A MODEL FOR TEACHING LEARNING METHODS OF GEOGRAPHY IN THE ETHIOPIAN COLLEGES OF TEACHER EDUCATION

by

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DECLARETION

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DECLARETION

I here by declare that A MODEL FOR THE TEACHING LEARNING METHODS OF GEOGRAPHY IN THE ETHIOPIAN COLLEGES OF TEACHER EDUCATION is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references

Signature

Date

January ,27/2014

Awol Ahmed Mohammed

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SUMMARY

In this study the status of the active learning methods of teaching employed in Teachers' Training Colleges in Ethiopia was examined from the perspective of the trainee-teachers and their lecturers. Factors relating to active learning were discussed within the framework of the social-cognitive constructivists' theory, as learning (knowledge construction) requires the direct involvement of an individual, as well as interaction with the social environment. Three main groups of learning theories were investigated, namely the behavioural, the cognitive and the constructivist theories. The behavioural theories emphasise the transmission of information from the teacher to the learner, whereas the cognitive and constructivist theories emphasise the learners' construction of knowledge from their own experiences and their interaction with one another. The methods and strategies for teaching Geography in Ethiopian Teachers' Training Colleges were also discussed.

The empirical research investigated the perceptions of trainee-teacher and lecturers regarding active learning methods at their respective colleges, the current teaching-learning methods and strategies that the trainee-teachers employ, how they experience the current teaching methods and approaches and other related matters, such as class size and facilities, the integration of assessment with active learning, the teachers' attitudes towards active learning, whether or not the lecturers receive short- and long-term training on active learning, the support obtained from the managing body, and whether or not any guidelines existed. Interviews were conducted as embedded research that was intended to supplement the quantitative findings.

The results of the empirical investigation indicated a lack of systematic and appropriately organised active learning at college level. Some of the barriers that profoundly hindered the use of active learning pedagogies are the lecturers' tendency to maintain the traditional (lecture) method of teaching, insufficient pre-service and in-service training, the large class sizes, the lack of administrative support, the scarcity of resources/facilities, the lack of integration between assessment and active learning, and finally, the absence of guidelines.

Pertinent information was extracted from the relevant literature and the empirical study to develop a model to address the problem of active learning in Teachers' Training Colleges. Thus, a Model of Active Learning, which is relevant to the teaching of the learning of Geography at College level in the Ethiopian context, was developed.

Key terms: active learning, Teachers' Training Colleges, Geography, the active learning model, the lecturers' perceptions of active learning, challenges of active learning.

TABLE OF CONTENTS

CHAPTER 3

THE METHODS AND STRATEGIES OF TEACHING GEOGRAPHY IN TEACHERS'TRAINING COLLEGES IN ETHIOPIA

CHAPTER 4

THE RESEARCH METHODOLOGY AND DESIGN

CHAPTER 5

RESULTS AND DISCUSSIONS

CHAPTER 6

OVERVIEW, CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

LIST OF TABLES

LIST OF FIGURES

ANNEXURES

CHAPTER 1

ORIENTATION TO THE STUDY

1.1 INTRODUCTION

The purpose of this study is to investigate the methods of teaching Geography in Ethiopian Colleges of Education. This study was motivated by the realization that active, cooperative, collaborative and problem-based learning had been receiving considerable attention over the past several years as an alternative, a complement, and a supplement to, and more importantly, as a replacement of traditional instruction. Active learning, as an alternative to, and a replacement of traditional instruction dominates most of the recommendations of empirical studies. One of the major reasons for the shift from the traditional teacher-centred approach to a student-centred approach is that the traditional teaching approaches are generally teacher-directed, and follow 'cookbook' steps of activities and demonstrations that do not provide the students with valuable skills and a long-lasting body of knowledge (Udovic, Morris, Dickman, Postlethwait & Wetherwax, 2002). Besides, some of the major reasons for attracting the attention of educators and researchers, is the fact that active learning engages the students in the learning process, it places them in the centre of their learning, it requires from them to do meaningful learning activities, and to think about what they are doing, and it encourages higher-order thinking skills, such as application, analysis and evaluation (Bonwell & Erson, 1991; Deeter, 2008).

This section, therefore, focuses on the background of the study – the application of active learning in the teaching of Geography from a constructivist philosophical point of departure, the concepts of teaching methods, and of meanings, and the importance of active learning, on the definitions and concepts connected to Geography, and on courses on how to teach Geography, as presented in the Teacher Training Colleges.

First of all a global description of how to teach Geography is given, as well as the specific circumstances concerning the teaching of Geography in Ethiopian Teachers' Training Colleges. This section will also focus on the theoretical framework of the study, the problem statement, both the general and specific objectives of the study, and the motivation for the research. The research methodology, ethical considerations, and the chapter divisions will also be briefly discussed.

1.2 BACKGROUND TO THE STUDY

Effective teaching and learning requires the use of appropriate methodologies and pedagogies. The use of the appropriate methodology implies meeting the demands of the current generation of the students' new methodologies, and the changing events in their educational environments. At present, therefore, teaching methods are issues of concern and of activities in curriculum development. This is due to the fact that methods are the means to link up the teacher with the student. They are also the strategies to attain the instructional objectives, and to bring about the intended changes of behaviour in the students (Nardos, 1999). Perott (1986), likewise, states that teaching methods are the means to activate the students towards the intended learning outcomes. He further explains that by using a variety of methods the teacher presents new concepts and information to the students in the form of narration, description, explanation, and their direct involvement. In other words, the teachers' use of different learning methods or strategies in respect of a given instructional objective and a modified lecture method, in order to enable the students to learn more effectively by means of their preferred learning styles as active learning techniques, will be varied enough to meet the students' learning needs. Active learning is essential, as it presents the learners with the responsibility for their own learning, and it helps them to engage in meaningful activities (Bonwell & Erson, 1991; Prince, 2004). Chickering and Gamson (1987) explain the use of active learning, and indicate that it is not a 'spectator sport'. Students do not learn much by merely sitting in a class listening to teachers, memorizing pre-packed assignments, and by 'spitting out' answers. They have to talk about what they are learning, write about it, relate it to their past experiences, apply it in their daily lives, and they must make what they learn part of themselves. Moreover, Chickering and Gamson (1987) mention that it has been demonstrated and supported by research that student learn more when they are actively engaged with the material that they are studying.

Active learning, therefore, involves the students in doing things, and in thinking about the things that they are doing. However, in order to initiate the desired behavioural change, the teachers should utilize the views of their students in the methods that they employ (Firdissa, 2005). Learning must not be the result of instruction; rather, it should be the result of unhampered participation in a meaningful setting. Most people learn best by participating in the teaching-learning process. Temechegn (2001) shares this idea by stating that a learner-centred methodology is not purely individualistic, rather, the students learn through cooperation, active involvement, and participation. In general, learning is the human activity which least needs manipulation by others, for various reasons. The traditional 'chalk-and-talk' lecture approach, with the student as the passive recipient

of knowledge, for example, may not be suitable for today's generation. Thus, the lecture method of teaching is largely replaced by active learning methods that enhance learning through the direct involvement of students (Derebssa, 1999).

These same arguments indicated above are applicable in the teaching of Geography. The teaching of Geography by means of the application of active learning has its roots in social constructivism. Social constructivism, as a philosophy and teaching/learning strategy, has become the latest 'catchword' in educational circles, being applied both to learning theory and to epistemology – to how people learn, or to how they know what they know, and to ontology – the nature of knowledge. The concept of *constructivism* can be traced back to the eighteenth century in the work of the philosopher Giambattista Vico, who maintained that human beings can understand only what they have themselves constructed (Oxford, 1997). Unlike *positivism*, that believes that reality is external to the mind, and that sees knowledge as a passive reflection of the external objective reality, where the learner is seen as simply absorbing information transmitted by a teacher, *constructivism* is a philosophy of learning founded on the premise that, by reflecting on our experiences, we construct our own understanding, or generate knowledge and meaning of the world that we live in. Constructivism claims that each of us, as a learner, absorbs reality differently and constructs our own reality through interpreting perceptual experiences of the external world (Jonassen, 1999). Consequently, the notion of constructivism, which centres on active learning, is increasingly receiving considerable attention by both educators and teachers.

The theories that use constructivism as a philosophical lens assert that learners construct knowledge for themselves. This theory rests on the notion that there is an innate human drive to make sense of the world. Instead of absorbing, or passively receiving knowledge of the world, learners actively construct knowledge by integrating new information and experiences into what they know, by revising and reinterpreting old knowledge in order to reconcile it with their new knowledge. According to Jean Piaget, for example, each learner learns individually through organisation and adaptation that involve assimilation and accommodation (Wood, 1998). On the other hand, Lev Vygotsky emphasises that knowledge is socially-constructed through communicative interactions with others with relatively better experience (Woolfolk, 1998). Bruner extended the social construction of knowledge, and stated that learning is a social process whereby students construct new concepts based on their current knowledge via the selection of information, by constructing hypotheses, and by making decisions with the aim of integrating new experiences into their existing mental constructs (Gardner, 2001). Emphasising action, the consequences of action, and reflection

to construct one's own understanding, John Dewey underscored the idea that schools have to bring real-world problems into the school curriculum, and that occurs in a social context, such as a classroom, where the students join together in manipulating materials, and in observing outcomes (Dewey, 2009).

All the above discourses about active learning and constructivism imply that learning is active and social. The teacher is the facilitator who organizes information around ideas that engage the students' interest, who assists and guides them in developing new insights, and connects them with their previous learning, rather than being seen as a 'dictator' of learning. The curriculum needs to be customized to the students' prior knowledge that emphasizes hands-on problem-solving, and should not be too structured to prevent the learners to construct their own meaning, based on their conceptual understandings. Instruction needs to focus on making connections between facts, and on fostering a new understanding the in students through their responses, encouraging them to analyze, interpret, and predict information by using open-ended questions, and by promoting extensive dialogue and reflection among them. Assessment should be part of the learning process, so that students play a larger role in judging their own progress.

On the whole, from the constructivists' paradigm, the learners interact more with the subject matter and with one another to construct their 'own' knowledge. They are not empty vessels into whom faculty 'pours' knowledge. Active learning activities are, therefore, important to promote thoughtful engagement, to encourage analytical thinking and reasoning, and to foster the integration and application of knowledge, and are designed around well-defined learning activities (Fink, 2003). In short, there are many types of active learning techniques that can be employed. Depending on their basic features, Prince (2004) categorizes them into the following five kinds, namely collaborative learning, cooperative learning, team-based learning, case-based learning, and problem-based learning.

Collaborative learning refers to any instructional method where the students work together in small groups towards a common goal. This kind of learning can be viewed as encompassing all group-based instructional methods, including cooperative learning. *Cooperative* learning is a structured form of group-work, where the students pursue common goals while being assessed individually. *Team-based* learning is another form of an active learning technique, which allows a single instructor to instruct multiple small groups simultaneously in one classroom. Alternatively, *case-based* learning is a learner-centred instructional approach, where factually-based complex problems

are used to stimulate discussion and collaborative analysis. Similarly, *problem-based* learning is a type of case-based learning, where problems are introduced at the beginning of the instruction cycle to provide the context and motivation for learning. It is always active, and usually collaborative or cooperative.

From the aforementioned techniques, in the design of the Geography curriculum, attention should be given to 'means to an end' or content (basic concepts and theories) to be included in the curriculum, and the methods to be used that take the nature of the students' learning into account (Kent, 2000; Tilbury & Williams, 2003). Hence, one of the most significant recent developments in teaching and learning Geography, is the attention given to the need to develop the students' abilities to 'think through' Geography, which calls for the application of active learning. However, arguments exist that indicate that too much emphasis has been placed on the substantive aspects of Geography, and not enough on the intellectual development of the students. Many of these problems emanate from the lack of attention being given to the nature of the students learning Geography, and to the pedagogic relationships between the teaching and the learning of the subject (Smith, 2005) that are mainly reflected in the design and implementation of the Geography curriculum. One of the problems in the implementation of the Geography curriculum rests with the inability to employ appropriate active learning techniques and student-centred approaches. This is mainly due to alack of training and positive attitudes on the part of the teachers. Consequently, Bladerstone (2000) emphasizes the importance of teacher training, and of how teachers have been adapting to the changes in the Geography curricula. Teacher training should provide the teachers with the necessary information with regards to the methods and scientific and pedagogic techniques required in the undertaking of their profession. This training should be proactive, participatory, research-based, and flexible enough to enhance self-formation and self-training. In Ethiopia developments have taken place in the designing of the curriculum, the training of teachers, and in teaching methods.

These developments will be briefly explained.

It was in 1944 that the Ministry of Education in Ethiopia, with a certificate programme, opened its first Teachers' Training Institution, which was housed in a room at Menelik II Secondary School. With the intention of expanding teachers' training institutions with the certificate programme, the Harar Teachers' Training School (which is named after one of the ancient towns in the eastern part of Ethiopia) started its work by admitting students for a four-year training programme, following the completion of Grade 8. After the evaluation of the education sector of the country in 1953, certain

modifications were made, and teacher training levels were established. Accordingly, teachers for Grades 1 to 4 were trained at the Community Teacher Training Streams for one year. The Community Teacher Training Streams were also responsible to train community leaders, community teachers, and the wives of community teachers. The teachers for the middle schools were to be trained for four years. In addition, a one year teacher training programme after the completion of Grade 12 was implemented at Haile Selassie I School, for training middle school teachers. There was also a programme for 10th and 11th graders who, after one year of training, was considered as qualified to teach grades 5 and 6. A four-year college programme was recommended for the training of secondary school teachers after successful completion of grade 12.

The change of government in 1974 in Ethiopia from the feudal system to an autocratic military government, whose ruling came to an end in 1991, affected the educational system of the country in general, and the teacher education and training programmes in particular. For example, between 1974 and 1978all the teacher training institutions were closed down, and all the pre-service teacher training programmes for primary schools were discontinued, due to the overthrow of Emperor Haile Selassie I. To fill this gap of trained and qualified teachers due to the interruption of the training programmes, and to meet the demands of the increasing number of primary schools in the country, untrained graduates from Grades 9, 10, 11 and 12 were employed as teachers. In 1979, a 12+1, that is, the completion of Grade 12 and one year pre-service teacher training, was initiated in eleven teachers' training institutes with a certificate programme.

The present Ethiopian government came into power in 1991, and published a new Education and Training Policy in 1994. Amongst others, this Policy contained statements on the commitment to transform learning.

These statements are as follows (Ministry of Education, 1994):

- to ensure that the curriculum developed and the textbooks prepared at central and regional levels are based on sound pedagogical and psychological principles and are up to international standards, giving due attention to concrete local conditions and gender issues;
- to see to it that the teacher trainees have the ability, diligence, professional interest, and physical and mental fitness appropriate for the profession; and

- to ensure that the teachers, starting from kindergarten to higher education, have the necessary teaching qualifications and competency in the media of instruction, through pre-service and in-service training.

The policy document mainly emphasizes that the strategy for the realization of the new regionalized policy focuses primarily on the development of a new curriculum, the development and use of a more active and relevant subject didactics (which is also true in respect of Geography), the restructuring of teacher training to improve the competencies of (Geography) teachers, the designing of a career structure for teachers, and the recognizing of educational management. As a result, the overall objectives of the revised pre-service teacher training programmes are geared towards the realization of active learning, appropriate to the age levels, the physical and mental development of the learners, which are relevant to their immediate environment activities, and that emphasize problem-solving skills and attitudes (Ministry of Education, 2002). Consequently, some of the specific objectives of the second cycle (Grades 5 to 8) teacher education programmes stress a student-centred approach by means of suitable training and action research, and the use of content-relevant supportive learning. Added to these, the problem-solving approach and the use of the local languages or vernacular for classroom interaction where appropriate, are the other objectives, as they increase the students' participation in discussions.

The second cycle teaching diploma programme (Grades 5 to 8) consists of a three-year training programme. The course is applicable to students who have successfully completed Grade 10, and who meet the minimum requirements of college entrance. The diploma courses consist of three components, that is, the practicum, the academic subject streams, and shared professional courses. In the 10+3 diploma programme the students have to do a total of 112 credit hours for graduation, of which 38 and 18 are allocated for major and minor courses, respectively. The remaining 56 credit hours are devoted to the practicum and shared professional courses. The emphasis is on shared professional courses and practicum in order to equip the trainees with the knowledge and skills of teaching by means of direct involvement, most of which require the application of active learning (Ministry of Education, 2004).

Various researchers, such as Caprio (1994) and Prophet (1990), however, indicate that before the 1980s the models and theories of teaching were inclined to be teacher-dominated in all levels of education. The focus was on the transmission of knowledge, which is called the *absorption paradigm.* In the absorption paradigm, students are passive receivers of information, rather than active

constructors and accumulators of knowledge. In this paradigm the lecture method of teaching conveys factual material in a direct, logical manner with low or no learner-involvement (Firdissa, 2005). However, in the last two decades various studies have emerged, like those by Standish (2009), Tilbury and Williams (2003), Kent (2000), and Martin (2006), in respect of the new Geography education reforms. The studies mainly place the emphasis on the structure of the courses and changes in the curriculum that satisfy the learning needs of students, with better techniques of teaching Geography that place the students in the centre of educational planning and of their learning. The implementation of active learning in the classroom provides the learners with more autonomy and independence that facilitate the analysis, investigation and organization of ideas (Chin, Brown & Bruce, 2002; Good, Slavings, Harel, Emerson, 1987). In respect of the new reforms, therefore, it is pointed out that the students need to be motivated to take control of the curriculum, and to associate their learning with their daily experiences. This requires greater attention to the lives and experiences of the young people by the lecturers teaching in teachers' training colleges and other institutions of higher education. Moreover, experimentation and innovation in respect of the curriculum are to be welcomed, as it may lead to fresh ideas and methods for teaching the students about the world for them to develop the appropriate teaching methods through the implementation of active learning and student-centred approaches (Planninc, 2011).

This researcher studied pedagogical science as a major, and Geography as minor area for his first degree, and for his master's degree he studied curriculum implementation and instruction. He has been involved in teaching in secondary schools and teacher training colleges since 1994. The pre-service and in-service training opportunities and his long teaching experience in teachers' training colleges enabled him to experience first-hand the problems in implementing active learning techniques in the teaching of Geography, such as the teachers' inability to make the lecture method as interactive as possible in order to achieve a higher level of attention, the students' role as observers rather than as actors, as passive recipients of knowledge rather than as active creators of knowledge, and the inadequate support for the teaching of meta-cognitive skills. All of the above motivated the researcher to undertake the study of this topic.

There are, however, numerous other reasons for conducting research on the topic. Firstly, only a small number of studies have been conducted on how active learning methods and approaches are employed (Derebssa, 2006).Secondly, the lecturers in the teachers' training colleges lack the skills and expertise in using modern teaching methods in their instruction. Thirdly, there is a frequent resistance by teachers to use modern teaching methods or active learning methodology, which in turn,

results in the resistance of the trainees at the colleges, as they tend to copy their lecturers' approaches (Ministry of Education, 2002). This was observed during practice teaching at the schools. Fourthly, the irrelevant curriculum material, the lack of the appropriate facilities, and the lack of the students' prior experiences in active learning are among the problems experienced in making use of active learning in the teaching of Geography.

Teaching methods are the means by which the teacher implements the desired learning or experience in a way that the learners understand it in order to bring about behavioural changes. The most effective techniques to bring about the desired changes that have empirical support are active learning techniques, which include discussion, demonstration, brain-storming, role-playing, etc. that may be useful in producing learners who are flexible, creative, and proactive, and who can solve problems, make decisions, think critically, communicate ideas effectively, and work efficiently within teams and groups.

