (10%). With majority of the respondents falling within the age bracket of 30 – 40 , it presupposes that greater part of the respondents are in their productive years and therefore have quite a longer period of time to experience a lot of reforms in education. Again, it could also be deduced that since sizeable number of the respondents are 50 years and above, much of the information about the relevance of integration of Social Studies with Science would be provided by them. Again the number of years of teaching repositions them so well for the study.

Table 4: Distribution of the Respondents by their Sex

Variable Sex	Subscale	Freq.	Percent %
	Male	21	70.0
	Female	09	30.0
Total		30	100.0

Source: Field Data, (2019)

Table 4 reveals that out of 30 respondents 21 (70.0%) were males while 9 (30.0%) were females. This distribution depicts that, Social Studies and Science as areas of study are predominantly taught by males. Notwithstanding the high number of male tutors in the Colleges of Education, the assessment of the use of integration to the teaching of Science and Social Studies would not be necessarily influenced by gender, since experience, intention; educational needs and understanding are the determinants of integrated curriculum as an approach to teaching.

The data displayed on table 4 depicts the institution of respondents' latest training. The information is necessary as to determine the extent of competency of respondents to handle either Social Studies or Science.

Table 5: Institution(s) of Tutors' Training

Variable Institution	Subscale	Freq.	Percent %
	UCC	19	63.3
	UEW	6	20.0
	Others	5	16.7
Total		30	100.0

Source: Field Data, (2019)

Table 5 depicts the institution of respondents' latest training. It however reveals that out of the 30 respondents, 19 (63.3%) had their training in the University of Cape Coast with 6 (20.0%) having University of Winneba, as the institution of their training. All the other institutions (private as well as universities overseas) combined produced 5 tutors representing 16.7%. These indications however, substantiate the fact that all respondents were educationally biased and therefore well positioned to handle the subjects selected for the integration with professional touch it deserves.

Table 6 below indicates the number of years taught by respondents. Obviously, years of service are necessary as its impact on experience which is a determinant of the use of integrated curriculum of any kind. The results gathered are displayed below.

Table 6: Distribution of the Respondents by their Years of Teaching Experience

Variable Years of experience	Subscale	Freq.	Percent %
	Below 10	5	16.7
	11-20	14	46.7
	21-30	11	36.7
Total		30	100

Source: Field Data, (2019)

Table 6 shows that 14 (46.7%) tutors had served for period of 11 years and above while 11 (36.7%) respondents had working experience ranging between 21 to 30 years. Obviously greater parts of the respondents have worked for longer periods which accumulate into experience as a necessary determinant of the use of integrated curriculum.

Analysis of Hypothesis One

Research Hypothesis One: There is no Relationship between Social Studies and Science teachers' perception about integrated curriculum in teaching Social Studies with Science.

What is the level of relationship that exists between Social Studies and Science teachers on the perception of tutors in the use of integrated curriculum in teaching Social Studies with Science? Science and Social Studies content often overlaps; for instance, when addressing standards around human impact on the environment or the impact of weather patterns and geological events on people.

This research hypothesis was meant to explore the relationship that exists between Social Studies and Science teachers on the perception of tutors in the use of integrated curriculum in teaching Social Studies with Science. To derive out this, Pearson Product Moment correlation was used for the analysis. In the analysis, correlation (r) was used to determine the degree and the direction of a relationship between the variables (Social Studies teachers' perception and Science teachers' perception). Correlation coefficient (r) values from 0 to 0.39 indicated a low correlation between the variables, from 0.4 to 0.59 which indicates a moderate correlation between the variables and values from 0.6 to 1.0 indicates a strong correlation. The findings are presented in Table 7.

Table 7: Relationship between Social Studies and Science Teachers' Perception about Integrated Curriculum in Teaching Social Studies with Science

Variables		SSTP	STP	Remarks
SSTP	PPMC value (r)	1	.819**	Positive Strong Relationship
	Sig. (2-tailed)		.000	Significant
	R^2	.723		Strong R-Square
	N	30	30	Sample Size
STP	PPMC value (r)	.819**	1	Positive Strong Relationship
	Sig. (2-tailed)	.000		Significant
	R^2	.723		Strong R-Square
	N	30	30	Sample Size

Source: Field Data (2019) **. Correlation is significant at the 0.01 level (2-tailed)
Key:
SSTP – Social studies Tutors Perception
STP – Science Tutors Perception
PPMC – Pearson Product Moment Correlation

The results in Table 7 revealed that there was a statistically significant positive relationship between Social Studies and Science teachers' perception about integrated curriculum in teaching social studies with science (r =.819**, r^2=.723, n=30, p=0.000). In other words, the results give evidence that Social Studies and Science teachers' perception can positively influence integrated curriculum in teaching Social Studies with Science.

The r-square statistic (r^2=.723) indicates the percentage of the variance in the dependent variable that the independent variables explain collectively.

R-squared measures the strength of the relationship between model and the dependent variable on a convenient. The r^2 of the correlation is .723 which explains that 72 percent in correlation between Social Studies and Science teachers' perception about integrated curriculum in teaching Social Studies with Science. The r^2 suggests that the relationship is positively strong. Practically, the obtained result from PPMC computations means that apparently, there is higher Social Studies perception about integrated curriculum in teaching Social Studies with Science, likewise the Science teachers and vice versa.

These analyses substantiate the views of Lee (2004), on perception of Science teachers regarding the integration of Science into the Social Studies education curriculum which revealed that many Science teachers hold positive attitudes toward the integration of Science into the Social Studies education curriculum. Many Science teachers believe that Social Studies plays a big role in Science. Scientists are historical figures, and their contributions are significant to science in many ways; for example, astronomers who discovered how the earth fits into our solar system and Thomas Edison are many inventions that advanced both science and humanity. Geography and the study of natural resources and land forms are closely tied and can be taught together as well. Science holds many possibilities for learning Social Studies. Again, the qualitative data from the interview with tutors of Science and Social Studies confirmed this strong positive relationship in their perception regarding integrated study of Science and Social Studies.

Analysis of Research Questions (Q1-Q4)

To accomplish the purpose of the formulated research questions (Q2-Q4), descriptive statistics (means and standard deviations) were used to analyse the data. In the analysis, means provided the summary of the responses from tutors and the standard deviation indicated whether tutors responses were clustered to the mean score or dispersed. Standard deviation ranged from 0 to 1. Where the standard deviation is relatively small (within 0), the respondents responses were believed to be homogeneous (similar responses). On the other hand, where the standard deviation is relatively large (within 1), the tutors responses were believed to be heterogeneous (dissimilar responses). A mean of 2.50 and above indicates respondents' positive perception of the variables under study while a mean of 2.49 and below indicates a negative perception towards variables under study. To obtain the mean value of 2.5, the scores were added together and divided by 4 (i.e. (4+3+2+1) ÷ 4=2.5). The mean was used to find the differences among groups in terms of variables of interest. The mean is equally a good measure of the average when a data set contains values that are relatively evenly spread with no exceptionally high or low values. The findings are presented on Table 8, 9, 10 & 11.

Research Question One: What are the perceptions of tutors in the use of integrated curriculum in teaching Social Studies with Science in the Colleges of Education?

Perception is the way one regards something and one's belief about what it is like. A person's perception is his or her ability to notice and understand things that are not obvious to other people. The main purpose of

this research question was to determine the perception of tutors in the use of integrated curriculum in teaching Social Studies with Science in the Colleges of Education. To find out this, means and standard deviations were deemed appropriate for the analysis. The results are presented in Table 8.

Table 8: Results on the Perception of Tutors in the Use of Integrated Curriculum in Teaching Social Studies with Science in the Colleges of Education

	TV=2.50		Skewness	MR
	M	Std. D		
Tutors with subject specialty turn to lose their identity with integrated Curriculum	3.73	.401	-.583	1st
Subject language barriers might militate against integration	3.63	.490	-.583	2nd
Integration would require alteration of courses in subject areas	3.46	.507	.141	3rd
Difficulties are envisaged with integrated study of any kind	3.44	.503	.141	4th
Broader perspectives offer by integration enriches educators in their work	3.42	.504	.283	5th
Integrated study does offer the best window for making sense of the World	3.26	.449	1.112	6th
Students make connections that are meaningful between different disciplines	3.10	.305	-.583	7th
Mean of Means/Std. D	3.43	.451		

Source: Field Survey, (2019) (n=30)
Key-M=Mean, Std. D, Standard Deviation, TV= Test Value, MR=Mean Rank

Table 8 presents the results on the perception of tutors in the use of integrated curriculum in teaching Social Studies with Science in the Colleges of Education. The results give evidence to believe that, generally, college

tutors share similar views on the integrated curriculum in teaching Social Studies with Science. This was evident after the mean of means was greater than the test value of 2.50.

For example, most of the tutors hold the perception that tutors with subject specialty turn to lose their identity with integrated curriculum *(M=3.73>2.50, SD=.401, n=30).* The tutors further share the idea that disciplinary language barriers might militate against integration (*M=3.63> 2.50, SD=.490, n=30).* Integration might require alteration of courses in discipline areas was also perceived by the teachers ***(****M=3.46>2.50, SD =.507, n=30).*

In another perspective, majority of the tutors were of the view that difficulties are envisaged with integrated study of any kind ***(****M=3.44>2.50, SD=.503, n=30).* Broader perspectives offer by integration enriches educators in their work was one of the great perception held by the tutors in all the Colleges of the Education sampled for the study *(M=3.42>2.50, SD=.504, n=30).* In another account, the tutors postulated that *Integrated* study does offer the best window for making sense of the World *(M=3.26>2.50, SD=.449, n=30).* Finally, the tutors held the idea that students make connections that are meaningful between different disciplines *(M=3.10>2.50, SD=.305, n=30).* These perceptions were in line with the views of Linga and Yost (2007) who reiterated that a major driving force behind integrated teaching and learning is the belief that when themes, subjects, or projects are combined students begin to see meaningful connections between the subject matter as material then serves as a vehicle for learning rather than simple pieces of information. It is important to understand that curriculum integration

is an idea that has a strong historical background. Disciplines were created in an attempt to organize the world around them; sometimes this was motivated by political means (Beane, 1991).

Again, in a study by DeCorse (1996) who interviewed five teachers asking for their views on integrated curriculum, he reported that students recognized connections between content, remembered what they did during one class, and applied their knowledge to what they learned later. Teachers also reported that they believed an implemented integrated curriculum was much more student centered. Students could develop individual self-efficacy through the delivery of integrated curriculum. Peer tutoring also evolved, especially during teacher‘s and students’ discussions. Besides these, the unstructured interviews by tutors affirmed these perceptions very strongly as the perceptions expressed were in line with those outlined in the questionnaire.

In an addition to the above, in an interview with the tutors after the observational study, a tutor added that the use of integrated approach would help make lessons holistic and also make the teaching of subject lively. He further stressed that:

The approach better make learning more meaningful to students as students easily make connections between different disciplines. (Semi-Structured Interview, 2018).

Research Question Two: What are the strategies that account for integration of Social Studies with Science in Colleges of Education?

Strategy is a high level plan to achieve one or more goals under conditions of uncertainty. In the sense of the "art of the general", this included several subsets of skills including tactics, siege craft, logistics etc. Strategy is

important because the resources available to achieve these goals are usually limited. Strategy generally involves setting goals, determining actions to achieve the goals, and mobilizing resources to execute the actions. The purpose of this research question was to determine the strategies that accounted for integration of Social Studies with Science in Colleges of Education. Seven statements were used to answer this question. Analysis of results in relation to this question was based on section B, of the questionnaire; items 21 -27. To achieve this, means and standard deviations were used for the analysis. The results are shown on Table 9.