Several conceptual models exist on the implementation of active learning. The main feature of these models is the shift from the traditional teacher-centred approach to student-centred learning where the learners' construction of their own knowledge is more beneficial, than where the knowledge is simply transmitted by the teacher (Loveless, 1998). Here the learner is, therefore, seen as a 'meaning-maker' rather than as an empty vessel waiting to be filled with knowledge. A number of these models are the Constructivist Teaching Model, Fink's Model, the Model of Teaching Integrative Thinking and the Problem-based Active Learning Model (see also section 2.4 for further explanation of these models). The constructivist teaching model emphasise the need for giving opportunity for learners to construct their own knowledge through individual effort or group effort where teachers play facilitating role. Fink's model extend constructivist teaching model where dialogue with self and dialogue with others are emphasised. In model of teaching integrative thinking creativity and synthesis are stressed given Bloom's Taxonomy of education. Problem-based active learning model is where students are given with challenging problems which demand investigation through the gathering of factual information to come up with possible solutions.

This study will make use of these models to evaluate the status of active learning in teaching Geography courses in Teachers' Training Colleges in Ethiopia. The four models will be used because they appear to be comprehensive and related to classroom teaching and training, and in developing guidelines or identifying essential criteria of relevance to establish an active learning model in teaching Geography courses in Teachers' Training Colleges in Ethiopia. They may also greatly

replace the traditional teaching-approach models that are widely being used in Ethiopian Teachers' Training Colleges. This will entail a change of emphasis from a teacher-centred approach to that of a student-centred strategy. Furthermore, these models could prove to be preferable in meeting the demands of the current generation.

1.3 STATEMENT OF THE PROBLEM

In spite of policy attention at national level and increasing demands for active learning and student-centred approaches to improve the quality of education and learning, from the researcher's personal involvement as a teacher and his professional experience, his observations and informal discussions with students and teachers, it was ascertained that the lecturers' use of student-centred approaches in Teacher Training Colleges in Ethiopia was very limited. This may be attributed to the lack of proper skills and methods in the use of modern teaching methodologies and learning experiences. Besides, the curriculum appears not to sufficiently include active learning and student-centred approaches. The tendency also existed to rely too much on the traditional methods, as well as a resistance to employ modern approaches, active learning and student-centred approaches on the part of the teachers.

Apart from all these challenges, the researcher found the situation as regards the teaching of Geography to be appalling. In the Teachers' Training Colleges little research had been done in this respect. Thus the researcher believes that this study will be able to identify, describe and explain the sources of the problem regarding the use of active learning methods, and that he will be able to come up with a possible model to bridge the gaps.

Consequently, the following main research question may be stated:

What can be done to promote the use of active learning methods in Geography in the Teachers' Training Colleges in Ethiopia?

This research question suggests the following sub-questions:

- What are the existing theories in the teaching of the learning of Geography in Teachers' Training Colleges in Ethiopia?
- What are the current teaching methods and strategies that the trainee educators employ in Teachers' Training Colleges in Ethiopia?

- What are the perceptions of the teacher educators (trainers) regarding the teaching of the methods of Geography in Teachers' Training Colleges in Ethiopia?
- How do the student teachers experience the current teaching methods and approaches by the teacher educators in Teachers' Training Colleges in Ethiopia?
- What can be an alternative model for the teaching of learning methods of Geography in Teachers' Training Colleges in Ethiopia?

1.4 AIM OF THE STUDY

The purpose of this study is to come up with a possible model for the teaching of the learning of Geography in Teachers' Training Colleges in Ethiopia.

Thus, the main aim of the study, in keeping with the main research question above, is to develop a model that can promote the active learning methods of Geography in Teachers' Training Colleges in Ethiopia.

In keeping with the sub-questions above, the following research objectives are stated, namely

- to investigate the existing theories in the teaching of the learning of Geography in Teachers' Training Colleges in Ethiopia;
- to identify the current teaching methods and strategies that the trainee educators employ in Teachers' Training Colleges in Ethiopia;
- to examine the perceptions of the teacher educators (trainers) regarding the methods of the teaching of the learning of Geography in Teachers' Training Colleges in Ethiopia;
- to evaluate the student teachers' experience of the current teaching methods and approaches used by the teacher educators in Teachers' Training Colleges in Ethiopia; and
- to develop an alternative model for the teaching of the learning of Geography in Teachers' Training Colleges in Ethiopia.

1.5 MOTIVATION FOR THE RESEARCH

The quality of teaching and learning in Teachers' Training Colleges in Ethiopia may be explained with reference to several factors. How the teachers understand the acquisition of knowledge, their knowledge of societal values, of the subject matter, and of relevant delivery methods all play a role in determining the quality of teaching and learning on the part of the learners. Moreover, the availability

of resources, the motivation of the teachers, and the effectiveness of Management are all of critical importance in determining the quality of teaching and learning that takes please in higher learning institutions (Daniel, 2004).

In Ethiopia, it is about fifteen years since active learning was first introduced in the implementation of the curriculum. However, barriers exist in terms of its practical application due to problems in the actual classroom situation. Although a learner-centred approach may not solve all the quality-education problems in Ethiopia, it is a step in the right direction. Although the term *learner-centred* is widely phrased, it is a poorly understood concept in practice.

Consequently, the researcher would like to study the topic for the following three main reasons and challenges, namely it appears that there is a shortage of clear policy support at college level that encourages the use of student-centred approaches; the lack of well-organized structures that follow up the proper implementation of active learning and student-centred approaches, and the lack of well-trained teachers employing these approaches; and the researcher's interest in widening an understanding in the area, and to contribute to changing the situation in Ethiopia, and to the existing body of knowledge.

Furthermore, albeit all the efforts exerted by the Government to increase the number of Teachers' Training Colleges, their quality is yet at its infantile stage. One of the reasons for this situation is the lack of relevant and workable model(s) of active learning. These, in turn, lead the teachers to persist with the existing traditional approach that limited the students' problem-solving abilities and creative thinking. Consequently, the students are exposed to inadequate knowledge and the skills and competencies needed for the teaching profession. These prevailing problems impressed upon the researcher the necessity of examining the factors accountable for the ineffective implementation of active learning in Ethiopia, and to seek some alternative solutions.

Therefore, the title for this study is topical and valuable because of the shortage of information and the absence of research findings as to how to use active learning techniques in the teaching of Geography courses in Teachers' Training Colleges in Ethiopia.

The study is therefore significant for the following reasons:

- it aims to cast light on the appropriate teaching methods in the teaching of Geography courses in the Teachers' Training Colleges;
- it aims to create an awareness in the officials at the Teachers' Training Colleges, the Education Bureau and the Ministry of Education, by drawing their attention towards the problem, namely implementing active learning; and
- it aims to give the decision-makers in the Ethiopian education system, as well as other researchers some views on the future direction, and on studying the problem under discussion.

In spite of all the benefits for the country, the study may have its limitations, owing to the fact that it is confined to only six regions and one city council teachers' training college, as well as the limited factors considered (e.g., the teachers' perceptions and experiences, the effect of the traditional teaching approach, and the design of the Geography curriculum). And the time limit, the researcher's teaching commitments and additional responsibilities, may all have their own impact on the study.

1.6 AN OVERVIEW OF THE RESEARCH DESIGN

In this study both the quantitative and qualitative research approaches were, with each approach adding something to the understanding of the phenomena (Ary, Jacobs, Sorenson, 2010). The researcher collected and analysed the data, interpreted the findings and drew inferences, using both these approaches. The use of both approaches provided a complex understanding of the research problem rather than either approach alone could (Tashakkon and Taddlie, 1998; Johnson, 2004). The qualitative research approach was used to understand the phenomena by focusing on the total picture rather than breaking it down into variables, and by looking at the variables in the natural setting in which they are found (Key, 1997). This approach was also used to illuminate, to understand, and to extrapolate similar situations. Accordingly, the qualitative method was used to analyse the existing curriculum, and to ascertain the views and perceptions of the teacher trainers and their students in respect of active learning techniques. Alternatively, the quantitative method was used to survey the extent to which the curriculum design, the availability of resources, the training of, and the teachers' attitudes and experiences affect the implementation of active learning in the Teachers' Training Colleges.

In this study, both purposive and random samplings were used. A *sample* in a research study refers to any group from whom information may be obtained. The *population* is the large group of interest to the researcher, to whom the researcher would like to generalize the results of the study. In educational research the population is usually a group of persons, such as students, teachers, or other

individuals (Seyoum, 2006). The purposive sampling technique was used to include four lecturers from the four Teachers' Training Colleges (one from each). The random sampling technique was used to select four colleges from the three regions - Oromia, Amhara, South Nations and Nationalities, and one Administrative City Council (Addis Ababa) - in the country. The random sampling technique was used to give all the members of the population an equal and independent chance of being included in the sample, and to obtain representative samples (Mitchell, 2005; Ary, Jacobs & Sorenson, 2010) from each region and college.

From each Teachers' Training College six teachers of Geography, teaching second- and third-year students, participated in the study. In total thus, 24 teachers participated in the quantitative study. From a total of 655 Geography (social science stream) students, 632 students in their third year were selected randomly to complete the questionnaire. Thus, the total number of students who participated in the study was 632 from the four Teachers' Training Colleges.

The following table offers a brief description of the population of study.

TABLE 1.1: The study population and the sample

Region	**Selected colleges**	**Lecturers (for the questionnaire)**		**Students (for the questionnaire)**		**Lecturers (for the in-depth interview)**	
		Population	**Sample**	**Population**	**Sample**	**Population**	**Sample**
Oromia	**Robe Teachers' Training College**	6	6	160	156	6	2

Amhara	**Debre-Brehan Teacher Education and Vocational Training College**	6	6	165	160	6	2
SNNP	**Hawassa Teachers' Training College**	6	6	168	158	6	2
Addis Ababa	**Kotebe College of Teacher Education**	6	6	162	158	6	2
Total		**24**	**24**	**655**	**632**	**24**	**8**

Questionnaires and interviews were the major data-collection tools used in this study. A *questionnaire* is an instrument used to collect survey information (Cohen, Manion &Morrison, 2000) that consists of a list of questions administered to a number of persons for their answers, and which obtains standardized results that can be tabulated to make the data comparable, and which can be treated statistically (Bradbum, Sudman & Wansink, 2004; Belson, 1981). In this study, two types of questionnaires with structured and open-ended questions were prepared and administered to the teachers and the students at the Teachers' Training Colleges. The open-ended questions were used to afford the respondents freedom, and to secure information which may not be covered in the closed-ended questions. The questions focused on the validity, relevance, pattern, and the appropriateness of the methodology of the Geography modules, and the techniques of their delivery. Questionnaires were used, as information was required from large numbers of students and teachers from different colleges.

Interviews were also conducted. An interview is one of the most widely used and basic methods of obtaining qualitative data. An *interview* is a face-to-face or telephonic conversation with the informants for the purpose of eliciting information regarding their experiences, practices, opinions, beliefs, feelings, and situations **(**Ary, Jacobs, & Sorenson, 2006). It is also crucial in investigating the individuals' unique understanding of phenomena as there is a possibility for every person in some respects like no other person (Mitchell, 2005), help generating data as the participants discuss their interpretation of the world in which they live and express how they regard situations from their own point of view (Cohen, Manion & Morrison, 2007). In this study, semi-structured interviews were used to obtain information from the lecturers at the colleges. The interview technique was also used because it allows the researcher to make use of probes with a view to clearing up vague responses, or to ask for the elaboration of incomplete answers. Furthermore, interviews were used

because of the fact that more often the informants are happy to pass on the information required when contacted personally.

Both quantitative and qualitative analyses of the data were employed. In the analysis of the data, the Statistical Package for the Social Sciences (SPSS) version 16 was used to calculate Pearson's correlation and t-test. The same programme was used to compute the mean, mode, standard deviation frequency, and percentage. Thematic content analysis was done in the analysis of data that were obtained from the interviews (King, 2004).

The researcher planned for the ethical matters surrounding this study. According to Best and Kahn (1993),*research ethics* can be defined as any set of rules or guidelines or human discretions on the part of the researchers that direct the appropriate treatment of the persons participating in the research. Ethical issues in research have to do with how one treats those individuals with whom one interacts and is involved with.

In order to secure sufficient and pertinent data, due attention should always be given to the ethical issues before, during and after data-collection. Several ethical issues and principles have to be considered when designing research that will make use of participants, that is, of human beings (Kothari, 2004).

In this study the application of the questionnaires and the conditions for the interviews and lesson observations were based on the consent of the participants. The participants were given adequate information on the aim of the research, the procedures to be followed, the possible advantages and disadvantages for the respondents, and how the results would be used, for them to make an informed decision to participate or not. The questionnaires were completed anonymously. The information provided by the respondents was used exclusively to draw research conclusions. The respondents' confidentiality was maintained. The authorities at the Colleges were asked for their permission to gather the information from the participants.

1.7 DEFINITION OF THE CONCEPTS

Teaching methods are strategies to obtain the educational objectives, and to move the students towards the intended learning outcomes in order to bring about the intended change of behaviour (Nardos, 1999; Perrot, 1986).

Learning methods are any interventions that are deliberately undertaken to assist the process of learning at individual, team or organisational level. Each person prefers a different learning style and learning technique. Some people may find that they have a dominant style of learning, making far less use of the other styles. However, most individuals make use of a mixture of learning styles, and need different learning methods (Alexander & Winne, 2006). The possibility also exists of developing abilities in less dominant styles, as well as of developing styles that one already uses well. Using multiple learning styles and approaches, or a range of learning and teaching techniques, creates a positive learning environment, which ultimately results in high academic achievement (Bransford, Stevens, Schwartz, Meltzoff, Pea & Roschelle, 2006).In recognizing and understanding the students' learning styles and their demand for different learning methods, the teachers need to use the techniques better suited to their students.

Teacher education is the process of providing the teachers and future teachers with the skills and knowledge necessary to teach effectively in a classroom environment (Perraton, 2007). Teacher education is based on the theory that "…teachers are made, not born", in contrary to the assumption that "…teachers are born, not made". Most teacher education starts with initial training, such as a degree or diploma at a college or university, though other paths are available for a candidate to begin his or her teacher education. Once a teacher has completed his or her degree or diploma, and has obtained certification, he or she may continue his/her education while teaching full-time. Education is a continuous process and its pre-service and in-service components are complimentary to each other. According to the International Encyclopedia of Teaching and Teacher Education (1987), *teacher education* can be considered in three phases, namely pre-service, induction and in-service. The three phases are considered to be part of a continuous process. Continuing education courses, seminars, and professional development activities are all considered part of ongoing teacher training.

Teacher education generally includes four elements, namely improving the general educational background of the trainee teachers; increasing their knowledge and understanding of the subjects they are to teach; pedagogy and the understanding of children and learning; and the development of practical skills and competences. The balance between these four elements varies widely.

Student-centred approaches are approaches to teaching and learning whereby the students learn through cooperation, active involvement and unhampered participation (Illich, 1971).

The **traditional teaching approach** is an approach that involves the direct flow of information, thoughts and meanings from the teacher as a source of knowledge to the passive learners. The goal

for the learner is simply to accept the explanation or methodology expostulated by the teacher (Caprio, 1994).

A **model** is the relationship between approaches, methods and techniques, and a road-map that provides the appropriate structure, and specification of a blueprint that determines the actions the implementer will take and the kind of structure that will result. By the same analogy, an *instructional model* is a type of blueprint for teaching (Kamaruddin, 1993, as cited in Joyce, Weil& Calhoun, 2003). Just as a *blueprint* provides the structure and direction for the engineer, a *model* provides structure and direction for the teacher, that will best help him/her reach the instructional goals –the model guides actions. Teaching models prescribe tested steps and procedures to effectively generate the desired outcomes. Most importantly, any teaching model should optimize learning experiences to the needs of each learner by carefully exploring the learning problems, and by offering tailored assistance. Thus, *teaching models* are specific approaches to instruction that have three characteristics, namely goals, phases and foundations (Joyce, et al., 2003). *Goals* describe the fact that models are designed to help the students develop critical-thinking abilities, and acquire a deep understanding of specific forms of content; *phases* include a series of steps that are intended to help the students reach specific learning goals; *foundations* indicate the fact that models are supported by theory and research on learning and motivation. From the above discussions, therefore, a *model* is a tool designed to help the teachers make their instruction systematic and efficient.

1.8 CHAPTER DIVISION

The research report consists of six chapters. They are briefly described below.

Chapter 1 briefly introduced the study, including the background, the context, the aims, the problem of the study, and the research questions.

Chapter 2 presents the theoretical framework. It deals with the teaching methods, the active learning methods, and the teaching methods in the Geography courses.

Chapter 3 discusses the existing circumstances and factors that affect the introduction of active learning in Teachers' Training Colleges in Ethiopia, and the teaching of Geography courses.

Chapter 4 is the plan of the empirical study. It discusses the qualitative and quantitative methodologies of the study.

Chapter 5presents the results and the interpretation of the empirical study.

Chapter 6 draws conclusions in respect of the study, and makes relevant recommendations.

CHAPTER 2
POSITIVISM AND CONSTRUCTIVISM AS PHILOSOPHIES AND AS TEACHING-LEARNINGTHEORIES

2.1 INTRODUCTION

This chapter presents the conceptual framework, indicating the factors affecting the implementation of active learning methods, and the theoretical framework of producing a model that can promote active learning in the teaching of the learning of Geography in the Ethiopian Colleges of Teacher Education. The conceptual framework includes the factors affecting the implementation of active learning methods, such as national and institutional policies and strategies, philosophy and values. It is apparent that philosophies and learning theories form a distinctive part of the teaching-learning process. The discussion of the conceptual framework and philosophies in the selection of teaching methods will, therefore, be accompanied by theories of learning and models of active learning. Researchers and psychologists are highly concerned with how knowledge is acquired, in order to be able to determine the appropriate teaching-learning methods (Dori, & Hersoritz, 2005:1413). There are various ways of looking at the curriculum, at learning theories and at teaching-learning methods. They can be seen from the perspectives of the teachers, the content, and the students. However, at the heart of every learning theory and its implementation is the student, who is the target focus.

2.2 THE CONCEPTUAL AND THEORETICAL FRAMEWORKS OF THE STUDY

Researchers may develop theories and conceptual frameworks by means of the unbiased analysis of interviews and a review of the most relevant research, which can serve as a framework for interpreting the new data. Although this study is devoted mainly to an analysis of the methods of teaching Geography in Teachers' Training Colleges, it is necessary to encapsulate the study in some theoretical, conceptual and comparative perspective.

2.2.1 The conceptual framework

A model of teaching employed critically determines the effectiveness of teaching-learning methods in any subject/course. However, the methods used should be varied enough to suit the nature of the discipline and of the specific course to be offered. Consequently, based on the purpose of this study, that is, to develop a model for the teaching-learning methods of Geography in Ethiopian Colleges of Teacher Education, the context of the colleges, and the nature of the problem and the theoretical framework, seven factors affecting the effectiveness of the teaching methods were considered (see Figure 2.1). These seven factors are, namely the education and training policy and strategies at

national level; philosophy, and the value of the institution; the nature of the discipline; existing theories and research; the current teaching-learning methods and strategies; the perceptions of teacher-trainees and trainers regarding the teaching-learning methods; training (how student teachers experience the current teaching methods and approaches); and evaluation, as well as incentives. Of these factors, the emphasis is placed on the nature of the discipline, philosophy, theory and practice, policy, the teachers' and trainees' perceptions, the teachers' training background, and existing teaching approaches. Central to all these factors is the teaching method, as the title of this study suggests the focus is to be on this aspect. Whether the teaching methods are active or passive depends on these determining factors. The conceptual framework of this study is grounded in active learning, which is based on the constructivist theories of knowledge that take the social and cognitive structure and information-processing into account. Figure 2.1 indicates the conceptual framework of the study and the link between these determining factors.

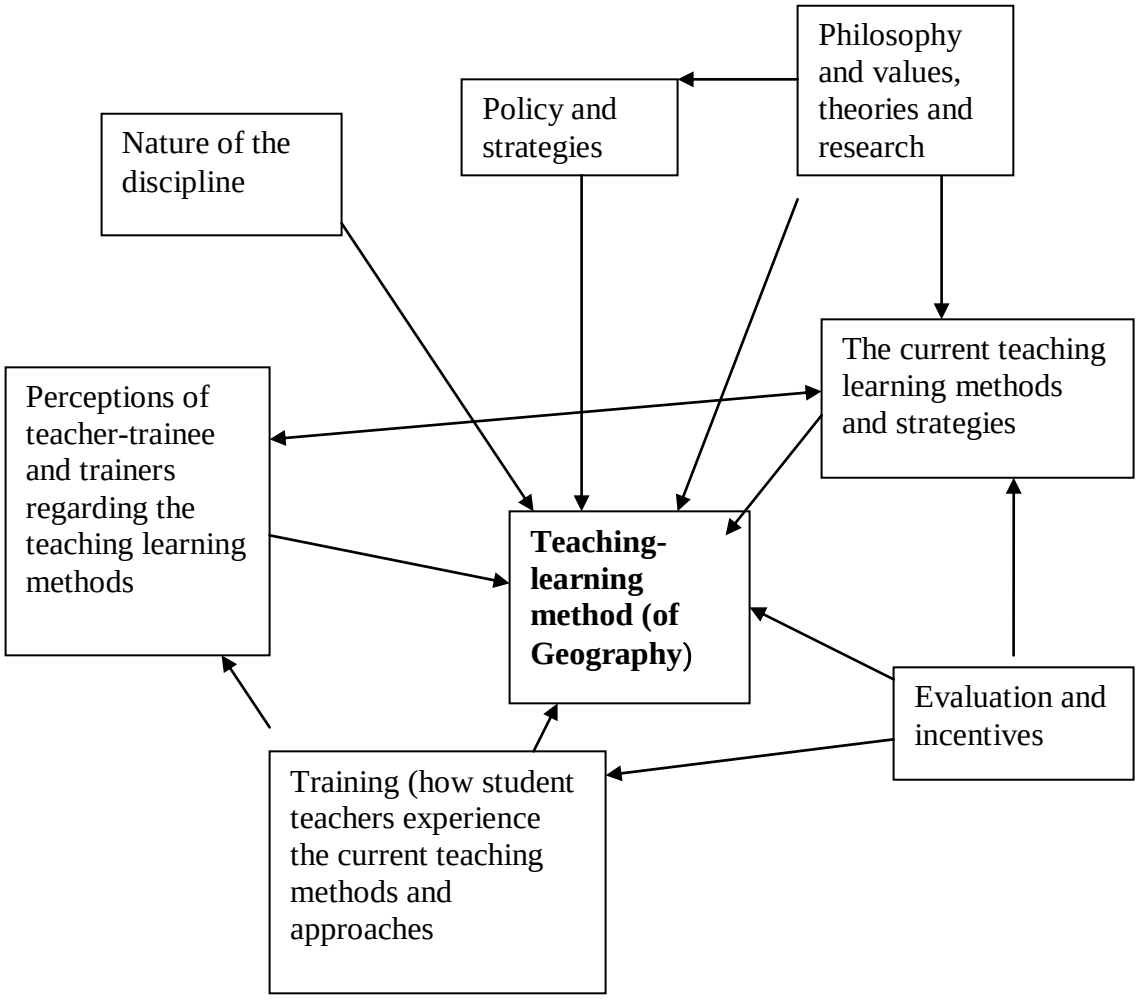

FIGURE 2.1: The conceptual framework of the study

As the teachers', curriculum planners' and other educators' selection of teaching-learning method(s) is profoundly determined by the philosophical world-view, the sections to follow present the philosophical foundation of the teaching-learning process that includes positivism, constructivism and interpretivism.

2.2.1.1 Positivism

Positivism is the belief that there exists a single reality, which is orderly, stable, external to the mind, observable, and can be described from an objective viewpoint. According to this philosophy, knowledge is defined and expressed solely on observable facts and does not give any credence to non-observable entities, such as feelings and values (Higgs & Smith, 2006:37-45). Similarly, Johnson and Onwuegbuzie (2004:14-26) posit that positivists express the ontological belief that there is a stable and unchanging external reality, independent of the human mind/researcher (knower), and epistemology, that the direct observation and examination of objective reality are the sources of knowledge.

Fuchs and Marisol (2008:113-137), and Tyson (2006:6) also indicate that positivism is based on the assumption that there are universal laws that enable a person to describe, predict and control, not only natural phenomena, but also social phenomena (e.g., the understanding of human cultural activities, values, beliefs and meanings). This paradigm, which was originally applied to the natural sciences, was extended to the social sciences in order to search for universally-governing rules of social phenomena (Murphy, 2006:55-65; Fuchs& Marisol, 2008:116-120).

According to Wood and Welch (2010:56-71), some of the major assumptions and emphasis of the positivists include the following:

- the knower and the known are independent, and research enquiry is value-free;
- with the use of scientific methods one can make unbiased and objective observations which may lead the researcher to draw time- and context-free generalizations;
- positivists are closely tied to quantitative methodologies and experimental methods;
- knowledge is obtained through the establishment of a valid and reliable cause-and-effect relationship, followed by a controlled experiment, activated observation, data- collections and analyses; and

- truth is established by looking at the hard facts, and all results must be substantiated with evidence.

From these assumptions, Ashley and Ornestein (2005:94-104) posit that knowledge and truth are inseparable, and are related to an external referent reality (the source of true is in reality). As a result, for the positivist the traditional empirical methods are necessary to produce knowledge. Empirical methods determine how the rational structure of scientific investigation is formulated and tested.

The philosophical approach that is premised on positivism suggests that data derived from sensory experience are the exclusive source of all authentic knowledge. This paradigm encourages the preparation of well-structured learning material and methods to enhance the students' understanding of reality, while at the same time, enables them to advance the processes and strategies to control, manipulate and experiment. The establishment of fruitful control and supervision, and of a collaborative and co-operative atmosphere, are essential parts of school learning that boost student achievement. In the long run, this process enables the students to provide an accurate description of the laws and mechanisms that operate both in nature and the social life. Analogous to these, schools and higher learning institutions should provide structured curricula (e.g., of Geography), that present the students with the opportunities to observe, manipulate, experiment and measure, in order to help them to understand their natural and social environments in controlled situations and under the guidance of the teachers.

This paradigm, as a model of education, has dominated higher education for centuries, emphasising that absolute knowledge ('objective reality') exists independently of human reception. The teacher's job is limited to transmitting this knowledge to the students, and the students' job is to absorb it. This domination, and assisting students to understand reality, has its foundations at home, namely the social participation and activities structured and supervised by the parents. The same situations at home are manifested by the Geography teachers teaching in schools and in higher education institutions.

Although positivism has remained dominant as a research paradigm for several decades in the social and behavioural sciences, and has contributed to the understanding of reality, the nature of knowledge, and approaches in the acquisition of knowledge, it has come under sharp criticism from researchers. For example, Fuchs and Sandoral (2009:112-141) point out that observations are always theory-laden and there is no such thing as value-free, objective and neutral observation to test a

hypothesis. In other words, the testing of knowledge claims the reconstruction of conditions that are observable.

The positivists' approach to knowledge is also criticised because they do not offer any tools to researchers and pedagogues who are interested in the study of feelings, intentions and the social dynamics of classroom learning (Higgs & Smith, 2006:18-24). The other limitation of the positivists' approach includes attempts at measuring phenomena that are by their nature subjective, ignoring contextual factors which are commonly true. These limitations led to the emergence of alternative paradigms. These paradigms include interpretivism, constructivism and critical theory.

Interpretivism and constructivism are discussed below, as the nature of this study calls for these paradigms.

2.2.1.2 Constructivism and interpretivism

Constructivism emerged as an alternative to the positivist paradigm for social and educational enquiry. Differing from positivists, constructivists believe in relativism, and the fact that there are local and specific controlled realities. They follow a subjectivist epistemology, signifying that the knower and the respondent co-create understanding. According to them there is no objective reality, rather, it is constructed by individuals through collective experience (Hagège, Dartnell & Sallantin, 2007:91-103).

Constructivism is a set of interrelated doctrines and philosophies about learning. It is applied to both learning theory and to epistemology, to how people learn, and to the nature of knowledge. *Constructivism* refers to the notion that learners construct knowledge for themselves, both individually and socially. There is no knowledge independent of the meaning (interpretation) attributed to the experience constructed by the learner. Unlike positivism, which believes that reality is a passive reflection of reality, where the learner simply absorbs information transmitted by a teacher, constructivism is a philosophy of learning founded on the premise that by reflecting on our experiences, we generate knowledge and meaning of the world. It claims that each of us as a learner absorbs reality differently, and we own reality through interpreting perceptual experiences of the external world (Taber, 2006:130-141). In addition, Piaget wrote that children develop their own understanding of their environment from their experiences, and from manipulating their environment as they adapt to it (Joe, 2005:14-18).

To the constructivists, knowledge is not mechanistically acquired, but actively constructed within the constraints and offerings of the learning environment (Liu & Charlotte, 2005:386-391).

According to the abovementioned researchers, the construction of knowledge is mainly based on the following assertions:

- knowledge is not passively accumulated, but is a result of the active cognition of the experience of the individual;
- the process of cognition is adaptive, in that it serves the individual's search for validity;
- knowledge is not a mirror of external reality; and
- Knowledge resides in rich social, cultural, and language-based contexts.

Constructivism is therefore a paradigm or world-view which posits that learning is an active and constructive process. Learners, by themselves, are information-constructors. Human beings can actively construct their own subjective representations of objective reality on the basis of a social and cultural context (Joe, 2008:78). Each person has a different interpretation and construction of the knowledge-process. The learner is not a blank slate ('tabula rasa'), but brings past experiences and cultural factors to a situation (Feldman, 2004:181-185).

In general, unlike positivism, constructivism posits that whether or not there is an objective reality, individuals actively construct and reconstruct their own reality in an effort to make sense of their experience. New information is filtered through mental structures ('schemata') that incorporate the student's prior knowledge, beliefs, preconceptions and misconceptions, prejudices, and fears. If the new information is consistent with those structures, it may be integrated into them. If it contradicts the existing knowledge structure, it may be memorized for examinations, but is unlikely to be truly incorporated into the individual's belief system, that is to say, it will not be learned.

Overall, from the constructivist paradigm, learning is individual and social, where information processing is vital. If learning is predominantly information-processing, then instruction should provide for efficient communication and effective strategies that encourage active learning-training methods. The teaching of Geography through the application of the constructivist learning theory (where active learning is central) has, therefore, its roots in social constructivism. This notion is increasingly receiving considerable attention by teachers in Geography (Fox, 2001:23-29). The implication is that the curriculum should be prepared in a way to enhance the students' participation,

where Geography teachers in the higher education institutions design the activities that give the students the opportunities to explore their natural and social environment.

In the following section the theories that are in step with the above philosophical positions will be considered.

2.2.2 The theoretical framework

Different theoretical frameworks guide teaching and learning. Philosophers, psychologists, education experts and curriculum designers have indicated various theories of teaching rooted in learning theories such as behaviourism, constructivism, congnitivism and connectivism. One may refute one theory, while on the other hand, support the other theories. Whatsoever the evidences that are provided and the knowledge produced, there is no absolute theory.

The theoretical framework of the active learning and teaching of Geography emerged from the work of cognitive psychologists (Schultz, 2011:133-144). Their work, situated in a Geography context, integrate a complex dialectic interrelationship between theory and practice (Tilbury & Williams, 2003:105; Smith, 2005:5). Due emphasis was therefore given to the cognitive and the constructivist theories.

2.2.2.1 Learning theories

Many studies on the theories of learning have been done, including by education experts, curriculum designers, and researchers. Among these, Rogers (2003:18-27) conceives *learning* as a relatively permanent change in behaviour, with *behaviour* including both observable activity and internal processes, such as thinking, attitudes, and emotions. He illustrated that the learning theory is an attempt to describe how people and animals learn, thereby helping us to understand the inherently complex process of learning. He argued that learning as a process focuses on what happens when the learning takes place. Besides, Hill (2001:289) indicated that learning theories have two main values: the one is providing us with vocabulary and a conceptual framework for interpreting the examples of learning that we observe, and the other is suggesting where to look for solutions to practical problems. However, Holy and Miskel (2008:43) stress that theories do not give us solutions, but direct our attention towards those variables that are crucial in finding solutions.

Although Hill (2002:85) stresses that the three main categories, or the philosophical framework under which learning theories fall, are behaviourism, cognitivism and constructivism, there is, however, also

a fourth theory, which has close links with the development of information technology, namely connectivism.

In the two sections to follow the first three theories of learning will be discussed, by merging cognitivism and constructivism, as they are interrelated.

a. Behaviourism

Historically, *behaviourism* is traced back to the time of the Greek philosopher Aristotle, whose famous paper focused on associations being made between events such as lightning and thunder. The theory of behaviourism concentrates on the study of overt behaviours that can be observed and measured. The main players in the development of the behaviourist theory were Watson and Pavlov.

Etymologically, behaviourism as a theory was developed by Skinner (Santrock, 2004:215). His focus was on the basic assumption of learning, possible conditioning, and methodological behaviourism. The methodology behaviourism of B.F. Skinner began as a reaction against the introspective psychology that dominated the late 19th and early 20th centuries. Introspective psychologists, such as Wilhelm Wundt, maintained that the study of consciousness was the primary object of psychology. Their methodology was primarily introspective, relying heavily on the first-person report of sensations, and the constituents of immediate experiences. The behaviourists rejected the method of introspection as being subjective and unquantifiable. Instead, they focused on objectively-observable, quantifiable events and behaviours. They argued that since it is not possible to observe objectively and to quantify what occurs in the mind, scientific theories should take into account only observable indicators, such as stimulus-response sequences. In essence, three basic assumptions are held to be true in behaviourism. Firstly, learning is manifested by a change in behaviour. Secondly, the environment shapes behaviour. Thirdly, the principles of contiguity and reinforcement are central to explaining the learning process. Thus, for behaviourism, learning is the acquisition of new behaviour through conditioning. According to Santrock (2004:212), the two types of conditionings are *classical* conditioning and *operant* conditioning.

Classical conditioning is the process by means of which a neutral stimulus becomes a conditioned stimulus. The theory of classical conditioning was formulated by Ivan Pavlov. Pavlov was formerly interested in studying reflexes (salivation) in dogs, where he saw that the dogs drooled even without the proper stimulus. Although no food was in sight, their saliva still dribbled. It turned out that the dogs were reacting to laboratory coats! Every time the dogs were served food, the person who served

the food was wearing a laboratory coat. Therefore, the dogs reacted as if food was on its way whenever they saw a laboratory coat. In a series of experiments, Pavlov then tried to figure out how these phenomena came about. If a bell was sounded in close association with their meal, the dogs learned to associate the sound of the bell with receiving food, and they responded by drooling. This theory implies that learned material (in Geography and others) associated with warmth, a supporting environment, affection and positive stimuli are most likely to be learned (Evangelou, Sylva, Kyriacou, Wild & Glenny, 2009).

Operant conditioning, which is known as *radical behaviourism*, is a form of learning where the occurrence of the behaviour depends on its positive or negative consequences (Feldman, 2004:173). It was developed by B.F. Skinner. Briefly, a form of behaviour may result either in reinforcement, which increases the likelihood of the behaviour recurring, or punishment, which decreases the likelihood of the behaviour recurring. Since the behaviourists view the learning process as a change in behaviour, the educators (e.g., lecturers in Geography) organize the environment to elicit the desired responses by means of such devices as behavioural objectives, competency-based education, and skills-development and training.

Consequently, according to the behaviourists, knowledge is a repertoire of behaviours, where knowledge guides our actions, or at least, it serves as rules for action. Learning is the transmission of information from a teacher to the learner, essentially, the transmission of the response appropriate to a certain stimulus. The point of education is to present the student with the appropriate repertoire of behavioural responses to specific stimuli and to reinforce those responses through an effective reinforcement schedule. An effective schedule of reinforcement is possible by means of the consistent repetition of the material, the small progressive sequences of tasks, and continuous positive reinforcement. Instruction in the higher learning institutions depend on teaching methods which are the so-called ‘skill-and-drill’ exercise, in order to provide the consistent repetition necessary for the effective reinforcement of the response patterns. Other methods include the question (stimulus) and answer (response), frameworks in which questions are of gradually increasing difficulty; guided practice; and regular reviews of material. The behaviourist methods also typically rely heavily on the use of positive reinforcement such as praise, good grades, and prizes. The other point is the fact that the behaviourists test the degree of learning, using methods that measure observable behaviour, such as examinations. Moreover, behaviourist teaching methods have been proved to be most successful in areas where there is a ‘correct’ response or easily memorized material. For example, while the behaviourist methods have been proved to be successful in teaching structured material, such as facts

and formulae, scientific concepts, and the vocabulary of foreign languages, their efficiency in teaching comprehension, composition, and analytical abilities are questionable. The behaviourist theory can be used in the teaching of Geography, on the basis of the nature of the content and the objectives to be achieved. For example, it maybe used in encouraging the step-by-step move from simple to complex, and in setting clear instructional goals, and in the competencies needed in the world of work (teaching).

b. Social-cognitive constructivism

Constructivism is based on the premise that we all construct our own perspective of the world through individual experiences and schema. According to Hill (2002), *constructivism* is a theory of knowledge (epistemology),and that human beings generate knowledge and meaning from an interaction between their experiences and their ideas. Cognitive constructivism suggests that learners construct knowledge out of their experiences by interpreting their perceptual experience of the external world (Brunning, Schraw & Ronning, 1999:215). It is often associated with pedagogical approaches that promote active learning, or learning by doing, in a variety of courses, including in Geography.

According to Richardson (2003:1623-1640), social cognitive constructivism has two origins, namely Piaget's cognitive developmental approach, and the socio-cultural approach of Vygotsky. The former emphasises the individual and the way the learner constructs knowledge, and the latter is concerned mainly with the social process of interaction and participation to construct shared knowledge. The theory of social-cognitive constructivism, which is influential in the teaching and learning process, was more formalised by Jean Piaget, Jerome Bruner, Lev Vygostky and John Dewey(Driver, Asoko, Leach, Mortimer &Scott, 1994:5-12). They are of the general view that learning is a process where the learner actively constructs or builds new ideas or concepts, based on current and past knowledge or experiences, and on the direct interaction with the environment.

In respect of these ideas from the analysis of constructivist epistemology, Fosnot (1996:3-33) and Cobb, Conferey, Disessa, Lehrer, and Schauble (2003:9-13) make the following assumptions:

- knowledge is physically constructed by learners who are involved in active learning;
- knowledge is symbolically constructed by learners who make their own representations of action;
- knowledge is socially constructed by learners who convey their meaning-making to others; and

- knowledge is theoretically constructed by learners who try to explain things they do not completely understand.

These epistemological assumptions imply that the construction of knowledge (in Geography, and other courses) requires a personal endeavour to internalise concepts, and the rules of the general principles, and is facilitated when individuals engage socially in talk and activity about shared problems or tasks (Wai, Kubota & Kishi, 2010:46-56). In the process, it promotes a student's free exploration within a given framework or structure, using active learning, discovery-learning, or knowledge-building. The teacher acts as a facilitator who encourages the students to discover the principles for themselves, and to construct knowledge by working to try and solve realistic problems.

These constructivist theoreticians slightly differ in their area of emphasis. According to Jean Piaget, for example, each learner learns individually through organization and adaptation that involves assimilation and accommodation (Tehart, 2003:25). He regarded the growth of knowledge as something that happens continually in a sequential order (four stages), consisting of logically-embedded structures, where learning is a process of active discovery, and teaching methods assist the students in assimilating new information into their existing knowledge. Piaget's four stages are, namely the sensory motor stage, where the infants use their sense organs, and learn through trial and error; the pre-operational stage, where the children started to think about things in symbolic terms; the concrete-operational stage, where the learners conceptualise things, as long as they are supported by concrete evidence; and the formal operational stage, where abstract thinking takes place.