Table 9: Results on Strategies that Account for Integration of Social Studies with Science in Colleges of Education

Statements	TV=2.50 M	Std.D	Skewness	MR
Active learning as an instructional method that engages the learner	3.67	.548	.020	1st
Collaborative learning ensures students work together in small groups towards a common Goal	3.58	.522	.030	2nd
Cooperative learning as a structured form of group work with different students levels of ability is appropriate for integrated learning	3.52	.518	.000	3rd
Inquiry-based learning introduces the problem and provides the context for learning in an integrated manner.	3.40	.813	-.889	4th
Debriefing as conversational sessions that revolve around sharing and examining of information after specific event facilitate integrated learning	3.23	.626	-.201	5th
Experiential learning as learning through individual direct experience	3.20	.886	-.420	6th
Guided instruction with cues, prompts and questions facilitate integrated learning	3.16	.376	1.88	7th
Mean of Means/Std. D	3.39	.612		

Source: Field Survey, (2019) (n=30)

Key-M=Mean, Std. D, Standard Deviation, TV= Test Value, MR=Mean Rank

Table 9 indicates the results on the strategies that account for integration of Social Studies with Science in Colleges of Education. The results show that, generally, college tutors believe that there are some strategies that account for integration of Social Studies with Science in Colleges of Education. This was quite evidential after the mean of means (3.39) produced from the response of the tutors was greater than the TV of 2.50. However, according to the tutors, some of the strategies were more effective than others.

From Table 9, most of the tutors agreed active learning as an instructional strategy that engages the learner *(M=3.67>2.50, SD=.548, n=30).* The tutors further confirmed that collaborative learning ensures students work together in small groups toward a common goal and this is one of the most regarded strategy (*M=3.58>2.50, SD=.522, n=30).* Cooperative learning as a structured form of group work with different students levels of ability is appropriate for integrated learning was also not left out as one of the strategies *(M=3.52>2.50, SD=.518, n=30).*

In a similar way, the teachers shared that inquiry-based learning introduces the problem and provides the context for learning in integrated manner and this is one of the most regarded strategy *(M=3.40> 2.50, SD=.813, n=30).* Moreover, the analysis pointed out that debriefing as conversational sessions that revolve around sharing and examining of information after specific event facilitate integrated learning *(M=3.23>2.50, SD=.626, n=30).*

Experiential learning as learning through individual direct experience context for learning in integrated manner is one of the strategies *(M=3.20>*

2.50, SD=.886, n=30). Finally, the result showed that guided instruction with cues, prompts and questions facilitate integrated learning and this serves as one of the strategies *(M=3.16>2.50, SD=.375, n=30)***.** Once again, these analyses are in unison with the assertions of Vars (2001) that the main purpose of an integrated curriculum is to have a student-centered curriculum that engages students, improves student learning, and increases student interest. Higher-order thinking skills, cooperative learning, and consideration of other students' values are emphasized. Students collaborate with teachers to make lessons that address social issues and students concerns. Qualitatively, tutors interviews affirmed these assertions of Vars (2004) as they agreed that those strategies and methods outlined are all indeed students' centred strategies of instruction.

Research Question Three: What are the factors that might hinder teachers' use of integrated curriculum in the teaching of Social Studies with Science in the Colleges of Education?

For any educational endeavor, there must be ways and means by which the expected outcome can be realized. However, challenges are inevitable in any new venture. The focus of this research question was to assess the factors that might hinder teachers' use of integrated curriculum in the teaching of Social Studies with Science in the Colleges of Education. Ten statements were used to answer this question. Analysis of results in relation to this question was based on section B, of the questionnaire items 28 -37. To accomplish this, Means and Standard Deviations were used for the analysis. The results are presented on Table 10.

Table 10: Results on Factors that might hinder Teachers' use of Integrated Curriculum in the Teaching of Social Studies with Science in the Colleges of Education

Statement	TV=2.50		Skewness	MR
	M	Std. D		
Lack of competence on the part of tutors in variety of subjects	3.98	.348	.049	1st
Students lack of enthusiasm about scientific explanation of phenomena	3.88	.552	.069	2nd
Nonexistence of textbooks and manuals that offer enough ideas for integration	3.72	.318	.092	3rd
Segregated nature of disciplines in the Curriculum	3.70	.453	.092	4th
Insufficient time allocations for lessons on the time table	3.63	.566	.096	5th
Unwillingness on the part of educators to integrate subjects	3.50	.543	.082	6th
Need for development of the level of knowledge tutors possess	3.45	.543	.055	7th
Need for adoption of authentic assessment strategies e.g. Portfolios	3.34	.455	.089	8th
Increase work load on the part of instructors	3.16	.545	.083	9th
Unwillingness on the part of educators to integrate subjects	2.93	.543	.094	10th
Mean of Means/Std. D	3.53	.486		

Source: Field Survey, (2019) (n=30)

Key-M=Mean, Std. D, Standard Deviation, TV= Test Value, MR=Mean Rank

Table 10 indicates the results on the factors that might hinder teachers' use of integrated curriculum in the teaching of Social Studies with Science in the Colleges of Education. The results show that, College tutors are faced with many challenges that hinder teachers' use of integrated curriculum in the teaching of Social Studies with Science in the Colleges of Education. This was quite clear after the mean of means produced from the response of the

tutors was greater than the TV of 2.50.