On the other hand, Vygotsky emphasizes that knowledge is not simply constructed; it is also co-constructed socially by means of communicative interactions (language) with others with relatively more experience. Human beings' linguistic abilities enable them to overcome the natural limitations of their perceptual field by imposing culturally-defined sense and meaning on the world. Thus, language and culture are the frameworks by means of which human beings experience, communicate, and understand reality. Vygotsky distinguished between two developmental levels, namely the level of actual development, and the level of potential development. The *level of actual development* is the level which a learner has already reached, and is the level on which the learner is capable of solving problems independently. The *level of potential development* (the 'zone of proximal development') is the level which a learner is capable of reaching under the guidance of teachers, or in collaboration with peers. The learner is capable of solving problems and understanding material at this level that he or she is not capable of solving or understanding at his/her level of actual development. The level of

potential development comprises cognitive structures that are still in the process of maturing, but which can only mature under the guidance of, or in collaboration with others. This theory encourages collaborative (group) learning methods, where peer interaction (teamwork) is mediated and structured by the teacher.

Bruner extended the social construction of knowledge by Vygotsky, and stated that learning is a social process whereby the students construct new concepts, based on their current knowledge, via the selection of information and constructing hypotheses, and make decisions with the aim of integrating new experiences into their existing mental constructs (Fox, 2001:23-35). Emphasizing action, consequences of action, and reflection to construct one's own understanding, John Dewey asserted that meaning and truth are achieved through the application of ideas to actions and experiences. He, therefore, underscored the idea that schools had to bring real-world problems into the school curriculum, problems that occur in a social context, such as a classroom, where the students join together in manipulating the material and observing outcomes (Taylor, 2011:11).

This constructivist view of knowledge contradicts the view that knowledge is given and absolute. According to Fletcher (2005:313-315), "A useful way to view active learning is in contrast with the transmission model of teaching. In the transmission model, learners are only passively involved in the learning process, usually as observers of a teaching 'event'. In contrast, active learning encourages learners to make sense of topics by engaging in the learning process through participation in a structured learning activity to obtain desired learning outcomes".

The implication is that learning is *active,* in the sense that it involves the learners engaging with the world; and *social,* in the sense that it needs their connection with other learners, teachers, peers and family members; and *contextual,* in the sense that people do not learn by forming relationships with what they already think and know. Thus, the teachers are the facilitators who organize information around important ideas that engage the students' interests, who assist and guide the students in developing new insights, and connect them with their previous learning, rather than as 'dictators' of learning. The curriculum needs to be customized to the students' prior knowledge that emphasizes hands-on problem-solving/experience, and should not be too structured to prevent the learners from constructing meaning, based on their conceptual understanding. Instruction needs to focus on making connections between facts, and on fostering a new understanding in the students through their responses, and to encourage the students to analyse, interpret, and predict information by using open-ended questions, and by promoting extensive dialogue and reflection among them. Assessment should

be part of the learning process, in order that the students may play a bigger role in judging their own progress.

On the whole, from the constructivists' theory, learners interact more with the subject matter (e.g., the Geography course content), and with one another, to construct and 'own 'the knowledge. They are not considered to be empty vessels into which knowledge is 'poured'. In the final analysis, active learning activities are, therefore, important to promote thoughtful engagement, to encourage analytical thinking and reasoning, and to foster the integration and application of knowledge, and are designed around well-defined learning activities (Greeno, 2006:79).

2.3 LEARNING THEORIES AND CRITICISMS IN CONTEMPORARY LITERATURE

In the preceding section the theoretical frameworks of the study were discussed.

In this section some of the weaknesses of these theories, as well as the reasons why they are criticised, will be briefly discussed; first the behaviourist approaches, and then the cognitive-constructivism theories.

Though the approaches of the behaviourists are useful in formulating behavioural contracts and behaviour modification, and allow the learners to react in a predictable way under certain conditions, and guarantee specific learning, they are not without criticism. It is well-known that, according to the behaviourists, learning is a mechanical process of associating the stimulus with the response, which then produces new behaviour, and such behaviour is strengthened by reinforcement. The behaviourists view learners as passive persons who merely respond to stimuli. This is one of the main reasons why they are criticised. They are also criticised because they concentrate on the study of overt behaviour that can be directly observed and measured. These theorists view the mind as a 'black box', in the sense that the response to the stimulus can be observed quantitatively, totally ignoring the possibility of thought processes occurring in the mind (Phelps, 2007:217-226). The behaviourists' approaches are further criticized as being too narrow, specialized, isolated, and interpersonal in standout (Mayer, 2004:14). Overall, according to Ireland (2007), the behaviourists' theories are criticised as they overemphasise the effect of the environment in shaping behaviour, and extrapolate animal behaviour to humans, while they overlook learning by observation, language and internal processes such as feeling, emotions and thinking.

Consequently, in spite of the above criticisms, cognitive constructivism (Piaget's theory) and social constructivism (Vygotsky's theory) play a leading role in human learning. They emphasize learner-centred and discovery-oriented learning processes. According to this view,the learners are believed to be acculturated into their learning community, and can appropriate knowledge be obtained by means of interaction with the immediate environment (Eggen&Kauchak, 1999:42-46).

2.4 THE MODELS OF ACTIVE LEARNING

In this section the models of active learning, grounded in social-cognitive constructivism, will be discussed.

A *model* is a set of abstract hypotheses or mental representations, formulated to describe a process or a sequence of events (Lefrancois, 1997:15-22). It acts as a blueprint for explaining how a solution to a problem can be reached. Several conceptual models exist regarding the implementation of active learning. A number of them are the Constructivist Teaching Model, Fink's Model, the Model of Teaching Integrative Thinking, and the Problem-based Active Learning Model.

A brief explanation of each of these models will subsequently be given.

2.4.1 The Constructivist Teaching Model

A key assumption of the *Constructivist Teaching Model* is that learning is a personal and individual process, namely that learning occurs when the knowledge received during new experiences is processed together with prior knowledge (Wilson, 2007). The major emphasis of this model is that the learner is a 'thinking organism' who can control his/her learning, and should be allowed to exercise it with the relevant support over his/her own cognition and attitude (Luo, 2005).According to this model, both sets of teaching and learning activities are carefully selected to facilitate the learner's ability to minimize limitations and to build up precision.. In each phase the roles of both the teacher and the learner are prescribed for the proper facilitation of the teaching-learning process (Best & Kahn, 2002: 15-20).

2.4.2 Fink's Model

Fink (1999) developed an alternative active learning model to the Constructivist Teaching Model that emphasizes collaborative learning. His model suggests that all learning activities involve some kind of experience or dialogue. Accordingly, dialogue is classified as *dialogue with the self* and *dialogue with others*, and experience is also classified as *observing* and *doing* (Chickering & Gamson, 1987).

The following three suggestions are given by Fink towards the implementation of this model of active learning, namely expand the kinds of learning experience created, take advantage of the "power of interaction", and create dialectic between experience and dialogue.

Expanding the kinds of learning experience created includes creating small groups of students, and having them make a decision, or answering a focused question, and finding ways for them to engage in authentic dialogue. *Taking advantage of the 'power of interaction'* is the idea that each of the four models of active learning has its own value, and simply using more of them should add variety and a means of testing for the learner. When properly connected, they can be interactive, and thereby multiply the educational impact. *Creating dialectic between experience and dialogue* refers to the relationship between the two main components of this model of active learning, i.e. experience and dialogue.

According to this model, new experiences (whether of doing or of observing), have the potential to give the students new perspectives on what is true (beliefs) and/or what is good (values in the world). Dialogue (whether with the self or with others) has the potential to help the students construct the many possible meanings of experience, as well as the insight that comes from them.

2.4.3 The Model of Teaching Integrative Thinking

The *Model of Teaching Integrative Thinking* refers to active learning, based on the existing models of creativity and synthesis (Hesson & Shad, 2007). In this model, cognitive development and Bloom's Taxonomy are crucial, and the students are placed at the heart of the bigger learning process that includes instructors, specialists, and the broad public. It is intended to serve as an operational map that reflects the continual interaction of dynamic learning styles and the personalities of the individual students in a multicultural context (Kooyman, Rorrer, Parikh, Martin, Vandergast, Pearson, & Dickerson, 2010). It contextualizes the students' teaching to the situation of the community's, the schools', the districts', or the state's standards. The model promotes the research and thinking skills of the students, as well as the gained motivation of self-learning as the result of being in contact with the specialists who may be their potential future employees. In this kind of active learning, the students who have questions can register to the system, in order to search for specific information, or to post their questions. Specialists in the area, or knowledgeable and experienced personalities react to the questions by means of which the students obtain new insight, or widen their understanding. The instructors are responsible for teaching the course, controlling the system and managing the flow of

questions and answers from one section to the other (Hesson & Shad, 2007:628). The system can work in every discipline without any complications. The clients are the end-users who will benefit from the system. The instructors are responsible for teaching the course, and for controlling the system.

2.4.4 The Problem-based Active Learning Model

The *Problem-based Active Learning Model* reverses the student from recipient to active, free self-learner and problem-solver, and it slides the emphasis of the educational programs from teaching to learning (Luo, 2005). The model enables the student to learn new knowledge by facing him/her with the problems to be solved. The basis of problem-based learning mainly comprised of the problem, the solution, the practice, research, questioning, realism, originality and integration. The aim of this learning model is to provide for the acquisition of information based on facts. By means of a study it was ascertained that the implementation of the Problem-based Active Learning Model positively affected the students' academic achievement, their attitudes, and their conceptual development (Akinoglu & Ozkardes, 2007). In order to achieve this aim, problems are chosen from the real world, introduced at the beginning of the instruction cycle, and used to provide the context and motivation for the learning that follows (Prince, 2004). The individual is being developed by making possible the integration with the information-accumulation of the student. Even though some differences are observed in practice, problem-based learning is performed in sessions with groups comprising of 6 or 8 persons, guided by an education mentor. They deal with scenarios involving several problems, and aim to find appropriate answers for the stated problems (Akmoglu & Uzkardes, 2007:71).

As it was mentioned in section 1.2, this study will mainly assess these models of teaching and learning, take the Ethiopian context and result of this study into account, extort valuable criteria, and develop guidelines which ultimately help to develop an active learning model in teaching Geography courses in Teachers' Training Colleges in Ethiopia.

2.5 CONCLUSION

The chapter presented the conceptual and theoretical frameworks of the study, as well as the philosophical paradigms (positivism and constructivism) underpinning the teaching methods. *Positivism* focuses on universal laws governing social events and social phenomena, whereas *constructivism* focuses on relativism, and the fact that there are local and specific controlled realities**.** The *conceptual* framework identified factors in the selection of teaching methods, and the *theoretical* framework described learning theories, such as behaviourism and social-cognitive constructivism.

The theory of behaviourism concentrates on the use of studying overt behaviour, and the need to associate stimulus and response, for learning to take place. Social-cognitive constructivism indicates how information is received, processed, stored and retrieved. It also stresses the significance of social interaction, and the sharing of information in one's own construction of knowledge.

In this chapter a number of research models were also discussed to evaluate the status of active learning in teaching Geography in Teachers' Training Colleges in Ethiopia. The models included the Constructivist Teaching Model, Fink's Model, the Model of Teaching Integrative Thinking, and the Problem-based Active Learning Model.

In the chapter to follow, the teaching methods and strategies for teaching Geography in Teachers' Training Colleges in Ethiopia, and the experiences gained from the empirical research, will be discussed.

CHAPTER 3

THE METHODS AND STRATEGIES OF TEACHING GEOGRAPHY IN TEACHERS'TRAINING COLLEGES IN ETHIOPIA

3.1 INTRODUCTION

This chapter deals with the teaching of Geography in Teachers' Training Colleges in Ethiopia. It critically looks at the current teaching methods and strategies that the lecturers employ. This is premised on the fact that the teaching of Geography in different countries has to a great extent evolved in favour of active learning methods, thus implicating the teachers' teaching methods and strategies (Planninc, 2011:41-59). This evolution has fundamental implications for the teaching of Geography within the context of the Ethiopian education system. Relevant literature was consulted to enable the researcher to engage with the concept of teaching methods in general, and Geography in particular, and the challenges of employing active learning methods for the purposes of teaching Geography.

The chapter will cover the concept of teaching methods in general, and specifically the teaching methods used in Geography, as it is related to student-centred teaching methods. The chapter will also indicate the challenges of using active learning in teaching Geography in colleges both worldwide, and in the Ethiopian context.

3.2 THE CONCEPT OF TEACHING METHODS

Teaching methods in curriculum development requires much attention. They are the means to link the teacher and the student. They are also the strategies to attain instructional objectives effectively. A good mixture of, and the engagement of active learning methods by teachers, is espoused far beyond the traditional methods where the teacher merely instructs rather than facilitates learning.

Methods such as the lecture, discussions, questions-and-answers, demonstrations, experiments, role-play, visits, and projects are the processes of teaching by which the intended changes can be achieved in the behaviour of the students (Nardos, 1999:29). UNESCO (2006:1-4) also states that teaching methods are used to 'move' the students towards achieving the intended learning outcomes By means of a variety of methods the teacher spends his/her time presenting new concepts and information to the students, namely by making use of narration, description, explanation, and the direct involvement of the students. In other words, the teachers should employ different teaching methods or strategies for a given instructional objective. This would enable the students to learn

more effectively through their preferred learning styles, as active learning techniques are varied enough to meet the students' different learning needs.

Although there is no universally accepted definition of *active learning*, several authors gave similar definitions thereof. For example, Demirci (2009:53) states that *active learning* is an umbrella-term that refers to several models of instruction that focus on the responsibility of the learners for their learning. On the other hand, Prince (2004:223-226) defines *active learning* as an instructional method that engages the students in the learning process. It requires from the students to do meaningful activities. Dejene, Shippers and Ramos (2007:119) state that active learning is not a 'spectator sport'. Students are not passive recipients what are said by teachers, commit to memorise pre-packed information, and spitting out answers. They have to discuss on the subject of what they are learning, note down about it, relate it to past experiences, use it in their daily lives and must make it parts of their second nature. Dejene, et al. (2007:119-121) argue that it has been demonstrated and supported by research that students learn more if they are actively engaged with the material that they are studying.

Active learning, therefore, involves the students in doing things and thinking about the things that they are doing. This means that in order to initiate the desired behavioural change, the teachers should utilize the views of their students in the methods that they employ (Firdissa, 2005:50). Furthermore, Firdissa argues that learning must not be the result of instruction; rather it should be the result of unhampered participation in a meaningful setting. Temechegn (2001:71) shares this idea by stating that a student-centred methodology is not purely individualistic, rather, students learn through cooperation, active involvement and participation.

It is in the context of this brief background that this section will be devoted to exploring the tenets of active learning in terms of its importance in a teaching situation, and conventional/traditional versus student-centred learning approaches.

3.2.1 The importance of active learning in a teaching situation

Effective teaching and learning requires the use of appropriate methodologies and pedagogies. The use of appropriate methodologies is to meet the needs of present-day generation and the ever-changing learning environments. The lecture method is not suitable for the current generation. Therefore, as lecture methods might have a number of demerits, teachers are inclined to employ a wide range of pedagogies and strategies to encourage students' participation that takes the form of

learning by doing (Deribssa, 2006:130). As a result, the theory of constructivism, which centres on active learning, is increasingly receiving considerable attention by teachers. In the constructivist theory the lecture method receives little attention as the teacher plays more of a facilitative role. According to researchers, the major benefits of active learning can be summarized as follows (Deribssa, 2006:135-136; Pundak & Orit, 2009:216-19):

- it reinforces course content;
- it develops team-building skills;
- it enhances the students' self-esteem;
- it allows for creative problem-solving;
- it promotes the concept of learning by discovery;
- it energizes and invigorates the participants;
- it strengthens the bonds among learners;
- it allows for the practical application of course content;
- it enhances communication with diverse students;
- it offers an enjoyable and exciting learning environment;
- it helps to improve the students' retention and motivation;
- it provides an avenue for student recognition and reward;
- it develops the students' skills rather than the mere transmission and acquisition of information;
- it allows for the exploration of attitudes and values; and
- it involve the students in higher-order thinking.

Many kinds of active learning techniques exist. Depending on their basic features, Prince (2004:223-231) categorized them into five, namely collaborative learning, cooperative learning, team-based learning, case-based learning and problem-based learning (also see Chapter 1 in this regard). *Collaborative learning* is a joint intellectual effort by students in attempt to learn something together by asking one another for information, evaluating one another's ideas, monitoring one another's work, etc. in searching for understanding, meaning, or solutions or to create an artifact or product of their learning. Collaborative learning is based on the model that knowledge can be created within a population where members actively interact by sharing experiences. *Cooperative learning* is an approach where students work in groups to complete tasks collectively toward academic goals. Unlike individual learning, which is usually competitive in nature, students learning cooperatively

capitalize on one another's resources and skills. Everyone succeeds when the group succeeds. *Team-based learning* is an instructional strategy that is based on procedures for developing high performance learning teams that can dramatically enhance the quality of student learning in almost any course. Team-based learning is characterized by forming relatively permanent groups with diverse skill sets and backgrounds, individual student accountability for out-of-class work, and incentive for working effectively together as a team by giving significant credit (course points) for team. *Case based learning* uses virtual trigger cases to stimulate interest in a particular area of the curriculum. It focuses not only on the content of the learning course but also on the real life practical skills and processes. It places more emphasis on putting learning into practice in a real life setting. *Problem-based learning* is a student-centered pedagogy in which students work in groups and learn about a subject by identifying what they already know, what they need to know, and how and where to access new information that may lead to resolution of the problem. The teachers' role are to facilitate learning by supporting, guiding, and monitoring the learning process. It can be used to enhance content knowledge while simultaneously fostering the development of communication, problem-solving, critical thinking, collaboration, and self-directed learning skills.

3.2.2 Conventional versus student-centred learning approaches

Conventional learning (also referred to as *traditional learning*) tends to consider students as passive receptors of information, without consideration of the need to actively participate in the learning process. Within the conventional approach to learning, curricular design is based on low levels of student participation, as decisions in the learning process revolve around the privileged position of the academic as students' main source of knowledge. Indeed, it is a non-participatory approach, where the students are rarely expected to ask questions, or to challenge the theories of the academic. Student-motivation within conventional learning settings tends to take the form of competition between the students, largely based on grades. The conventional approach to learning usually takes place within the traditional learning settings, such as lecture halls and laboratories. The academic, the teacher, is responsible for designing the curriculum, for setting tasks and for formulating the assessment procedure, with the focus of learning being geared towards the next examination (Pundak & Orit, 2009:216).

However, the world in the 21st century has witnessed pedagogical parlance. Enormous changes in education have been made due to developments in education itself and the advance in science and technology. The traditional method, which is dominated by teachers' promotion of rote-learning has

to give way for student-centred learning. The student-centred structure is therefore largely replacing the traditional approach (Demirci, 2010:53, 54 & 62). According to many psychiatrists and education specialists, active leaning is becoming the most well-known teaching and learning mechanism because learning depends on the extent to which the brain is actively utilized. The comparison in Table 3.1 between conventional teaching (teacher-centred) and student-centred teaching by Schiller (2010:369-381), and Slaulnier, Landry, Lungencrer, and Wagner, (2008:169-174) give an insight into the two methods.

TABLE 3.1:Conventionalteaching versus student-centred teaching

Key elements	**Conventional teaching**	**Student-centred teaching**
Balance of power	The teacher's role is that of the primary information-giver and primary evaluator.	The power is shared by the Faculty and the students. The faculties do not make all the decisions for the students without the students' input. The power is usually redistributed to the students in amounts proportional to their ability to handle it.
Function of the contents	The lecture is the primary delivery methodology. It determines the boundary of teaching and learning.	Content plays a dual function in establishing a knowledge-base and in promoting learning. The faculty develops the course content not in respect of everything, but to develop learning skills and learner awareness.
The role of the teacher	Instructors are at the centre of the teaching and learning processes. The students listen to the instructor and often follow orders. Faculties are conceived primarily as specialist who imparts knowledge by lecturing.	The instructors guide and facilitate learning; they do not force learning, by sometimes stepping aside from the centre of the classroom activities. The teachers empower the students to discover knowledge and to learn from one another.
Responsibility of learning	Instructors are agents who deliver knowledge, while the students are viewed as passive vessels,	Teacher should aim to create environments with fewer rules and requirements, conducive to learning, to encourage the

Key elements	Conventional teaching	Student-centred teaching
	ingesting knowledge for recall in tests.	students to learn effectively, and to support the learning efforts of others. The students are motivated to build autonomy and responsibility in learning and to receive timely feedback from the teacher.
Purpose and process of evaluation	Assessment is used to monitor learning. The emphasis is on the correct answers. Desired learning is assessed. Traditional tests measure declarative knowledge: learned recitations and applications to small problems. The tests do not necessarily address the depth of understanding or the skills the students have acquired.	Student-centred methodology deploys a variety of assessment items. Instead of using a single grade as the sole evaluation tool, the teacher should use evaluations to enhance the students' potential to promote learning and to give them the opportunities to develop self- and peer-assessment skills. Evaluations and assessment should be less stressful and should motivate the students to reinforce their knowledge.