In reading the statistics values from Table 10, it showed that lack of competence on the part of tutors in variety of subjects is the first major challenge that hinder teachers' use of integrated curriculum in the teaching of Social Studies with Science in the Colleges of Education *(M=3.98>2.50, SD=.348, n=30).* Students lack of enthusiasm about scientific explanation of phenomena followed with the second greatest mean value *(M=3.88>2.50, SD=.552, n=30).*

Nonexistence of textbooks and manuals that offer enough ideas for integration was another major hindrance associated with the teachers' use of integrated curriculum in the teaching of Social Studies with Science in the Colleges of Education *(M=3.72>2.50, SD=.318, n=30).* Segregated nature of disciplines in the curriculum was another major hindrance associated with the teachers' use of integrated curriculum in the teaching of Social Studies with Science in the Colleges of Education *(M=3.70>2.50, SD=.453, n=30).*

In another challenge, the tutors pointed out that insufficient time allocations for lessons on the time table was another major hindrance that is linked with the teachers' use of integrated curriculum in the teaching of social studies with science in the Colleges of Education *(M=3.63>2.50, SD=.566, n=30).*The tutors further indicated that unwillingness on the part of educators to integrate subjects leads to a major challenge *(M=3.50>2.50, SD=.543, n=30).*

Etim (2005), comments on teachers' feelings of exhaustion when trying curriculum integration because they are required to take on roles different from their usual ways of operating. Some teachers may feel

threatened by this approach for a number of reasons, including their reluctance to share decision making and their preference for having activities carefully planned well ahead of time. To Beane (2005), a further challenge that is known to cause concern is teachers' lack of knowledge about curriculum integration. When not done well, curriculum integration can become as forced or artificial as any poorly executed approach, resulting in lack of student motivation and engagement (Beane, 2005). To Pring (2006), time is one of the biggest factors in the successful implementation of curriculum integration, and some believe that curriculum integration requires more time than what is readily available in the classroom schedule (Pring, 2006). Qualitatively, the opinions expressed by classroom teachers were not different from those expressed by these authors. Mr. Kwaku Yawson, a Social Studies teacher reiterated:

We appreciate innovation of these kinds however; integrated study of any kind will mean increase in workload on the part of instructors. (Semi-Structured Interview, 2018).

Research Question Five: What is the relevance of the use of integrated curriculum in teaching Social Studies with Science?

This research question was to assess the relevance of the use of integrated curriculum in teaching Social Studies with Science. To obtain results for this, means and standard deviations were used for the analysis. The results are presented on Table 11.

Table 11: Results on the Relevance of the use of Integrated Curriculum in Teaching Social Studies with Science

Statements	TV=2.50		Skewness	MR
	M	Std. D		
Students tend to take ownership of their own Learning	3.95	.128	-.430	1st
Students make meaningful connections between different disciplines	3.87	.534	-.430	2nd
Integrated approach to teaching makes the curriculum more meaningful	3.78	.248	-.430	3rd
Integration answers many challenges with Reforms	3.73	.143	.283	4th
Integration is effective for development of multifaceted expertise	3.68	.246	.283	5th
Exposure of commonalities that exist between the two disciplines.	3.34	.234	-.889	6th
Integrated study supports the fact that the human brain does not separate Knowledge	3.32	.343	-.441	7th
Interdisciplinary nature of world's problems makes integration relevant	3.04	.243	-.441	8th
Mean of Means/Std. D	3.58	.264		

Source: Field Survey, (2019) (n=30)

Key-M=Mean, Std. D, Standard Deviation, TV= Test Value, MR=Mean Rank

Table 11 shows the results on the relevance of the use of integrated curriculum in teaching Social Studies with Science in the Colleges of Education. The results show that, on the larger scale, integrated curriculum in teaching Social Studies with Science in the Colleges of Education is very significant and relevant. This was quite clear and substantial after the mean of means statistic produced from the response of the tutors was greater than the TV of 2.50.

Dwelling on the individual items, most of the tutors agreed that in using integrated curriculum in teaching Social Studies with Science in the Colleges of Education, students turn to take ownership of their own learning *(M=3.9>2.50, SD=.128, n=30).* Again, the teachers pointed out that in using integrated curriculum in teaching Social Studies with Science in the Colleges

of Education, it helps students make meaningful connections between different disciplines *(M=3.87>2.50, SD=.534, n=30).* Another relevance is that in using integrated curriculum in teaching Social Studies with Science in the Colleges of Education, the approach makes the curriculum more meaningful *(M=3.78>2.50, SD=.248, n=30).* Moreover, the tutors believed that in using integrated curriculum in teaching Social Studies with Science in the Colleges of Education, integration answers many challenges with curriculum reforms *(M=3.73>2.50, SD=.143, n=30).* Again, most of the tutors were of the view that in using integrated curriculum in teaching Social Studies with Science in the Colleges of Education, Integration is effective for development of multifaceted expertise *(M=3.68>2.50, SD=.246, n=30).* This was again recounted when the teachers indicated that exposure of commonalities that exist between the two disciplines is manifested in any interdisciplinary study. *(M=3.34>2.50, SD=.234, n=30).* Integrated study supports the fact that the human brain does not separate Knowledge. This relevance of integrated approach was perceived by the teachers with (*M=3.32>2.50, SD=.343, n=30).* Finally, the tutors shared a common idea that in using integrated curriculum in teaching Social Studies with Science in the Colleges of Education, interdisciplinary nature of world's problems makes integration relevant *(M=3.04>2.50, SD=.243, n=30).*

The analyses are therefore in line with the reiteration of Erlandson and Mcvittie (2001) who asked students their opinions about their integrated curriculum experiences in Language Arts and Social Studies. Students reported that they were able to make connections between content knowledge and real life experiences. They reported that their way of thinking had

transformed, and they began linking knowledge from their lessons with their personal lives. The students also recognized that integrating the curriculum unified each discipline into a whole. Libler et al. (2010) conducted a survey concerning integrated curriculum. The results showed that some teachers integrated subjects because it saved time and was student centered. Students were able to obtain more knowledge and connect that knowledge to real life experiences and learning was more enjoyable and gratifying for the students and the teachers. The researchers concluded with three reasons to integrate the curriculum: (1) teachers were better able to develop relationships with students, (2) learning was more enjoyable and relevant to the students' lives, and (3) the bridge linked traditional academic areas to students and the community. Qualitatively, from the interview, a tutor reiterated that students would be able to establish connection between knowledge and real life experiences. Again, students' responses were in support of the approach to the teaching.