From Table 3.1, it is possible to conclude that conventional teaching is teacher-dominated and is passive while at the time teachers are seen as expertise of everything. Whereas, in student-centred teaching learning is 'active', and the teacher plays a facilitating role, while at the same time the learners are seen as creators of their own knowledge.

In the next section the concepts and content of Geography will be briefly discussed in order to give an idea of the constitution of its teaching methodologies and strategies, that is, the context of its application.

3.3 THE CONCEPTS AND CONTENT OF TEACHING GEOGRAPHY

Geography as a discipline is defined in different ways by different people. It consists of diverse contents leading to conflicting definitions, concepts and aims. According to Openshaw and Veneris (2003:1391-1400), Geography is "… the science of place and space". It stresses where things are located on the surface of the earth, why they are located there where they are, how places differ from one another, and how people interact with the environment. Similarly, Lorimer (2005:87) states that Geography helps to explore the learner surrounding from the near to the far. From its early days, the

main question posed in Geography was, “where?” This question has been vague until about 1800 after which the it starts obtaining clear answer. Later, a variant of the question was being asked in the form of “what is where?” This continued until lately, where we ask a question such as, “Why are spatial distributions structured as they are?” Generally speaking, Geography is a discipline that integrates the natural and social sciences; it studies man and his environment, that is, the physical, political, economic and socio-cultural environments; it explains how human and environmental systems function and interact; it deals with a description and explanation of the spatial distribution of the physical and human phenomena, and the interrelationship of interactions among the phenomena and human beings (Brown & Levasseur, 2006:2).

Geography aims to develop the students’ understanding of the space in which they live, and educates them about the various connections between human beings and that space, their social and physical environments, and the causes and consequences of the changes that they see every day, both local and at a global level (Planninc, 2011:41-46). Knowledge of Geography can provide valuable assistance to young people in managing and guiding future developments at a local, national or global level, and in transferring knowledge from the educational and theoretical into the practical fields of life. Geography is not just a science that examines the natural and socio-economic elements and phenomena, and their interaction in a specific geographical area; it is also closely linked with information from everyday life. Regardless of the mechanisms of the different school systems, Geography should retain a key role in the overall education of children and the youth (Planninc, 2011:41-46).

The introduction of Geography as a subject in different countries has gone through a number of evolutionary stages. The experience of African countries, for example, Nigeria and Uganda, indicate that the teaching of Geography has focused on different issues at its various stages of development. In Nigeria, the teaching of Geography at school dates back to the colonial era when Western education was introduced in the country. It has a historical perspective and a chronological order, from the colonial era, when formal education was introduced, to the post-colonial era, and even to the present time. The introduction of Western education in Nigeria introduced the teaching of Geography in the country. The teaching of Geography during that time was based merely on memorization, and mainly on description. This period witnessed the study of Western Europe and a couple of her overseas colonies or settlements, since little or nothing were known about other parts of the world. This culminated in the study of foreign regions such as Britain, Canada and USA, parts of India, France, New Zealand and Australia. The students in Nigeria knew very little about their own country, because

at that time the Geography curriculum was more outward-looking than inward-looking. Only recently has there been a move to focus on local geography, fieldwork and map-work, which are now the bedrocks of the modern-day Geography teaching (Brew, 2003:318).

In Uganda the subject Geography consists of a combination of environmental determination and scientific quantitative paradigms, although other paradigms are slowly surfacing. There is an overemphasis on the physical rather than on social Geography, together with the neglect of a wide range of human experiences. For example, political Geography has been neglected. In addition, environmental deterministic examinations ignore the constructive (and destructive) role of culture, indigenous knowledge and technology, and the way people relate to their environments. They view the productive activities of society, using natural resources as being the most important, and the productive activities are those where the use of natural resources is most direct (Kagoda, 2009:119).

According to Wudu, Tefera, and Woldu (2009:27-35), similar problems were observed in Ethiopia, where the curricula were copies of the Western and Eastern worlds. In recent years especially, after the implementation of the education and training policy of the present Government, the curricula were being designed to enhance the students' understanding from the immediate environment to the wider environment and the world at large, with the emphasis on the social sciences which draw its fundamental elements from Civic Education, History and Geography. The approach and modalities are of integrated systems, with the aim of developing vigilant citizenship, capable of critical thinking and of taking a global view. The curriculum also encourages social participation, and fulfils the intellectual, personal, and societal needs. Hence, it is essentially a broad-based interdisciplinary subject, drawing its content from a variety of disciplines under the social sciences. At primary school level, it is known as Social Studies, organized in such a way that it provides the students with essential knowledge of their immediate environment and equips them with basic life-skills such as self-awareness, decision-making skills and problem-solving skills in order to fulfil the goals of primary education. In view of the above, basic Social Studies skills are the predominant contents at the lower primary school level. Similarly, an awareness of the cultural heritages, the development of a sense of equality of right, cooperation and tolerance, fostering love for one's people and patriotism, familiarizing the students with the values, cultures and mechanisms of democratic governance, and forming basic moral and ethical uprightness, are the major contents at the upper primary school level. At the secondary school level, the elements of Social Studies now become organized as a linear course, under the collective name of Social Sciences appearing as separate subjects referred to as Civic Education, History and Geography. Geography concentrates on imparting the basic knowledge

of skills for analysing spatial distribution and interaction among the elements of the environment at community, regional states, and federal level. In other words, the contents are closely related to the major activities of mankind, and to contemporary problem-related to socio-economic development (Ibid).

3.4 THE TEACHING APPROACHES AND METHODS USED IN GEOGRAPHY

In any pedagogical practice, the teachers are the 'engineers' in the teaching-learning process. They are the initiators or the originators of the instructional communication process by means of the careful selection of appropriate teaching methods, techniques or strategies that will suit the learning environment (Brew, 2003:320).

The different teaching and learning methods which are used within a course are important ingredients in creating the students' intrinsic interest in order to keep them engaged in the actual activity (Gibbs & Coffey, 2004:98; Trowler and Bamber, 2005:85). Technological development brings about new knowledge everyday, and new ways of gaining it. The teachers, therefore, need to design and use methods and techniques that suit these changes, focusing on a new way of learning (active learning), instead of on the traditional way of teaching (Daniel, Desalegn, Yeshitela, Admasu & Adane, 2009:84-86). The teacher's dominant role is to become outmoded as it is largely being replaced by modern active learning processes – soft skills, which combine technological skills to further the success of the students. Peer learning and teacher support are central elements of the active learning settings; creativity and mutual appreciation grow in relation to an open and well-structured learning environment (Kilic, 2010:78).

As long as the teachers are ready to support the students' learning processes rather than simply transmitting knowledge, the geographic information technologies (GIS) would be well-suited for the active learning process. The use of technology is a good opportunity for Geography teachers to employ active learning methods. The methods and contents of teaching Geography, therefore, need to move from teacher-centred to student-centred active learning, oriented on spatial interrelations (Demirci, et al., 2010:54). According to Resnik (2011:44-47) this move from the traditional approach to more advanced active learning would enable school-leavers to be able to

- actively participate in public decision-making;
- understand the basic purpose of geographic information system (GIS) to real world problems; and

- use geo-information interfaces to investigate, to reflect on and to communicate spatial phenomena

In order to make this preparation to use geographic information system possible, universities and other teacher training institutions are required to provide trainee teachers with the adequate skills, material, and working conditions supported by the latest developments in research and technology (Chatterjee, 2008:39).

3.5 MAJOR STUDENT-CENTRED TEACHING METHODS USED IN GEOGRAPHY

There are many student-centred teaching methods that can be considered in the teaching of Geography. The major ones, as indicated by Demirci (2009:47-51), Gibbs and Coffey (2004:92-96), are summarized in table 3.2 below.

TABLE 3.2: Types of student-centred teaching methods in Geography

Active learning methods	Description
Question-and-answer	The teacher lectures and periodically asks questions relating to the information being given. It strives to involve as many students as possible to answer a question.
Goldfish	This is a very useful exercise to use when a teacher wants to discuss a 'hot topic'. He/she should select two students to sit back to back in the centre of the room with other students grouped around them. Each student is assigned a particular view (side of the issue).They have to debate the view. If another student wants to join in, he/she goes to the centre and taps the person they want to replace on the shoulder and takes his or her seat. Each person should be replaced in turn. The teacher can also intervene to get other students involved.
Hot-seating	One member of the class is assigned to be a character or a member of

Active learning methods	Description
	each small group. This can be from the literature, from history, a famous scientist, or politician, any famous personality. The member is placed in the centre of the room/group to role-play the character. Other members of the class/group direct questions to the person in the centre who has to respond as that person. After 10 minutes, the person in the centre and the character being role played may be changed.
Role-play	*Role-play* is when a student or a group of students are given a role to play out in the class. This could be a situation they have to act out, or a person they have to dramatize. For example, in a Geography class, each of the students can be assigned a person from the explorers of the world to role-play, and they would come to the class having researched that individual, ready to be that person. Another way to do role-play is by dividing the students into groups. Each group is given a situation to play out.
Mind-map	A *mind-map* is a visual representation of ideas on any given topic. It is similar to a brainstorm and to a spider diagram but is more pictorial and more organized. The students write the topic to be explored in the centre of the page, using three coloursand an image attached to the topic. The branches should be in a separate colour, with one word written above it indicating the sub-topic. From these main branches, smaller branches will go off in different directions, each with a different piece of information about that sub-topic.
Thought-bubble	A *thought-bubble* is a reflective activity where the students write down their thoughts on a particular topic or lesson. They can write them in a bubble as a visual representation of something coming out of their minds.
Stimulus-material	This is when a teacher gives the students material that will stimulate them and make them think. Often at the beginning of a lesson, he/she might want them to start thinking about the topic he/she is going to teach. He/she can give the students the material which will get them thinking. This might be an article to read, a picture that makes them ask questions, a demonstration, a video or anything that gets the students interested in the topic he/she is teaching.

Active learning methods	Description
Case-studies	The teacher provides the students with two or more different situations or scenarios and the students have to study the situation and describe how they would deal with that situation. These studies should be based on real life situations, and force the students to make a decision on how they would deal with the situation.
Flashcard	Flashcards can be used to review information, concepts, formulas, and ideas. On a card the teacher writes a word, a phrase, a formula, or idea. Then, he shows the card to the students and asks, "Who can tell me what this is?"
Debate	A *debate* is an organized discussion on an issue which is usually controversial. The class is divided into two groups, each supporting a 'side' of the issue; a group that is 'pro' and a group that is 'against'. Each side has a leader and supporters. There is also a chairperson who keeps order during the debate. Each side presents its argument in an organized, clear and intelligent manner. The chairperson or chairing committee then decides who has won. This is decided by judging who has made the strongest, logical arguments, and who has refuted the other side's arguments most successfully.
Independent work	Independent work is when a student completes an assignment, homework, tasks, essay, problem-solving, research, an experiment or any other activities that allow the students to work independently. This is a great way of learning for intra-personal learners who prefer to discover things independently. Independent work can be used before other forms of grouping or before other activities to ensure that all students participate in the work.
Pair-work	This is an activity when a teacher puts the students into pairs. This can be done with the person that they are sitting beside, or the teacher can put them in pairs with people that they have not worked with before. In the pair they can complete a task, discuss a topic, answer questions or prepare a piece of work. If appropriate, feedback could be given to the large group, but it would be best if only some groups did this, as it would

Active learning methods	Description
	be time-consuming and repetitious otherwise.
Pyramiding	*Pyramiding* is a method of teaching where the teacher starts with the individual and then moves to the entire group. Individuals complete a task first, and then move into pairs. The pairs discuss the work that they have just done and make improvements and corrections. Then two pairs join to form a group of4. The groups compare the work that they have done. Finally, feedback can be given to the whole group.
Group-work	This is a simple interaction pattern in which 4-6 students work together on a task. It could be a discussion, or a series of questions, or producing a piece of written work.
Jigsaw groups	This is a form of group-work which works well when a teacher has a number of different tasks or topics that he/she wants the group to cover. First, the teacher divides the class into groups, for example, A, B, C, D and E. Each group gets a different task. Then, once that task has been completed he/she reforms the group by splitting up all the students who previously worked together. The new groups would have one person from group A, one from group B, and so on. If he/she has a very large class he/she could do exactly the same but have two groups who do task A, and two who do task B, and so on. When he/she splits them into new groups, there will still be one A, one B, and so on in each group.
Cross-over group	Students are divided into groups to do a task. After several minutes, the members of the groups move to another group to share the ideas from their original group. From their sharing more discussion develops. After 5 minutes, they will cross-over, or move to another group. This will ensure that the information that the teacher wants the students to learn travels through the entire class. This avoids the need for a lot of feedback.
Visits	Visits, as an activity, involves the teacher organizing a trip to a place of interest for the class.
Action research	Action research is a form of self-reflective enquiry undertaken by the participants in a social situation in order to improve the rationality and justice of their own social or educational practices, as well as their

Active learning methods	Description
	understanding of these practices and the situation in which these practices are carried out.
Research	Research is an activity that can be done either individually or in groups. In this activity the students' investigation is completed in a rigorous and methodical manner. Research involves consulting a variety of sources in-depth on a topic. The students will often explore every angle and source of the topic to reach their own conclusion.
Field-work	*Fieldwork* involves the students going into their field of study to collect and collate data and information on a specific topic. For example, biologists could go into the field to an archaeological site like the Axum to experience how one uncovers historical artefacts. In essence, the teacher designs an activity where he/she brings the students into the field to experience his/her subject area first-hand.

From table 3.2 it is possible to understand that a range of active learning techniques can be used in the teaching of Geography, on the basis of the intended learning outcomes, the nature of the subject matter and the students' needs. In any case, the intention is to enhance the students' direct involvement, their creative thinking, and their problem-solving abilities, while at the same time, to assist them in creating and constructing knowledge on their own.

3.6 THE METHODS OF TEACHING GEOGRAPHY IN DEVELOPING COUNTRIES

The literature indicates that the teaching of Geography is changing from time to time, from a teacher-centred to a student-centred approach, but still many teachers in developing countries slide back to the traditional approach. Ajibade and Raheem (2008:4) conducted research in Nigeria in this respect. The findings of their study reveal that Geography as a school subject in developing countries, especially in Nigeria, has for some decades now been faced with serious problems and challenges that have implications for the lack of employing active learning. These problems include, among others, a lack of adequate staff, in terms of quality and quantity; a lack of incentives and convictions on the part of the available staff; the dearth of instructional material; and the handicaps in respect of practical and fieldwork as aids to teaching. The last point, to say the least, leads to great variations between the understanding of classroom knowledge, and the field experience gained by the students. A logical consequence of this is an ever-increasing failure rate in the high school Geography

examinations, and Geography graduates who know almost every theoretical aspect of the subject, but close to nothing of corresponding features in the field. The problem can partly be attributed to the teachers' inability to employ active learning methods. This fact was also found to be a common phenomenon at Teachers' Training Colleges in Ethiopia.

The teaching of Geography during the post-colonial era in Nigeria was more on locally-relevant education than as the result of external influences as it was before. The teaching took into consideration the potential, resources and immediate needs of the Nigerian learners, and the people in general. In the teaching of Geography during this period it was realized that the students have to properly and comprehensively study their own local or immediate environments before being exposed to the study of other parts of the world. The aphorism states, "charity begins at home", and that is in consonance with the pedagogical principle that teaching must start from the known to the unknown, from simple to complex, and from concrete to abstract. In Nigeria, at secondary school level, the nature of Geography teaching is compartmentalized, thus as physical, human and regional, and map-work (map-reading and interpretation). The teaching of Geography at this level is centred mainly on man's interaction with his environment. Relevant geographical topics related to the immediate environment of the students are incorporated, and the teaching methods are varied enough to value the diversity of the students. Hence, a variety of methods exist that a teacher can employ during his teaching, such as discussions, activities, questions-and-answers, projects, and the lecture method. However, in selecting a method, certain factors should be considered, such as the characteristics of the learners, the subject matter, the time and the place of the lesson, instructional materials, and instructional objectives (National Open University of Nigeria, 2006:14-16).

The Geography curriculum in Ugandan secondary schools and colleges needs to be revised to include indigenous knowledge and technology, where appropriate. This will make the curriculum more relevant to the needs of the local population, and will integrate modern technology and innovative ideas into the curriculum. The teachers and the teacher training institutions should do research in the area of indigenous knowledge, package it, and disseminate it into the school curriculum. Integrating indigenous knowledge with technology will help to implement education for sustainable development, and may make it possible to preserve the environment. Integration of indigenous knowledge has pedagogical importance, in that the content and the methods proposed promote social responsibility, citizenship, patriotism and social relevance, which are among the key objectives of teaching Geography (Kagoda, 2009:119-120). As technology is integrated with indigenous knowledge, this makes it possible to make learning more active and student-centred.

A study conducted in Turkey indicated that the expectations of the students who participated in the study of Geography revealed that the Geography lessons were more fun, more use was made of visual tools and equipment, the classroom activities more effectively explained the lessons, the books were more understandable, computer technology was advanced in the classes, and the subject was easier. One of the most serious problems encountered in the Geography education in the schools was the teachers insisting on teacher-centred teaching methods, techniques and strategies. The Geography teacher should provide the best of his/her knowledge and most enjoyable subject matter through the use of technology, and integrate it with the most appropriate methods of teaching (Aydin, 2010:301).

Other problems related to the content of Geography education include constraints on the use of fieldwork in Geography. In Turkey the contents of Geography has some cohesion and coherence with each other, but does not allow the students to explore their environment as desired. In relation to the relevance of fieldwork, the focus remains essentially the 'field', with the view that, "…the only true geographical laboratory is the world outside the classroom" (Ajibade & Raheem, 2008:3). In other words, all classroom knowledge, no matter how meticulously designed and/or delivered, remains a model of which its reality resides in the field. However, fieldwork served only as complementary to classroom knowledge, which limited the application of active learning method in geography. But it is known that fieldwork allows the students to collect specimens, and record occurrences from nature, which is the characteristic approach of the field sciences in, for example, Botany, Geology, Zoology and Geography.

In recent years one of the most important goals of teacher education has been to deliver effective teachers who are able to facilitate learning for the students. The achievement of this goal will be realised by means of sufficient knowledge of the subject matter, course-work, field-experience, and practice in the classroom. However, in Greece the standard of the delivery of effective teachers is not a reality in respect of the teachers who are to teach Geography in primary and secondary schools. Many of these teachers have never been taught Geography during their studies. Furthermore, secondary school teachers have never followed a course on pedagogical or didactical issues. These concerns indicate the need for teaching Geography that makes use of the appropriate and effective pedagogical approaches in higher education institutions in order to prepare the teachers to be able to teach Geography in primary and secondary schools (Klonari & Koutsopoulos, 2005:152-154).

An effective Geography teacher "…has to know very well the content of Geography and can explain everything very well, use photographs, maps and other material (journal's articles, news from newspapers, and media, etc.) in teaching Geography", according to Aydin (2010:276). An effective Geography teacher is one who can make the teaching of Geography fun, so that the students may be able to easily understand the subject. As far as the teachers' knowledge is concerned, a Geography teacher should have knowledge of the subject, of teaching methods, and of the students' abilities. Finally, a 'good' Geography teacher needs to have the know-how to manage the classroom effectively (Brew, 2003:16-17).

3.7 THE CHALLENGES OF USING ACTIVE LEARNING IN TEACHING GEOGRAPHY IN COLLEGES

In recent years numerous studies have been undertaken on the challenges of making use of active learning. In a study that interviewed 332 instructors and teachers (Niemi, 2003: 763-780), the respondents noted six factors/variables that they felt prevented them from engaging in teaching that promotes active learning. They are:

- a lack of time, due to the need to complete all the required material in a packed curriculum;
- teaching large groups does not permit active teaching;
- a shortage of study material suitable for the active-teaching approach;
- opposition among senior teachers to changes after they have developed teaching methods suited to their capabilities and experience;
- a lack of meta-cognitive skills and motivation on the part of the students - the teachers felt that the students preferred the traditional learning methods; and
- between the high school teachers, parental opposition to change was also mentioned.

In addition to the above, in their study Daniel, et al. (2009:74-84) indicated the following as some of the obstacles preventing active learning strategies in Ethiopia, namely

- the problem to cover as much course content in the available time;
- devising active learning strategies takes too much pre-class preparation;
- the large class sizes prevent the implementation of active learning strategies;
- most of the instructors think of themselves as being good lecturers; and
- there exists a lack of material or the equipment needed to support active learning approaches.

The teachers' inability to use computer technology, and the relatively few opportunities for continuing professional development in the use of computers in Geography education also limited the use of active learning techniques (Osoda, Indoshi & Ongati, 2010:219-225). Thus, in many schools the weaknesses in Geography education seem to be associated with teachers' restrain in the use of, and strategic management of cross-curricular information and communication technology. The few schools that had computers did not use them for Geography education. Instead, there existed only a sporadic and superficial use of computer technology in the basic applications for the manipulation of figures and text. The extent of computer use in Geography education was therefore minimal, if at all, uncoordinated, and lacking innovation.

A study in Oman showed that the major challenges facing Social Studies (Geography and History) were centred round a lack of participation of the local communities, the teachers and the students in determining the goal and content areas of Social Studies. One reason explaining this finding is situated with the centralized decision-making authority in Oman. The central communities in the Ministry of Education are responsible for designing and developing various aspects of Social Studies. As a result, the teachers and the students have less opportunities to participate in planning and developing the social studies curricula (Al-Nofli, 2010:16).

However, one of the major goals of science and technology education is to promote the students' active learning as a way to improve their conceptual understanding and thinking skills. Although there is clear evidence of the benefits of active learning, most lecturers in higher education institutions still adhere to the traditional teaching methods.

3.8 THE CHALLENGES OF USING ACTIVE LEARNING IN TEACHING GEOGRAPHY IN THE ETHIOPIAN CONTEXT

Much attention has been given to the education system after the Education and Training Policy of Ethiopia was implemented in 1994. The Policy identified the problems of Ethiopian education, the most important being problems in respect of relevance, access, quality and equity. Of the challenges addressed by the Policy relating to quality, were the teachers' insistence on the traditional approach, their struggling to maintain the old status quo, and their inability to employ active learning/teaching methods. The Policy states that "…the absence of interrelated contents and mode of presentation that can develop student's knowledge, cognitive abilities and behavioural changes by level, to adequately enrich problem-solving ability and attitude, are some of the major problems of our education system"

(Wudu, et al., 2009:41-43). One of the goals as indicated in the Policy is, therefore, to develop the physical and mental potential and problem-solving capacities of the individuals.

In addition to this, on the basis of the Policy, as Ethiopia is a developing country, it has invested extensively in expanding its educational opportunities. In this expansion, there has been a drastic restructuring of its system of preparing teachers and teacher educators. Often, improving the quality of the teachers is dependent on professional development that diversifies teaching methods. It includes the transformation of teaching methods from a teacher-centred teaching pedagogy to active learning (Francis, 2010:78-90). However, with the rapid expansion of the education system in Ethiopia, fundamental changes in the approach to the problems of teaching and learning are a necessity for improving quality of education. Until recently, much discussion of educational quality in Ethiopia has been centred on only system inputs, such as supporting inputs from outside, and school facilities. Not much attention has been given to the teaching-learning process, which involves what is happening in the classroom. Indicators such as the use of interactive teaching methods how progress is assessed, and motivating students are among those applied to these processes. Researchers such as Deribssa (2006:134-135) confirm that the effectiveness of the teaching-learning process depends largely on the teacher's ability to use interactive methods of teaching. In Ethiopia, the current curriculum in all levels call for an emphasis on the active learning and teaching approach, and therefore demands from the teachers to employ this teaching-learning style. However, little attempt is made in the policy documents and other subsequent education strategy documents to give elaborations on interactive methods and to indicate how it can be translated in the teaching-learning process in the classroom situation. Thus, *learner-centred* is most commonly understood for what it is not. Even some education personnel at different levels are only phrasing around the term without mastering it.

A study by Wudu, et al. (2009:32-39) grouped the factors in Ethiopia hindering the implementation of learner-centred approaches into student-related factors, teacher-related factors, resources and equipment-related factors, and the school environment and policy.

These are explained below:

- Student-related factors – these are factors related to the students' motivation, their ages/maturity level, interests, problems in respect of the mastery of the English language, and their negative attitude towards active learning methods.

- Teacher-related factors – these are factors associated with the teachers themselves. They include the teachers' workload (they are expected to teach up to 30 periods per week), the lack of short-term training (refreshment courses), etc.
- Resource and equipment-related factors – these are factors that hinder the new teacher from implementing the learner-centred method (LCM) in the classrooms. The following were mentioned as the most relevant factors, namely the shortage of laboratory materials, of books (learning materials), of instructional materials, and of chairs, the non-existence of a library, and the shortage/absence of facilities.
- The school environment and policy – the major factors that affect the teachers' use of learner-centred methods include, namely assigning teachers to teach different courses (e.g., three major courses), a shortage of time, the classroom arrangement (due to chair arrangement, large class sizes, budget problems for purchasing material, problems in respect of period allotment, problems of completing the syllabus and the lack of encouragement from the Woreda Education Office.

In addition to these factors, the study by Deribssa (2006:130-133) indicated that even though the employment of innovative teaching and learning is emphasized in the Ethiopian Education and Training Policy of 1994, this emphasis in the policy could not be exercised at the grassroots level, that is, in the schools. Currently the traditional lecture method, where the teachers talk and the students listen, dominates most classrooms. The common obstacles to the employment of innovative methods of teaching as indicated in this study are the Ethiopian tradition of teaching and child-upbringing, the lack of institutional support and of learning resources, the teachers' lack of expertise, inappropriate curricular material, and the students' lack of prior experience to actively participate in the teaching and learning process. On the spectrum running from the traditional 'chalk-and-talk' teaching to 'open-ended' instruction, Deribssa recommends structured teaching – a combination of direct instruction, guided practice and independent learning, and integrating lecture with interactive teaching that demand re-writing the curricular materials, re-training teachers, and improving the provision of learning resources.

After analysing the literature and information obtained from different training sessions and workshops, Tesfaye and Atota (2011:15-18) identified the following threats for the implementation of active learning methods in Ethiopia:

- **The lack of resources:** Active learning methods demand much and expensive resources. Alternatively, there appear to be so many active learning techniques that demand no or few

resources, for example active learning techniques such as brainstorming, questioning, pair-work, small-group discussion, modified lecture, assignments, presentations, buzz-groups, cross-over groups, jigsaw groups, and case studies.

- **Large class sizes:** Arguments indicate that a large class by itself has little to no effect on teaching and learning in general and on the use of active learning methods in particular, provided that the teacher selects appropriate methods of teaching. Of course, there are many active learning methods that are difficult to effectively utilize in large classes; however, alternative active learning techniques, such as brainstorming, pair-work, questioning, jigsaw-groups, buzz-groups, modified-lecture, small-group discussions, and the likes, are possible in large classes. Another misunderstanding behind the concept of active learning is that 'active learning' is merely the involvement of learners physically moving around the classroom, which emanates from a shallow understanding of the issue. Nevertheless, active learning being beyond that, focuses on the students' mental and emotional involvement, namely 'moving' their minds and emotions around without them physically moving around, because learning in any educational setting is more of a mental task.
- **Large course contents versus little time:** There is always more content than time in a semester, so we need criteria and professional decisions for making the choices about what to focus on and what to leave out. Merely covering a portion (contents) of a given course, however, is not the primary purpose of the teaching-learning process. What matters is how much the students are learning, not how much a teacher is teaching. Just as one cannot do everything . . . nor doing everything is good, teachers need to learn to say 'NO' to things that are not/less important or not a priority.
- **Inability to plan in advance and effective time-management:** Like prioritizing our tasks and responsibilities, planning in advance and effective time-management assists to put one's personal and professional life in order, and provides the opportunity to realize what is important and what is not.
- **Inability to delegate responsibilities to the students:** Because of the impact of the teaching methodology and educational policies of the past, most of the teachers and students might feel that teaching is entirely the job of a teacher. Nevertheless, the active learning method even encourages transferring some contents, tasks, activities, or any teaching element to the students, with clear instructions and proper model-examples, so that the teacher may only have to summarize the pillar points.
- **A lack of awareness and experience on the part of both the teachers and the students about the 'what' and 'how' of active learning methods:** Some teachers and learners lack

sufficient awareness and experience as to 'what' – the concept of active learning in general, and active learning methods in particular.

- **Negative attitude, the lack of devotion, accountability, responsibility and commitment to one's profession**

Also, there is a saying that says, "…teachers teach the way they were taught," to mean, if for example, the teachers learnt mainly through the lecture methods, this will be their main mode of content delivery (Machnaik, 2002:7). However, teachers, as professionals, are expected to be analytic and socially-aware of the ever-changing world and the dynamics in education, and avoid an over-dependency on their initial pre-service training. They have to adapt to current and more appropriate instructional methodologies. Teachers who do not believe in the age-old assumption which acknowledges a teacher as the best person in the classroom in giving information and the only source of knowledge, devaluing the role of the learners' minds as being 'empty vessels' to be filled by the teacher, will avoid negative attitudes which may harm the process of teaching and learning. They will adhere to the constructive epistemology of knowledge, and will develop positive attitudes towards active learning.

Furthermore, the students' experiences of methods of teaching and assessment used and their attitudes are of paramount importance for the active learning and/or continuous assessment to be successfully implemented. The learners need to consider the implication of active learning and/or continuous assessment for them in their own lives and decide to act, know and believe in new ways.

3.9 CONCLUSION

The application of a student-centred learning approach depends to a large extent on the role played by the education institution to enhance the use of such an approach, and its acceptability by both the teachers and the learners. However, this approach entails a number of challenges, which implies it needs to be employed to meet the demands of the current generation. This chapter covered the basic concepts of, the need for, and the relative advantages of active learning methods over the conventional teacher-centred method. These methods were linked with the teaching of Geography. The contexts in different countries relevant to Ethiopia, the challenges encountered (e.g., the lack of institutional support and resources, the teachers' lack of expertise, an inappropriate curriculum, the lack of materials, and the students' lack of prior experience), as well as possible solutions were also discussed.

The chapter to follow will present the research design and methodology for the empirical investigation.

CHAPTER 4

THE RESEARCH METHODOLOGY AND DESIGN

4.1 INTRODUCTION

In Chapter 3 the literature on teaching methods and strategies in respect of Geography in Ethiopian Teachers' Training Colleges was presented.

In this chapter the research methodology and the design which were used in the empirical study is described in detail. The chapter also contains details of the approach used and the conditions under which the various stages of the investigation were carried out, as well as the pilot survey to check the validity and reliability and the design of the main research instrument.

The selection of the methodology and the design is dictated by the underlying philosophical assumption(s), the nature of the research problem, the research aim, and the type of data required. The main aim of this study was to produce a model that can promote the active learning of Geography in the Colleges of Teaching Education in Ethiopia.

In this study the methodology of descriptive survey with a mixed-methods research design was used.

4.2 THE RESEARCH DESIGN

A *research design* is the conceptual structure within which research is conducted; it constitutes the blueprint for the collection, measurement and analysis of data (Kothari, 2004: 2). Burber, Garder and Richards (2004:141-156) state that a research design is mainly concerned with the arrangement of the conditions for the collection and analysis of data in a manner that aims to combine relevance to the research purpose with the issue in procedure. The function of the research design is to provide for the collection of relevant information with minimal expenditure of effort, time and money. Furthermore, a research design describes a flexible set of guidelines that connects theoretical paradigms to strategies of inquiry and methods for collecting empirical material. In short, the function of a research design is to ensure that the evidence obtained enables one to answer the research questions.

In this study, the mixed-methods research design (using both quantitative and qualitative methods) was used. The descriptive survey was used as a quantitative research design, and phenomenology as a qualitative research design. The descriptive survey was used to portray the status of active learning, and it dealt with the relationships between active learning and influencing variables. Furthermore, the

survey was used to select a representative sample from the entire population, and to administer the questionnaire in order to describe the attitudes, opinions, behaviours or characteristics of the population (Creswell, 2009:388; Gall, Gall & Borg, 2003:222). The generalization of findings is one of the major characteristics of quantitative research.

Phenomenology was used to explore and better understand the complexity of the phenomena – "…allow the phenomena to speak for themselves" (Mitchell, 2005:192). Phenomenology is concerned with the understanding of lived-experiences from the perspectives and experiences of the people. In this study phenomenology was used to investigate the lecturers' lived experiences, perspectives, views and perceptions of the current status of active learning methods in Teachers' Training Colleges in Ethiopia.

In the section to follow the paradigms in which the mixed research design are grounded will be discussed.

4.2.1 The research paradigm

The mixed-methods research design is grounded in the research philosophy of pragmatism, which combines any pertinent paradigms, such as positivism, interpretivism and constructivism.

Positivism is the belief that reality is stable, external to mind, observable and can be described from an objective viewpoint. A person simply absorbs information about reality, and reflects this reality that can be measured. The research method that is associated with positivism is the quantitative research method which is used to principally obtain numerical data (Ary, Jacobs & Sorenson, and 2010:562).

Interpretivism is the belief that reality is socially constructed and understood through subjective interpretation. It provides a deep insight into complex lived experiences from the point of view of those who live it (Schwandt, 1994:118). The researcher's interaction with the research participants, and his interpretations, backed by quality arguments, play a key role in this kind of study (Garcia & Quek, 1997:459).

Constructivism, again, is the belief that there are multiple realities, and that we construct our own understanding or generate our knowledge and meaning of the world that we live in by reflecting on our experiences (Young & Collin, 2004:375). Constructivism focuses on the individual, and is

concerned with how individuals construct and make sense (meaning) of their social and psychological worlds. When we bring the two paradigms (Interpretivism and Constructivism) together, people construct their own reality (constructivism), and interpret reality differently (interpretivism).

Qualitative research methodology is useful in obtaining verbal data to add meaning to numbers, by exploring the meanings people attach to their experiences and the social influences that shape these meanings. Consequently, the use of a mixed-methods approach provides an in-depth, comprehensive and complete picture of a research problem (Creswell, 2009:205; Yin, 2009:42; Williams, 2007:65-72).

This study combined quantitative and qualitative data so as to collect data about the complex nature of teaching methods in Geography that demand the analysis and merging of results to better understand a research problem. The mixed-methods research design with concurrent embedded design was used. The *quantitative* method is the method that guides the project, and the *qualitative* method is used as a secondary method that provides a supporting role. The quantitative research methodology was used to obtain numerical data to add precision to the qualitative data, while the qualitative research methodology was used to obtain verbal data to add explorative meaning to the quantitative data (Ary, et al., 2010:562). In other words, these approaches were used because of the nature of the problem being pursued in this study. The nature of the problem demands the gathering of both quantitative and qualitative information from the teachers and students in the form of a rating scale and a Likert-type scale. The quantitative data is substantiated with qualitative data obtained through the interviews with purposively selected Geography teachers. The mixed-methods design was also used to triangulate quantitative and qualitative data, in that the drawback of one method is compensated for by the advantages of the other. Furthermore, it was used to obtain a more substantive picture about the complex nature of teaching methods, more specifically, active learning methods (Greene, 2006:93-98; Johnson, Onwuegbuzie & Turner, 2007:112-133).

In Table 4.1 some of the ways in which qualitative and quantitative researches differ are summarized, and also how these differences were applied in this study to compensate for each other.

TABLE 4.1: The differences between the qualitative and quantitative research methods
(Adopted from Hancock, Ockleford &Windridge, 2009:6)

Qualitative research	Quantitative research

Qualitative research	Quantitative research
Tends to focus on how people or groups of people can have (somewhat) different ways of looking at reality. In this study, interviews were conducted with four Geography teachers, one from each College, to portray the differences and similarities of their personal views regarding the teaching of Geography.	Tends to focus on ways of describing and understanding reality by the discovery of general laws. The research employs both descriptive and inferential statistical methods to study variables related to active learning methods to arrive at valid conclusions or generalisations by establishing a relationship among pertinent variables.
Takes account of the complexity by incorporating the real-world context. From the results of the interviews, the study built in views of the lecturers through direct quotations of their sayings so as to add context to the study.	Takes account of the complexity by a precise definition of the focus of interest. In line with this line of thought in this study, the analysis of the data was preceded by the identification of pertinent dependent and independent variables. The independent variables included the lecturers'/students' perceptions and attitudes, resources/facilities, training/professional support and guidelines, whereas the dependent variable is teaching methods.
Studies behaviour in the natural settings or uses people's accounts as data, usually with no manipulation of variables. To operationalize this aspect in this study, interviews were conducted with the lecturers in their Colleges in order to obtain their accounts of the existing challenges in employing active learning methods in Geography.	Involves the manipulation of some variables (independent variables) while other variables (which would be considered to be extraneous and confounding variables) are held constant. In the analysis of the data, therefore, regression analysis/partial correlation was employed to identify the contributing factors in using active learning methods by holding other factors constant.
Focuses on reports of experience or on data which cannot be adequately expressed numerically. In this empirical study, the teachers' were interviewed to give their accounts of their lived-experiences to obtain	Uses statistical techniques that allow us to talk about how likely it is that something is true for a given population in an objective or measurable sense. In this study, different statistical methods, such as percentage, chi-square, ANOVA and

Qualitative research	Quantitative research
information about the challenges in using active learning methods in the teaching of Geography.	regression analysis were used to reliably measure the effect of factors accountable for the variation in the use of teaching methods.
Focuses on description and interpretation and might lead to the development of new concepts or theory, or to an evaluation of an organizational process. Consistent with this thought, the data obtained by means of the interviews were transcribed, read time-and-again to familiarise myself with and get the general impression, and then themes were identified and coded according to which interpretations and integration of themes were made.	Focuses on cause and effect. In terms of this aspect, the relationships between the independent variables (cause) and dependent variables (effect) were examined. That is, in this study the relationship between independent variables (lecturers'/students' perceptions and attitudes, resources/facilities, training/professional support and guidelines) and the dependent variable (teaching methods) was examined.
Employs a flexible emergent but systematic research process. In interviews, a general interview guide was prepared in advance and flexibly used by not limiting it to questions in the interview guide only.	Requires the research process to be defined in advance. In this study, the target population, sampling procedures, instrument-development processes, data-collection procedures, and methods of data analysis were defined in advance.

4.2.2 The qualitative research approach and how it was applied in this study

The *qualitative* approach to research is concerned with the subjective assessment of attitudes, opinions and behaviour. It is a form of systematic empirical inquiry into meaning. It emphasizes the design of the research, and the use of distinct approaches into inquiry (Kothari, 2004:5; Shank, 2002:5; Creswell 2007:37). It is concerned with the social aspects of the world and seeks to answer questions about why people behave the way they do; how opinions and attitudes are formed; how people are affected by the events that go on around them; and how and why cultures and practices have developed in the way they have (Hancock, et al., 2009:45). In step with this line of thought, the objective of qualitative research (using interviews) in this study was to obtain information about the teachers' viewpoints, their lived-experiences and practices, their opinions, and perceptions, and to identify the challenges in the application of active learning methods.