Michael Tweneboah, a Science student from Foso College of Education emphasized:

> *I have come to appreciate this curriculum approach of teaching as I have made serious connections between Science and Social Studies and those connections have broadened my view of the world around me. (Semi-Structured Interview, 2018).*

Observation Results

In order to obtain comprehensive results, the researcher conducted a classroom observation with checklist to complement the questionnaire results. In selecting the number of respondents to be used in the observation study,

Kumar (2005) recommendation served as a guide. Kumar, (2005) averred that with a population of 30 and below, 10-50% could be selected for the study. Based on this, the researcher used 30% of the population (N=30) hence, 9 teachers were used for the observation study. In connection with the semi-structured interview, Kumar's recommendations played a major role hence, 30% of both tutor as well as student population were used for the interview. Hence, 9 tutors and 12 students were interviewed. In all five different lessons were taught. Table 12 depicts the results from the observations study.

Table 12: Results from Observation Checklist of Tutors on Integrated Curriculum in Teaching Social Studies with Science

Items	Mean Scores	Remarks
Unit/Theme/Topic broken down into sub-topic depicts interdisciplinary nature of the study	3.22	Satisfactory
Logically sequence of topic/theme/subtopic that reflect integrated curriculum	3.10	Satisfactory
Behavioural specific objectives that cut across two disciplines under study	2.90	Satisfactory
Measurable, achievable objectives that are fair balance as far as social studies /science are concerned.	4.12	Good
Measure of cognitive domain that cut across disciplines	3.23	Satisfactory
Measure of affective domain that emphasis both social studies and science	3.01	Satisfactory
Instructional materials appropriate for the contents	2.31	Not
Use of concrete objects, pictures that gives fair balance as the two disciplines are concerned	1.99	Not Satisfactory
Clear lesson presentation that demonstrate integration of social studies and science.	3.04	Satisfactory
Logical presentation with integrated curriculum as focus	3.08	Satisfactory
Interdisciplinary approach to instruction	2.92	Satisfactory
Relevant closure that emphasis interdisciplinary approach	2.27	Not Satisfactory
Clear assignment/assessment strategies that address integration of science and social studies.	4.40	Good
Lesson evaluation with integrated curriculum in focus	3.14	Satisfactory

Source: Field Survey, (2019) (n=10)

From Table 12, it is evident from the remarks column that, most tutors' performance in the observation was satisfactory. However, in few cases their strategies were good. For instance, after computing results of 10 tutors, the average mean scores proofed satisfactory on theme 'Unit/Theme/Topic broken down into sub-topic depicts interdisciplinary nature of the study' (mean score=3.22).

Logically sequence of topic/theme/subtopic that reflect integrated curriculum also produced an average mean score to mean that it is satisfactory (mean score = 3.10). Results on Behavioral specific objectives that cut across two disciplines under study was not different (mean score =2.90).

With respect to the measurable, achievable objectives that are fairly balanced as far as Social Studies /Science are concerned, the observation results indicated that the teachers' instructional practice was good (mean score =4.40). Similar result was recounted on the breath that clear assignment/assessment strategies that address integration of science and social studies (mean score =4.12).

Some of the issues raised in the observation checklist proved not to be satisfactory. For example, instructional materials appropriate for the contents was not satisfactory (mean score = 2.31). Also, tutors were found not to use concrete objects, pictures that gives fair balance as the two disciplines are concerned (mean score =1.99). The unstructured interviewed commenced after the observation study and the questions presented during the individual interview sessions were designed so participants can express their thoughts and feeling regarding the purpose of this study. Even though tutors enjoyed the collaborative sessions before the teaching segments with their colleagues,

they struggled through the process as the approach was somehow new to them and would require constant efforts to achieve fluency and consistency.

Immediately after the observation study, selected students who took part in the observation lessons were tested with the test items administered before the observation.

The results from the pre-test and post-test are indicated on Table 13 and 14 respectively.

Table 13: Pre-Test Results

Marks	Frequency	Percentage (%)
1-2	2	5
3-4	4	10
5-6	12	30
7-8	6	15
9-10	16	40
Total	40	100

From Table 13, the performance of the students before the observation study was good generally, as many as 16 out of the forty students' constituting 40% percent of the students' population for the study scored between 9-10 marks. However, the students' performance was amazing after the observational study. Table 14 better illustrates that.

Table 14: Post-Test Results

Marks	Frequency	Percentage (%)
1-2	-	-
3-4	-	-
5-6	12	30
7-8	8	20
9-10	20	50
Total	40	100

The Table 14 depicts improvement in students' performance after the observational study, with as much as 20 students scoring between 9-10 marks respectively. The said students were also interviewed on their thoughts and feelings about how the interdisciplinary instruction was beneficial to both content areas. The results from the test indicated improvement in students overall orientation as far as the topics were concerned. The said test items constitute Appendix E. The researcher conducted and transcribed all interviews. The paradigm that drove and supported this study was the constructivism theory of learning. The constructivist theory supports integrated contextual learning. That is, individuals do not learn based on isolated facts; instead, individuals learn in relationship to what is already known (Hein & Price, 1991; Richardson, 2003). The theory of constructivism also recognizes that learning is a social activity, and that interactions with peers are an integral element of learning (Richardson, 2003).