Qualitative research was a function of researcher's insights and impressions obtained through approaching teachers, discussing the issues, identifying themes and categories and finally integrating themes and categories to conceptualise the underlying problems in using active learning methods. Such qualitative approach generates results either in non-quantitative form or in the form which is not subjected to rigorous quantitative analysis. The two characteristics of qualitative research are the social phenomenon being investigated from the participant's viewpoint, and experiences (Williams, 2007:53-72). In general the techniques of focus group interviews, projective techniques (research procedures designed to identify respondent's subconscious feelings and motivations through tests which often require respondents' to interpret ambiguous stimuli such as incomplete sentences, cartoons, or inkblots) and in-depth interviews are used in qualitative research.

Qualitative research is especially important in the behavioural sciences where the aim is to discover the underlying motives of human behaviour. Through such research one can analyse the various factors which motivate people to behave in a particular manner, or which make people like or dislike a particular thing (Kothari, 2004:2). In this study it was investigated as to why teachers relied on the traditional methods more than on active learning methods.

To substantiate the quantitative data, in-depth interviews were used to collect information from the teachers on their methods of teaching Geography in the selected Teachers' Training Colleges. In interview, open-ended questions were used as a means to gather qualitative data from the sampled lecturers.

4.2.3 The quantitative research approach and how it was applied in this study

Quantitative research is based on the measurement of quantity or amount. It is applicable to phenomena that can be expressed in terms of quantity (Hancock, et al., 2009:34). This quantitative research part is used to portray the status of a phenomenon, specifically in this study, the application of active learning in Teachers' Education Colleges in Ethiopia, so as to determine what happened during the teaching-learning activity. It deals with the relationships between variables (e.g., the relationship between the use of active learning methods and teachers' attitude in the teaching of Geography). The quantitative research mainly focus on the research design, on the test and measurement procedure of a reality/phenomenon, and on statistical analysis to respond to the research questions requiring numerical data (Williams, 2007:65). In the quantitative research design, survey questionnaires are used to collect the data that can be expressed in terms of quantitative descriptions.

In this study survey questionnaires were administered to both the sampled teachers and the students at the selected Colleges.

4.2.4 Data-gathering methods

Many instruments may be used to collect data in quantitative research, i.e., tests, questionnaires, checklists, etc., and in qualitative research, e.g., interviews, focus group discussions and observations. However, questionnaires and interviews are commonly used to gather data. Questionnaires allow the research participants to write down their responses to the questions, thereby allowing them more response-freedom. The interview is useful to triangulate information obtained through questionnaire and allows the understanding of lived experience of other people and the meaning they make of that experience as it affects the way they carry out an experience in certain manner.

The following two sections briefly discuss these two important data-gathering tools.

4.2.4.1 Questionnaires

Questionnaires are the most widely used instruments for collecting survey information and for providing structured, often numerical data, which are simple to tabulate, compare and analyse statistically (Cohen, et al., 2007:317). This method of data-collection is quite popular, particularly in the case of big research studies. It is used by private individuals, research workers, private and public organizations, and even by governments. In this method a questionnaire is sent (usually by post) to the respondent, completed in a face-to-face situation, or personally completed in the respondent's own time, and collected later (Gray, 2004:187,188,195). A questionnaire consists of a number of questions in a definite order on a form or set of forms.

There are different types of questionnaires, namely mailed, e-mailed, internet, telephonic, and personal questionnaires delivered by hand, and group-administered questionnaires. In this study the questionnaires were delivered by hand to the teachers and to the students. Questionnaires delivered by hand are delivered to the respondents to be completed in their own time, and collected later. These types of questionnaires save time and have a high return-rate due to personal contact with the participants. They also present the opportunity to reach those respondents who are difficult to reach. Group-administered questionnaires are given to a large group of people assembled at a certain place. The respondents all receive the same instructions and questions, and complete the questionnaire without discussing them with other members of the group. The main advantage of group-administered questionnaires is the high response rate, which typically is close to 100%. Other advantages include

the low cost, and the fact that the researcher is often present to provide assistance or to answer questions. The disadvantage is that the researcher is usually restricted in terms of where and when the questionnaire can be administrated.

The design and structure of the questionnaires is explained in section 4.2.7.1.

4.2.4.2 Interviews

In-depth interviewing is a qualitative research technique that involves conducting intensive individual interviews with a small number of respondents to explore their perspectives on a particular idea, programme, or situation (Boyce & Neale, 2006:12). The interview method of collecting data involves the presentation of oral-verbal stimuli and replies in terms of oral-verbal responses. It provides access to the context of people's behaviour, and thereby provides a way for researchers to understand the meaning of that behaviour (Seidman), 2006:10). This method can be used through personal interviews.

Structured interviews involve the use of a set of predetermined questions and of highly standardised techniques of recording. Thus, the interviewer in a structured interview follows a rigid procedure laid down, asking questions in a form and order prescribed. *Unstructured interviews* are characterized by a flexibility of approach to questioning. They do not follow a system of pre-determined questions and standardized techniques of recording information. In an unstructured interview, the interviewer is allowed much greater freedom to ask supplementary questions, or at times he may omit certain questions if the situation so requires. For the successful implementation of the interview method, the interviewers should be carefully selected, trained and briefed (Kothari, 2004: 98-100).

In this study a semi-structured interview was used to access information about teachers' perceptions on the basis of the purpose and aims of the research. In order to obtain information from the teachers regarding their perceptions of the status of active learning, semi-structured interviews were conducted with four lecturers, one from each college. The interviews were conducted at their respective colleges.

4.2.5 The target population, and the sample of the study

When doing research the researcher draws a sample from a larger pool of cases or elements. *A sampling element* is the unit of analysis or case in a population. It can be a person, a group, an organization, a written document or symbolic message, or even a social action (e.g. an arrest, a divorce, etc.)that is being measured. The *pool* is the population which has an important role in the

sampling process. Sometimes the term *universe* is used interchangeably with *population*. A *population* or *universe* refers to any collection of a specified group of cases to be studied. It could be human beings or non-human entities. A population can be finite or infinite, depending on the numbers and kinds of units that it contains (Kothari, 2004:55-61; Bazelay, 2002:352-361).

The target population in this study was the lecturers and the students of Colleges of Teacher Education in Ethiopia. In order to obtain the relevant and reliable information about their perceptions and the attitudes from the segment of the population, sampling is an important step in any research project (Lichtman, 2010:32). A sample should be truly representative of the characteristics of the population. Accordingly, a total sampling technique (24) was employed for lecturers as their number is small and 632 students were randomly selected from 655 students in the four colleges.

The sampled participants in this study included lecturers and students from the four selected regions, namely Oromia, Amhara, South Nations and Nationalities Peoples' region and Addis Ababa City Administration. One college from each region was selected. The Colleges are Robe Teachers' Training College, Debre-Brehan Teacher Education and Vocational Training College, Hawassa Teachers' Training College and Kotebe College of Teacher Education. Both random and purposive sampling techniques were used to collect information regarding perceptions and attitudes of students and lecturers to answer the research problems. The random selection of the colleges from each region was followed by the random selection of the students. All the Geography lecturers were included as they are so few in number. Purposive sampling was used to include two Geography lecturers from each college, thus eight lecturers were selected for the in-depth interviews.
Table 4.2 indicates the total number of respondents from which the selection was made.

TABLE 4.2: The population and the sample of the study

Region	**Selected colleges**	**Lecturers (for the questionnaire)**		**Students (for the questionnaire)**		**Lecturers (for the in-depth interview)**	
		Population	**Sample**	**Population**	**Sample**	**Population**	**Sample**

Oromia	Robe Teachers' Training College	6	6	160	156	6	2
Amhara	Debre-Brehan Teacher Education and Vocational Training College	6	6	165	160	6	2
SNNP	Hawassa Teachers' Training College	6	6	168	158	6	2
Addis Ababa	Kotebe College of Teacher Education	6	6	162	158	6	2
Total		**24**	**24**	**655**	**632**	**24**	**8**

4.2.6 Accounting for ethical protocol

Permission was obtained from the authorities of each College to collect the data. The application of the questionnaires and the conditions for the interviews were also based on the consent of the participants. Agreement was obtained by attaching a consent form to each questionnaire in which the respondents were informed about the purpose of the study, its benefits, and the possibility to withdraw from participation at any time. The questionnaires were to be completed anonymously. The participants were assured that the information obtained would remain confidential. They were informed that the results of the research study may be published. Their names would, however, not be used, and the results would be presented in group-format only. The information provided the by respondents would be used exclusively to draw research conclusions, thus their confidentiality was maintained (Fowler, 2002; Schachman, 1997).

4.2.7 The design of the data-gathering instruments

The study adopted the data-triangulation technique by using a combination of data sources with the effect that the strengths and weaknesses in each source are compensated for when used together. The aim was to improve the validity of the findings.

In this study questionnaires and in-depth interviews were used as major research instruments.

Both closed-ended and open-ended questions were used. Closed-ended questions were asked in order to get precise answers. It included all the possible answers/pre-written response categories. The respondents were asked to choose among the possible answers or to indicate the extent of their

agreement or disagreement on scale items/questions. The open-ended questions were used to give the respondents the freedom to express their feelings and perceptions, or to produce their own answers.

In this study in-depth interviews were also conducted with eight randomly selected lecturers in four of the colleges. They provided a wide range of qualitative data based on semi-structured interview questions.

4.2.7.1 Questionnaires

In line with the motivation and the sample taken from the 655 students, namely 632, and the 24 lecturers, it was decided to make use of questionnaires delivered by hand to the lecturers, and group-administered questionnaires to the students. The questionnaires comprised of different parts and sections which each measured a particular aspect of active learning – the teachers' perceptions of the status of active learning, practice and challenges in employing active learning to assist students' learning. The respondents were well-informed about their confidentiality to ensure their genuine responses.

Part one of the questionnaire focused on the demographic data and on general background information, so as to obtain information on the qualifications and training of the lecturers, and their gender. Part two focused on the present status of active learning in terms of the perceptions/attitudes of the lecturers, the practices and challenges in using active learning, in respect of the Geography teaching methods and strategies that the teachers were implementing in their college classes; their perceptions and justifications why they use those techniques; the most widely used teaching approaches of the teachers in their Colleges; whether or not they received proper training in the different types and techniques of active learning; and the major challenges they faced in the implementation of active learning. Part three contained the open-ended questions to give the lecturers the opportunity to freely express their feelings and experiences in respect of active learning methods (if any) to meet the learning needs of the students. They were also required to suggest possible alternative solutions where there were problems in meeting the students' learning needs, and if there existed any gaps in the training of the lecturers.

Part one of the students' questionnaire focused on the biographical data and the names of their Colleges. The aim of part two was to elicit responses on supporting the students' learning using active learning methods. It mainly focused on how the Geography student teachers perceived and experienced their current teaching methods and the approaches used by the teachers. Part three

contained the open-ended questions to give the students the opportunity to express their feelings and experiences about active learning methods (if any) to meet their learning needs.

The abovementioned parts in the questionnaire emerged from the informal interview, literature study, and the researcher's professional experience. The rationale for all these sections was that effective learning depends on the effective use of active learning methods, the training of the lecturers who can assist in the students' learning, and the facilities, on one hand, and the students' perceived experiences of active learning. Copies of the questionnaires are attached as Annexure A and Annexure B.

4.2.7.2 In-depth interviews

Being interested in others is the key to some of the basic assumptions underlying the interviewing technique.

The general purpose of these interviews was to gather information about, and gain insight into the experiential world's view of the interviewees concerning the availability of adequate manpower, facilities and support in teaching methods in Geography.

In this study an interview guide was used. The interview guide included the purpose of the study, and specific questions. It also included a short problem-statement and a description of the type of information that the researcher sought. Being interested in understanding their perceptions, how they think and feel about a topic, and why they hold certain opinions, or to learn how the participants came to attach meanings to phenomena or events, are some of the key assumptions in making use of an interview. A copy of the interview guide is attached as Annexure C.

4.2.8 Piloting and reviewing the instruments

Piloting the study is an important component in the data-collection process. It is a small-scale trial run of all the procedures planned for use in the main study. A pilot test assists the researcher in determining the flaws, limitations, or other weaknesses within the design of the instruments. It helps to make the necessary revisions before the implementation of the study (Monette, Sullivian and Dejong, 2002:9). The pilot-testing of the instruments administered for research purposes is advantageous to improve their quality. The main benefits of the pilot study are to give the researcher the opportunity to test the hypothesis or research question and to make allowances for checking the statistical and analytical procedures used in the main study, presenting the opportunity of reducing

problems and mistakes in the study, and reducing the costs incurred by inaccurate instruments. A pilot study enables one to distinguish the appropriate instruments from the inappropriate ones (Kothari, 2004:89).

Accordingly, based on the responses and the information obtained from 10 lecturers and 60 students during the pilot survey, the questionnaires were modified by revising a few questions. These were edited and corrected, and the irrelevant ones eliminated, in order to increase the validity and reliability of the study. *Validity* is the measure of the instrument's usefulness (Star, 2011:6). The *validity* of an instrument refers to the extent to which the instrument measures what is intended to measure (Gray, 2004:90).

On the basis of the pilot study, therefore, a number of items with below 0.25 item-total correlations and those with above 0.8 item-total correlations were eliminated. Items with below 0.25 item-total correlations do not contribute to validity by discriminating in the same way as the total score discriminates (at least .25 correlations with the total score are required). Items that have a very low correlation or a negative correlation with the total score should be eliminated, because they do not measure the same thing as the total scale, hence are not contributing to the measurement of the attitude. Items with 0.8 item-total correlations were eliminated because they measured what other items measure. Besides validity, the reliabilities were computed, using Cronbach Alpha. Accordingly, the reliability of the items of the questionnaire and the interview were found to be valid, indicating that the instruments were reliable.

The validation of the questionnaire was done by teachers experienced in research, and by the researcher's supervisor, for relevance, coverage, representativeness and exactness of wording. Additionally, validation by target sample (N=7) was made during the pilot study by attaching questions that were useful in their feedback. Items with a coefficient of relevance that exceeds 0.80 were retained, as this indicated item relevance/content validity. In other words, the questions used in the questionnaire were relevant to solicit the desired information from the target population. Those with a below 0.80 coefficient of relevance were eliminated. However, significant changes were not made in the students' questionnaire.

Besides item validation, item analysis is used to determine the reliability of items. Such analysis is also useful for identifying and retaining relevant and effective items, while simultaneously excluding items that may be irrelevant. The final form of the questionnaire may be improved by means of the

selection, replacement, or revision of items (Owen & Taljaard, 1996). The processes concerned served to shorten an assessment instrument, while simultaneously increasing its validity and reliability. In addition, it yields the internal consistency of the instrument.

In order to conduct item analysis, the sample questionnaire was administered to 10 Geography lecturers and 60 Geography students at Robe Teachers' College. The questionnaire for the students was translated into Amharic – Ethiopia's national language - for non-Afan Oromo speakers, and into Afan Oromo - the regional language used in the Oromia Regional State - for those whose mother tongue is Afan Oromo. The translation was done by language experts, and the meaning equivalence was checked. On the basis of the information that was provided by the participants, the means, standard deviations, item-total correlations and internal reliability coefficients were generated, and some changes were made. Cronbach's Alpha was used to determine the internal reliability coefficients, or whether the constituent items measured the same domain (Jack & Clarke, 1998).

Item-total correlations were run to examine the contribution that was made by each item to the validity of the instruments, or to see the extent to which each item discriminated among the respondents in the same way as did the total score (at least .25 correlations with the total score are required). As indicated above, items with negative item-total correlations, and with correlations of less than 0.25 or greater than 0.8to the total score had to be eliminated. Items with a negative correlation with the total score had to be eliminated because they did not measure the same concept as did the total score, and, therefore did not contribute to the measurement of the attitude concerned (Ary, et al., 2010:211). An item-total correlation of less than 0.25 indicated that the item involved did not measure the same underlying concept as did the total score. An item of greater than 0.8 item-total correlations suggested that the item was a repetition of what other item(s) measured (Kline, 1993). An item-analysis was done, because items were originally selected on the basis of their face validity.

The total and sub-scale internal reliability coefficients for the students' questionnaire on (1) Participation and experience of the students, (2) Teaching approach and methods, and (3) Integration of resources; and the total and sub-scales and internal reliability coefficients for the lecturers' questionnaire on (1) Geography teaching methods in the college, (2) Class size and facilities, (3) Assessment in the class, (4) The teachers' attitudes in using active teaching in Geography (5) Short- and long-term training, (6) Support from College administrators, and (7) Guidelines, all exceeded .80, indicating a very high reliability. This gave the researcher the confidence to use the instrument in the

main study in order to gain dependable/reliable information about the degree to which active learning methods are being employed.

The internal consistency/reliability (student questionnaire) for the constructs Participation and experience of the students, Teaching approach and methods, Integration of resources, and the total scale were .862, .853, .881 and .872, respectively. All these constructs had high reliabilities, as their reliabilities exceeded .80. These findings indicated that the instrument concerned provided dependable information, from which reliable conclusions could be drawn.

The total and sub-scales and the internal reliability coefficients for the lecturers' questionnaire on (1) Geography teaching methods in your college, (2) Class size and facilities, (3) Assessment in the class, (4) The teachers' attitudes in using active teaching in Geography, (5) Short- and long-term training, (6) Support, and (7) Guidelines, were.85,.84, .86, .83, .88, .92, .84, and .91 respectively. Thus, the internal reliability coefficients exceeded .80, indicating a very high reliability. The findings meant that the instruments concerned provided reliable information.

4.2.9 Conducting the main research

4.2.9.1 Application of the questionnaires

The questionnaires were distributed at all four Colleges by the researcher and one assistant data-collector from each College over a one-month period during the first semester. To secure honest responses, consent letters were attached to each questionnaire. The respondents were requested not to write their names on the questionnaires.

The questionnaire for the students was completed during a 50-minute class period, and the questionnaire for the lecturers was completed at their homes or offices. The student participants received instructions on how to complete the surveys during the first 5 minutes of the classes.

The instructions included the following, namely

"Please note that your responses will be kept confidential and it is unnecessary to write down your name. There is no right or wrong answers and what is required from you is to indicate your personal opinion about each item by simply drawing a circle around the relevant code, or writing a few words, or entering a number in the relevant block. Wherever possible, let your personal experience determine

your answer. Do not encircle more than one code per question. Finally, after completing the questionnaire, kindly return it to the person who issued it to you."

The parts and sections of the questionnaire were also described. The intention of the open-ended questions (that they are used to obtain the "lived experiences" of the students) was also explained. The participants were asked to raise their hands if they did not understand something related to the research measures, or needed further clarification. The researcher personally answered each student's questions as needed; however, he did not assist the participants in responding to the research items, in order to avoid bias in the results of the study.

4.2.9.2 Conducting the interviews

Interviews were conducted with eight lecturers selected for the empirical investigation. For the study the interviewees were approached by means of a letter. Permission was obtained from the Colleges to conduct the research. Semi-structured interviews, consistent with the research questions, were used. Care was taken not to ask leading questions, as this would compel the respondents to answer in a particular way, or to give the answer that they think the interviewer wants.

During the interview session the purpose of the study was explained by providing a short problem-statement, and describing the type of information the researcher was interested in collecting. The respondents were also informed that the session would be tape-recorded. Classrooms near the interviewees' staffrooms were used for the interviews.

4.2.10. The reliability and validity of the instruments

Reliability is the degree to which measures are free from error, and therefore yield consistent results. It is the measure of consistency of a measurement procedure and the scores obtained. *Reliability* involves the consistency of test scores, i.e., the degree to which one can expect relatively constant deviation scores by individuals across testing situations on the same or parallel testing instruments. Similarly, a test or an instrument has validity when it actually measures what it is supposed to measure (Gray, 2004:208; Feldman, 2009:297-298).