Again, the results from the pre-test and post-test confirm what several writers reported that students in schools focus on and take part in integrated curriculum perform better on standardized tests and state exams than students in schools that do not (Libler, Schlee & Shriner, 2010; Campbell & Henning, 2010; Hinde, Osborn, & Dorn, 2007). Harrell (2010), reports that integrating curriculum enhances student learning.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter is the summary of the study conducted on respondents drawn from Colleges of Education in Central Region of Ghana. It further gives information about the sample chosen, the data collected and the instruments for the study. It ends with a detailed description of the data and analysis of the data as well as conclusion and recommendation on the findings of the study undertaken.

Summary

The study sought to find out the possibility of integrating Social Studies into Science in Colleges of Education in the Central Region. The study made use of tutors of Colleges of Education in the Central Region of Ghana. The sample group for the study consisted of 30 Science and Social Studies tutors made up of 21 Science and 9 Social Studies tutors. The main instruments used for the study were questionnaire, test, observation study and unstructured interview. The return rate of the said questionnaire was 100%. The questionnaire was used to elicit background information on the respondents and their perception about the use of integrated curriculum in the Colleges of Education, strategies that can drive home any integrated study of any kind as well as the relevance of integrated study to the whole enterprise of education.

The main findings of the research were that:

1. There is positive strong relationship between Social Studies and Science teachers' perception about integrated curriculum in teaching Social Studies with Science.
2. For effective interdisciplinary study of any kind there must be strategies that ought to drive home the desired outcome. And such strategies must endeavour to place the student at the center of the learning process.
3. Implementation of any integrated curriculum approach to instruction in the Colleges of Education is likely to face challenges such as lack of competence on the part of instructors in variety of subjects, nonexistence of textbooks and manuals that offer enough ideas on integration.
4. Integrated curriculum of any kind in the Colleges of Education in Ghana is highly relevant due to interdisciplinary nature of the world's problems.

Conclusions

Based on the findings of the study, the following conclusions are made. From the findings, it came to light there is positive relationship between Social Studies and Science perception. The implication is that implementation of any integrated curriculum study in the Colleges of Education in Ghana will be highly welcomed by college tutors. The study further outlined that; for effective interdisciplinary study, there must be strategies to drive home the desire outcome. The implication of this statement is that indeed, for integrated study to achieve the desire outcome in learners, implementers (teachers) must

be abreast with appropriate child centred strategies. The study also revealed that integrated study of any kind would face a number of challenges. It therefore presupposes that teachers' training is crucial as challenges are best overcome with skills.

Furthermore, it can be concluded that since educators are charged with preparing students to be successful, this study provides curricula transformations to enhance students understanding in an educational setting. This study pursued outcomes that were not measured against a fixed set of criteria. The constructivist theory of learning which the underlying theory was for the research emphasizes that constructing meaning happens in the mind hence participants in any educational enterprise must be provided with what engages both minds and their hands. Dewey (as cited in Hein & Price, 1991) referred to this process as reflective activities. From the observational studies, participants readily transformed their instructional strategies as a result of collaboration, experience and reflections.

Recommendations

Based on the findings and the conclusions drawn, the following recommendations have been made for policy and practice.

1. The study revealed that there is positive strong relationship between Social Studies and Science teachers' perception about integrated curriculum in teaching social studies with science. The National Council for Curriculum and Assessment of the Ghana Education Service must conduct research into the use of integrated curriculum as it is the current paradigm the world is going and failing to comply, Ghana would be left behind.

2. The study indicated that for effective interdisciplinary study of any kind there must be strategies that ought to drive home the desired outcome. And such strategies must endeavour to place the student at the center of the learning process. Ghana Education Service and National Council for Tertiary Education must constantly sharpen teachers' pedagogical skills on strategies that place the student at the center of the learning process.
3. Results from the study indicated that any integrated curriculum approach to instruction in the Colleges of Education is likely to face challenges such as lack of competence on the part of instructors in a variety of subjects, nonexistence of textbooks and manuals that offer enough ideas on integration. It therefore behooves the National Council for Curriculum and Assessment of the Ghana Education Service to equip all educators especially, teachers if the collective desire of all is to empower the learner for civic participation.
4. The results from the study manifested that integrated curriculum of any kind in the Colleges of Education in Ghana is highly relevant due to interdisciplinary nature of the world's problems. It is recommended that the Ministry of Education, Ghana Education Service as well as all agencies that have stake in education delivery in Ghana begin to consider the use of integrated curriculum in schools.

Area for Further Studies

For further research, the researcher recommends an investigation into tutors' perception of the use of an integrated curriculum in the Colleges of Education in Ghana.

Again, a comprehensive study can be carried out using all Colleges in Ghana in the integration of Social Studies with Science as well as other subjects' areas. Such a study can be replicated at the basic schools which is the market for the products of the Colleges of Education in Ghana.

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APPENDICES

APPENDIX A

UNIVERSITY OF CAPE COAST COLLEGE OF EDUCATION STUDIES

FACULTY OF EDUCATIONAL FOUNDATIONS DEPARTMENT OF BASIC EDUCATION

QUESTIONNAIRE FOR SOCIAL STUDIES AND SCIENCE TUTORS

Topic: Integrating Social Studies with Science in the College of Education in the Central Region.

Dear Respondent,

This is a research study which seeks to apply integrated curriculum approach to the teaching of social studies with science in the Colleges of Education in the Central Region. You are kindly requested to respond to each item of the questionnaire as candidly as you can by ticking (√) the appropriate answer or providing your suggestions in the spaces provided.

Be assured that it is purely for academic purpose and your confidentiality is assured. Thank you for consenting to participate in this study.

SECTION A: Demography of Respondents Please thick the appropriate one

1. College of tutors

[ ] Ola College of Education [ ] Foso college of Education

[ ] Komenda College of Education

2. Age range

[ ] 30 - 35

[ ] 35 – 40

[ ] 40 – 45

[ ] 45 - 50

[ ] 50 - 55

[ ] 55 – 60

3. Sex …… [ ] Female [ ] Male

4. Academic qualification

[ ] Degree [ ] Masters [ ] PHD

5. In which institution, did you get your current qualification? [ ]

University of Cape Coast

[ ] University of Education, Winneba

[ ] University of Development Studies, Tamale

[ ] Kwame Nkrumah University of Science and Technology

Others (Please specify) ……

6. Area of specialty (please indicate the subject)……

7. How long have you been teaching? ……

GENERAL INSTRUCTION: To respond in Section B, C, D, and E, please choose the appropriate number as applicable. Note the meaning of the following responses. Strongly Disagree: (1) You strongly disagree with the statement as it applies to the problem under discussion or educators of science or social studies. Disagree: (2) You disagree more than you agree with the statement as it applies to the problem or educators of science or social studies. Agree: (3) You more than you disagree with the statement as it applies to the problem statement or educators of science and social studies. Strongly Agree:

(4) You strongly agree with the statement as it applies to the problem statement or educators of science and social studies.

Please choose appropriate number as applicable with a thick (√)

SECTION B: Perception of educators toward Integrated Curriculum

		SD	D	A	SA
	Statement	1	2	3	4
1.	Tutors with disciplinary specialty turn to lose their identity with integrated Curriculum				
2.	Disciplinary language barriers might militate against Integration				
3.	Integration might require alteration of courses in discipline areas				
4.	Difficulties are envisaged with integrated study of any Kind				
5.	Broader perspectives offer by integration enriches educators in their work				
6.	Integrated study does offer the best window for making sense of the world				
7.	Students make connections that are meaningful between different disciplines				

SECTION C: What Methods and Strategies account for the Integration?

		SD	D	A	SA
	Statement	1	2	3	4
8	Active learning as an instructional method that engages the learner				
9	Collaborative learning ensures students work together in small groups toward a common goal				
10	Cooperative learning as a structured form of group work with different students levels of ability is appropriate for integrated learning				
11	Inquiry-based learning introduces the problem and provides the context for learning in integrated manner				
12	Debriefing as conversational sessions that revolve around sharing and examining of information after specific event facilitate integrated learning				
13	Experiential learning as learning through individual direct experience				
14	Guided instruction with cues, prompts and questions facilitate integrated learning				

SECTION D: Factors that might hinder tutors' use of Integration in the Colleges of Education

		SD	D	A	SA
	Statement	1	2	3	4
15.	Lack of competence on the part of tutors in variety of subjects				
16.	Students lack of enthusiasm about scientific explanation of phenomena				
17.	Nonexistence of textbooks and manuals that offer enough ideas for integration				
18.	Segregated nature of disciplines in the curriculum				
19.	Insufficient time allocations for lessons on the time table				
20	Unwillingness on the part of educators to integrate subjects				
21.	Need for development of the level of knowledge tutors possess				
22.	Need for adoption of authentic assessment strategies e.g. Portfolios				
23.	Increase work load on the part of instructors				
24.	Instructors philosophical and ideological Differences				

SECTION E: Relevance of Integration of Social Studies with Science

		SD	D	A	SA
	Statement	1	2	3	4
25	Exposure of commonalities that exist between the two disciplines.				
26.	Integration is effective for development of multifaceted expertise				
27	Interdisciplinary nature of world's problems makes integration relevant				
28	Integrated study supports the fact that the human brain does not separate Knowledge				
29	Integrated approach to teaching makes the curriculum more meaningful				
30	Students make meaningful connections between different disciplines				
31	Integration answers many challenges with reforms				
32	Students turn to take ownership of their own Learning				

UNIVERSITY OF CAPE COAST

COLLEGE OF EDUCATION STUDIES FACULTY OF

EDUCATIONAL FOUNDATIONS DEPARTMENT OF BASIC

EDUCATION

APPENDIX B

OBSERVATION CHECKLIST FOR TUTORS ON LESSONS ON

INTEGRATED CURRICULUM

Item and score	**Very Goo d =5**	**Goo d =4**	**Satisfactory = 3**	**Unsatisfactory =2**	**Poor = 1**
Unit/Theme/Topic broken down into sub- topic depicts interdisciplinary nature of the study					
Logically sequence of topic/theme/subtopic that reflect integrated curriculum					
Behavioural specific objectives that cut across two disciplines under study					
Measurable, achievable objectives that are fair balance as far as social studies /science are concerned.					
Measure of cognitive domain that cut across disciplines					
Measure of affective domain that emphasis both social studies and science					
Instructional materials appropriate for the contents					

8. Use of concrete objects, pictures that gives fair balance as the two disciplines are concerned					
9. Clear lesson presentation that demonstrate integration of Social Studies and Science.					
10. Logical presentation with integrated curriculum as focus					
11. Interdisciplinary approach to instruction					
12. Relevant closure that emphasis interdisciplinary approach					
13. Clear assignment/assessment strategies that address integration of science and social studies.					
14. Lesson evaluation with integrated curriculum in focus					

APPENDIX C

UNIVERSITY OF CAPE COAST

COLLEGE OF EDUCATION STUDIES FACULTY OF EDUCATIONAL FOUNDATIONS DEPARTMENT OF BASIC EDUCATION

SEMI-STRUCTURED INTERVIEW QUESTIONS FOR COLLEGE TUTORS

Introduction

The following questions are to determine the level of tutors' knowledge about interdisciplinary approach to teaching and learning in the classroom. You are kindly requested to respond to each item on the semi-structured interview as candidly as you can.

1. What topics in your subject area have links with other disciplines?
2. What links did you establish between the subject areas you taught?
3. What aspects of the integrated unit engaged and inspired the students?
4. How effectively did your lesson plans incorporate academic contents from the two subjects' areas?
5. How did the integrated instruction impact on students socialization skills?
6. How effectively were students able to make connections and meaningful transfers between the two disciplines?
7. What will you do differently the next time you teach this topic?
8. What ideas and suggestions do you have for improving the integration of social studies and science?
9. How did the integrated topic enhance student learning?
10. What recommendations will you give regarding the integration of disciplines?
11. Would you recommend the use of integrated curriculum in Ghana?

Thank you.

APPENDIX D

UNIVERSITY OF CAPE COAST

COLLEGE OF EDUCATION STUDIES FACULTY OF EDUCATIONAL FOUNDATIONS DEPARTMENT OF BASIC EDUCATION

SEMI-STRUCTURED INTERVIEW QUESTIONS FOR COLLEGE STUDENTS

Introduction

The following questions are to determine the level of students' understanding with respect to the interdisciplinary approach to teaching and learning in the classroom after the observation lessons. You are kindly requested to respond to each item on the semi-structured interview as candidly as you can.

1. What topics in your specialized area of study have links with other disciplines?
2. What links did you establish between the subject areas you just learnt?
3. What aspect of the integrated unit engaged and inspired you a student?
4. How effectively did the teacher incorporate academic contents from the two subjects' areas?
5. How did the integrated instruction impact on your socialization skills?
6. How effectively did you make connections and meaningful transfers between the two disciplines?
7. What differently do you expect to see next time such approach is used to teach?
8. What ideas and suggestions do you have for improving the integration of social studies and science?
9. How did the integrated topic enhance your learning?
10. What recommendations will you give regarding the integration of disciplines?
11. Would you recommend the use of integrated curriculum in Ghana?

Thank you.

APPEENDIX E

UNIVERSITY OF CAPE COAST

COLLEGE OF EDUCATION STUDIES FACULTY OF EDUCATIONAL FOUNDATIONS DEPARTMENT OF BASIC EDUCATION

Introduction

The following questions are meant to determine the level of student assimilation with respect to the three topics used for the observation lessons before and after. Thus the topics were Energy, water and Ecosystem.

PRE – TEST QUESTIONS

1. Name two environmental implications of using solar and Biomass as energy sources.
2. How does fossil fuel affect the environment?
3. Mention and explain two ways global warming can be reduced with environment as the focus.
4. A biotic community is any naturally occurring groups of different organisms living together and interacting in the same environment. True/False.
5. List two importance of wildlife to the environment.
6. List 5 sources of water
7. Where does the energy for the water cycle come from?
8. An electric drill changes electrical energy into ……..
9. Food is an example of ……energy
10. When water vapour becomes liquid water, the process is known as ……
11. State two chemical properties of hard water
12. How is distillation different from frictional distillation?
13. Which of the form of purification of water will you recommend for your community and why?
14. Does the lime becomes potential and kinetic energy
15. Briefly explain two importance of water to man

APPENDIX F

ETHICAL CLEARANCE

UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
ETHICAL REVIEW BOARD

UNIVERSITY POST OFFICE
CAPE COAST, GHANA

Our Ref: ~~CES-ERB~~/ucc.edu/V3-19-35

Date: June 6, 2019

Your Ref: .....

Chairman, CES-ERB
Prof. J. A. Omotosho
jomotosho@ucc.edu.gh
0243784739

Vice-Chairman, CES-ERB
Prof. K. Edjah
kedjah@ucc.edu.gh
0244742357

Secretary, CES-ERB
Prof. Linda Dzama Forde
lforde@ucc.edu.gh
0244786680

Dear Sir/Madam,

ETHICAL REQUIREMENTS CLEARANCE FOR RESEARCH STUDY

The bearer, Rebecca Esi Ampofo ....., Reg. No. EF/BEP/17/0002 ..... is an M.Phil. / ~~Ph.D.~~ student in the Department of ...Basic Education..... in the College of Education Studies, University of Cape Coast, Cape Coast, Ghana. ~~He~~ / She wishes to undertake a research study on the topic:

Integrating Social Studies with Science in Colleges of Education in the Central Region.....

The Ethical Review Board (ERB) of the College of Education Studies (CES) has assessed ~~his~~/her proposal and confirm that the proposal satisfies the College's ethical requirements for the conduct of the study.

In view of the above, the researcher has been cleared and given approval to commence ~~his~~/her study. The ERB would be grateful if you would give ~~him~~/her the necessary assistance to facilitate the conduct of the said research.

Thank you.
Yours faithfully,

Prof. Linda Dzama Forde
(Secretary, CES-ERB)

APPENDIX G

INTRODUCTORY LETTER

UNIVERSITY OF CAPE COAST
COLLEGE OF EDUCATION STUDIES
FACULTY OF EDUCATIONAL FOUNDATIONS
DEPARTMENT OF BASIC EDUCATION

Telephone: +233-(0)3321-33379
Cables: University, Cape Coast
Email: basic.education@ucc.edu.gh

UNIVERSITY POST OFFICE
CAPE COAST, GHANA

Our Ref:

Your Ref: DBE/ 27th November, 2018

Dear Sir/Madam,

LETTER OF INTRODUCTION

The bearer of this letter **Rebecca Esi Ampofo** is a level 850 student at the Department of Basic Education, University of Cape Coast.

She is undertaking a study on **"Integrating Social Studies with Science in the Colleges of Education in Central Region of Ghana"**. In connection with this, she needs to collect data.

The study is academic in purpose and data collected will be treated as confidential. We would, therefore, be grateful if you could give her the necessary assistance.

Yours faithfully,

Dickson H. Angbing (Ph.D)
(Head)