Validity, on the other hand, is the measure of the instruments' usefulness. The *validity* of an instrument refers to the extent to which the instrument measures what it is intended to measure (Gray, 2004:90). The *validity* of a test or an instrument is the degree to which it assesses what it is supposed to. Validity and reliability are prerequisites for the accurate assessment of psychological constructs as

well as for any other measurement task carried out by pedagogues and psychologists (Feldman, 2009:298). Item-analysis is used to determine the reliability of items. It is helpful to identify and retain relevant and effective items, and at the same to exclude items which may be irrelevant (Cattel, 2008:4-10; Feldman, 2009:469). In this study a continuous effort was made to maintain the reliability of the study. This was done by checking the consistency between the research questions, the research paradigm, the research methodology, the methods of data analysis, the interpretations, the conclusions, as well as the recommendations.

4.2.11The methods of data-analysis

4.2.11.1 Qualitative data-analysis

Qualitative data-analysis is a very personal process with few rigid rules and procedures. In the case of qualitative data-analysis, the researcher needs to do a process called *content analysis*. In this study *content analysis* refers to the analysis of the contents of the interview in order to identify the main themes that emerge from the responses given by the respondents. According to Ary, et al. (2006:490), Kothari **(**2004: 103-108) and Star (2011:34-36), this process involves a number of steps:

Step 1: *Identify the main themes* – The researcher needs to carefully go through the descriptive responses given by the respondents to each question in order to understand the meaning they communicate. From these responses the researcher develops broad themes representing the meaning of the responses. These themes become the basis for analysing the text of the unstructured interviews.

Step 2: *Assign codes to the main themes* – The researcher continues to identify the themes from the same question until a point of saturation is reached. These themes are written down and a code is assigned to each of them, using numbers or keywords.

Step 3: Classify responses under the main themes – Having identified the themes, the next step is to go through the transcripts of all the interviews, and to classify the responses under the different themes.

Step 4: Integrate the themes and responses into the text of the report – Having identified the responses that fall within the different themes, the next step is to integrate them into the text of the report. When discussing the main themes that emerge from the study, the researcher uses verbatim responses to retain the feeling of the response.

In this study, following the above steps, thematic content analysis was used in the analysis of the qualitative data, whereby the initial/original data were transcribed and read more than once to become familiarised with, and extract a general idea from the responses. Thereafter, a list of important/relevant categories was developed by looking for units of meaning like words, phrases and sentences appearing regularly, and that seem important, placing all the units having the same coding together, and linking them in order to create major categories or themes. This list is modified by re-reading the transcriptions. During Step 4 there was a progression from categories to concepts or themes. During the process similarities and differences in the data were systematically identified. As a means of context analysis, meaning was added by taking the context of the interviewees into account (or by adding the context to the data). Meanings and themes were contextualised in line with the research questions and theoretical framework. Connections within and between the categories and the research problems were also made. Interpretation was done to bring all together. In general, there existed an analytical process from coding to categorising, to concepts/themes, and then to contextualising, linking and interpretation.

4.2.11.2 Quantitative data-analysis

In this study, for the analysis of the quantitative data, the SPSS (Statistical Package for the Social Sciences) version 17.0 was used to calculate the chi-square, regression, and ANOVA. The same program was used in the analysis of simple frequency and percentage. The SPSS was used because as it is quick to administer, and suitable for the type of data obtained. The SPSS also summarizes and creates appropriate tables, examines the relationship between variables, and performs tests of statistical significance on hypotheses.

4.3 CONCLUSION

The main purpose of this chapter was to provide a detailed explanation of the research design and methodology. The major issues discussed in this chapter included the research paradigms, the mixed-methods research design (qualitative and quantitative research), the population and the sample of the study, accounting for ethical protocol and the design of the data-gathering instruments. The pilot study and the review of the research instruments were also discussed. The discussion of the pilot study was accompanied by how the main study was conducted, and the validity and reliability of the study, which was also accompanied by a discussion of the methods of data analysis.

The analysis of the data, and a discussion of, and the interpretation of the research results will be done in the next chapter.

CHAPTER 5

RESULTS AND DISCUSSIONS

5.1 INTRODUCTION

In the previous chapter the research design and methodology were discussed.

This chapter is devoted to the presentation, analysis and interpretation of the results in respect of the extent to which the lecturers and the students of Geography in the Teachers' Training Colleges in Ethiopia implement the methods of active learning. This includes the extent to which the lecturers help the students to actively participate in the teaching-learning process. The data collected from the lecturers and the students by means of the questionnaires are presented in the form of tables. An explanation is given to further clarify what the information contained in each table means. The qualitative data collected through the interviews are also thematically organised and thoroughly elaborated on to strengthen the results. Section 5.4 is a discussion of the results. The results were identified in terms of the research questions. Cross-references have been made between the results and the conceptual framework, the theoretical framework and the empirical research. The composition between these four important parts presented a biggest picture that helped to develop a model for the teaching and learning methods of Geography in Ethiopian Teachers' Training Colleges.

5.2 THE RESULTS FROM THE QUESTIONNAIRES

5.2.1 The demographic data of the students and the lecturers

The data comprised a sample of 632 students and 24 lecturers from the four Teachers' Training Colleges in the four regions of Ethiopia during 2012/2013. Table 5.1 and Table 5.2 indicate the specific number of respondents (students and lecturers) from each College respectively.

TABLE 5.1:The Teachers' Training Colleges (TTCs) and the gender of the sampled students as in2012/2013

Name of TTC	Gender of the respondents				Total	
	Male		Female			
	Frequency	%	Frequency	%	Frequency	%
Kotebe	79	12.5	79	12.5	158	25
DebreBrehan	115	18.2	45	7.1	160	25.3
Hawassa	106	16.8	52	8.2	158	25
Robe	64	10.1	92	14.6	156	24.7
Total	364	57.6	268	42.4	632	100

Table 5.1 depicts the student responses from the four Teachers' Education Colleges. The table shows almost double the number of responses came from Debre-Brehan and Hawassa Colleges, compared to Kotebe and Robe Colleges. The enrolments and samples played a role in these responses. The data given in Table 5.3 to Table 5.9 refer to this biographical data.

TABLE 5.2: The demographic results of the teachers

Item		**Frequency**	**%**
1.	Colleges		
	Kotebe	6 (M=4, F=2)	25
	Debre-Brehan	6 (M=5, F=1)	25
	Hawassa	6 (M=4, F=2)	25
	Robe	6 (M=5, F=1)	25
	Total	24 (M=18 and F=6)	100
	Demographic variable		
2.	**Age in years**		
	Below 25	2	8.3
	26-30	3	12.5
	31-35	3	12.5

Item		Frequency	%
	36-40	7	29.2
	Over 40	9	37.5
3.	**Teaching experience in years**		
	Below 5	4	16.7
	6-10	6	25.0
	11-15	5	20.8
	Over 15 years	9	37.5
4.	**Highest recent qualification**		
	Certificate in education	0	0
	Diploma in education	0	0
	Bachelor's degree	4	16.7
	Master's degree	20	83.3
5.	**Average number of students in class**		
	Below 30	0	0
	30-40	3	12.5
	40-50	16	66.7
	50-60	5	20.8
	Over 60	0	0
6.	**Total teaching credit hours per week**		
	Below 10	5	20.8
	10-15	12	50.0
	16-20	6	25.0
	Over 20	1	4.2

It can be gathered from Table 5.2. Item 1, that 6 lecturers were selected from each college, adding up to a total of 24 lecturers (M=18 and F=6). All these lecturers completed and returned the questionnaire. As can be seen from Table 5.2, Item 2, the majority of the respondents (29.2+37.5) are aged 36 and above, where 20.8+37.5 respondents have eleven years and more teaching experience (see Item 3). As indicated in Item 4, most of them (83.3%) hold a master's degree. It seems that these lecturers hold a reasonable level of qualification for the Colleges they work in. However, they are faced with large class sizes, as the majority of the teachers (87.5%) seemed to be in a situation where they handled more than 40 students in a class. This could partly explain the difficulty of employing

active learning properly to reach every student in the class. The credit hours they are expected to cover in a week (up to 24 hours) can also be a problem, as the teachers have inadequate time to prepare themselves for teaching, to reflect on their teaching, and to conduct research to improve their practice.

5.2.2 The descriptive results of the students' question: The students' evaluation of the current teaching methods and approaches used by teacher-educators in Teachers' Training Colleges

The data to follow (from Table 5.3 to Table 5.7) are used to address the following research question:

What are the perceptions ofthe teacher-educators regarding the teaching of the methods of Geography in Teachers' Training Colleges in Ethiopia?

TABLE 5.3: The participation and experience of the students

No.	Items	N	DD/DS (%)	UD (%)	AS/ DA (%)
A.	**Participation and experience of the students**				
1.	In my Geography lectures I am afforded an opportunity to participate actively.	632	81.2	10.0	8.9
2.	As a trainee I play an active role to exercise various types and techniques of active learning methods.	632	68.2	23.9	7.9
3.	The atmosphere of the lecture room is conducive to active learning.	632	76.2	11.6	12.1
4.	My lecturer encourages cooperative and group-work learning.	632	76.6	6.5	16.9
5.	In my Geography lectures I am exposed to alternative teaching methods and strategies.	632	74.4	15.8	9.8
6.	My unique learning styles are being accommodated in the teaching and learning of Geography.	632	40.2	47.8	12
7.	How Geography is presented has helped me	632	80.2	11.7	8.1

No.	Items	N	DD/DS (%)	UD (%)	AS/ DA (%)
	to understand geographical issues that have shaped the current world system.				
8.	How Geography knowledge is presented in my lectures has helped me to understand geo-information technologies and the latest developments in Geography.	632	81.8	10.1	8.1
9.	How Geography is presented has helped me to become aware of the relevance of field-work, interactive web applications, executing various projects, and reflecting on spatial phenomena.	632	84.5	9.3	6.2
Average			73.7	16.3	7.3

Note: DD= definitely disagree, DS= disagree somewhat, UD= undecided, AS= agree somewhat, and DA=definitely agree. DD and DS, and AS and DA are added together to get a clear picture of the respondents' disagreement or agreement with the items respectively.

Table 5.2 reveals that the majority of the trainees (81.2%) definitely disagreed or disagreed somewhat that they were afforded opportunities to participate actively in the Geography lecture classes. Sixty-eight point two percent of the respondents also definitely disagreed or disagreed somewhat that they could play an active role to exercise various types and techniques of active learning methods. Furthermore, 76.2% of the students indicated that the lecture room atmosphere was not conducive to active learning. From this it is possible to understand that the problem in using active learning techniques is partly attributed to the classroom atmosphere. As a result, the unique learning styles of the students were not accommodated in the teaching and learning of Geography (40.2%), where 47.8% were not sure whether or not their learning styles were met. On average, 73.7% of the respondents reported a low participation and experience of the students in the teaching-learning process. The problems of the lack of the students' active participation in the Geography lecture classes, their inability to exercise various types of active learning methods, and the lecture room atmosphere indicate that the majority of the instructors were not in a position to employ the different active learning techniques to help the students to construct their own knowledge. The problems in respect of the lack of the students' active participation are closely associated with large class sizes

and the high teaching load (credit hours) that the lecturers are expected to handle per week, as indicated in Table 5.2, Items 5 and 6 respectively.

TABLE 5.4: The students' views of approaches used in the training programme

B	Category related to the approach of training	N	DD/DS (%)	UD (%)	AS /DA (%)
1.	My college teachers provide me with the proper techniques and types of active learning methods.	632	93.5	3.8	2.6
2.	The Geography lecturers apply various methodologies in teaching their courses	632	87.8	6.5	5.7
3.	The lecturers encourage the active rather than the passive participation of the students during lectures.	632	44.6	41.9	13.4
4.	The lecturers consider the students' individual differences in their lectures.	632	76.8	14.4	8.8
5.	The lecturers encourage my colleagues and me to ask questions and to develop confidence.	632	40,8	54.9	4.3
6.	My Geography lecturers are well-prepared for their lectures.	632	89.1	4.9	6
7.	My Geography lecturers allow the students the time to think about the topics that they teach.	632	87.6	7.4	4.9
8.	My Geography lecturers are facilitating and resourceful.	632	89	6.6	4.4
9.	Most of the learning activities are structured in such a way to make me use creative mental processes and innovative actions.	632	82.5	15.5	2
10.	I am exposed to a variety of teaching methods appropriate for the students' diversified needs, interests and capacities.	632	84.4	10.0	5.7
Average			77.6	16.6	5.8

From Table 5.4 one can discern, on the whole, that 77.6% of the respondents either definitely disagreed or disagreed somewhat with the statement that active learning is properly utilized. One of the challenges in the application of active learning is the lecturers' inability to use a variety of

teaching approaches that facilitate cooperative and individual learning that, in turn, may encourage the students to ask questions and develop confidence, may enable them to use creative mental processes and innovative actions that take into account individual differences, and may allow them the time to think about the topics that they are learning. The lecturers' inability to diversify teaching methods is exacerbated by large class sizes, as shown in Table 5.2, Item 5.

TABLE 5.5: The students' views of the integration of resources

C: The integration of resources		**N**	**DD/DS (%)**	**UD (%)**	**AS/DA (%)**
1.	The layout of the Geography lecture room is convenient for group-work.	632	88.2	9.0	2.8
2.	I have access to the various kinds of Geography study material that encourage an active learning approach.	632	85.7	9.3	4.9
3.	The activities in the Geography textbooks help me to embark on investigative activities.	632	84.5	13.4	5
4.	The teaching methods suggested in the course material are appropriate to learn Geography.	630	92.2	7.0	0.8
5.	The available resources/facilities encourage active learning.	632	92.6	5.4	2.1
6.	I receive proper guidelines to help me consider various kinds of teaching methods.	632	89.8	6.6	3.4
7.	The Geography lecturers help me to understand and apply various types of active learning methods.	632	90.2	7.8	2
8.	The Geography teaching methods help me to acquire various geographical skills, knowledge and competence.	632	84.3	14.2	1.4
9.	My training has enabled me to identify the differences between traditional and active teaching and learning methods.	632	84.3	11.4	4.3
	Average		88	9.3	3

From Table 5.5 the descriptive results of the students show that the majority (88.2%) of the students either strongly disagreed or disagreed somewhat with the idea that the layout of the lecture rooms is convenient for group-work. Eighty-five point seven percent of the respondents also either strongly disagreed or disagreed somewhat with the statement that the Geography study material is adequate to encourage an active learning approach. Furthermore, 89.8% of the respondents indicated that proper guidelines are not in place to help the students to consider various kinds of teaching methods, and that greatly limits the trainees' understanding and application of various types of active learning methods, their competence to acquire various geographical knowledge and skills, and their understanding of the difference between the traditional and active learning methods.

TABLE5.6:Descriptive results of generalized items of the students regarding participation, teaching approach and resources

Items (Questions)	Mean	Std. Deviation
VA: The participation and experience of the students	2.1773	.38668
VB: Teaching approach and methods	2.0552	.30680
VC: Integration of resources	1.8360	.26846

Table 5.6 shows the respondents' disagreement with each statement as being indicative of the inadequate participation of the students in taking the responsibility for their own learning, the insufficient use of student-centred approaches and methods, and not good enough resource integration, as their average ratings are 2.1773, 2.0552 and 1.8360 respectively, which are below 3 each. This state of affairs means that resources were not allocated, and that the students were not given the chance to exercise the active learning techniques that they will carry with them to use in their future careers as teachers.

TABLE 5.7: Pearson's correlations between the three generalized items of the students' question regarding the correlation between participation, teaching approach and resources

	VA	VB	VC
VA	1		
VB	751**	1	
VC	494**	681**	1

**. Correlation is significant at the 0.01 level (2-tailed).

From Table 5.7 it can be seen that there are statistically significant positive correlations between the three aspects of active learning (the participation and experience of the students, teaching approach, and the methods and integration of the resources) ($p<0.05$). This means that the more resources are available and the greater the selection of relevant methods in the College, the more active is the training approach.

5.2.3 The descriptive results of the students' question regarding the degree to which a variety of methods is used

The data in Table 5.8 and Table 5.9 are used to address the following research question:

What are the current teaching methods and strategies that the trainee educators employ in Teachers' Training Colleges in Ethiopia?

TABLE 5.8: The descriptive results of the teaching methods

No.	Items	Mode	Mean	Std. dev.
1.	Lecture (presentation predominantly given by a lecturer).	3	2.9399	.86828
2.	Demonstration (showing how to do something in front of the classroom).	2	1.8766	.55215
3.	Field observation (investigation activities outside the classroom content).	1	.8054	.64075
4.	Project work (an activity to be completed within a certain schedule).	2	1.5680	.79327
5.	Discussion (a talk between the students and the teacher).	2	1.8528	.75040
6.	Practical work (activities accompanied by application).	1	.7278	.72448
7.	Experiment (scientific investigation).	0	.1282	.33454
8.	Inviting guests (a lesson to be delivered by guest lecturers).	0	.1044	.34957
9.	Debate (a discussion on motions being divided into 'pro' and 'against' groups).	0	.1123	.34938
10.	Film (watching a play/drama on a screen).	0	.1028	.35230
11.	Questions-and-answers (activities which need posing and	2	2.1693	.74783

No.	Items	Mode	Mean	Std. dev.
	responding to questions).			
12.	Goldfish (selecting two students and they sit back to back in the middle of the room to debate the view with other students around them, to replace either of the two in turn to join the debate).	1	.8797	.64050
13.	Mind-map (visual representation of ideas on a given topic on a sketch).	2	2.0491	.74421
14.	Hot-seating (one member of the class is assigned to be a character, or one member of each small group to role-play the character of a person from history, a famous scientist, or a famous politician, where the other members of the class/group direct questions to the person in the centre who has to respond as that person).	1	.6503	.56260
15.	Case study (the teacher provides students with two or more different situations or scenarios and the students have to study the situation and describe how they would deal with that situation).	1	.8180	.60121
16.	Independent work (when the students complete a certain activity that allows them to work by themselves independently).	1	.6361	.64227
17.	Pair-work (performing any task in two).	1	.6266	.63180
18.	Group-work (performing a task in a group).	2	2.0190	.51564
19.	Visits (organizing a trip to a place of interest).	1	.8275	.50700
20.	Field-work (performing activities outside the classroom).	1	.8196	.55367

Note: the rating Never=0, Rarely=1, Sometimes=2 and Most of the time=3 were used for each item and the following modes, means, and the standard deviations were found.

TABLE 5.9: T-test analysis of the teaching methods used by the lecturers

No.	Methodology of teaching	Test Value=0		Test value=1		Test value=2		Test value=3	
		T	Sig. (2-tailed)	T	Sig. (2-tailed)	T	Sig.(2-tailed)	t	Sig.(2-tailed)
1.	Lecture (presentation predominantly given by a lecturer).	85.119	.000	56.166	.000	27.213	.000	-1.741	.082
2.	Demonstration (showing how to do something in front of the class).	85.441	.000	39.911	.000	-5.619	.000	-51.150	.000
3.	Field observation (investigation activities outside the classroom content).	31.599	.000	-7.636	.000	-46.871	.000	-86.106	.000
4.	Project work (an activity to be completed within a certain schedule).	49.693	.000	18.002	.000	-13.689	.000	-45.380	.000
5.	Discussion (a talk among or between students and a teacher).	62.074	.000	28.572	.000	-4.930	.000	-38.432	.000
6.	Practical work (activities accompanied by application).	25.257	.000	-9.444	.000	-44.144	.000	-78.845	.000
7.	Experiment (scientific investigation).	9.631	.000	-65.516	.000	-140.663	.000	-215.811	.000
8.	Inviting guests (a lesson to be delivered by guest lecturers).	7.510	.000	-64.406	.000	-136.322	.000	-208.237	.000
.	Debate (discussion on motions being divided into ‘pro’ and ‘against’ groups).	8.084	.000	-63.871	.000	-135.826	.000	-207.781	.000

No.	Methodology of teaching	Test Value=0		Test value=1		Test value=2		Test value=3	
		T	Sig. (2-tailed)	T	Sig. (2-tailed)	T	Sig.(2-tailed)	t	Sig.(2-tailed)
10.	Film (watching a play/drama on a screen).	7.339	.000	-64.020	.000	-135.380	.000	-206.739	.000
11.	Question-and-answer (activities which need posing and responding to questioning).	72.925	.000	39.308	.000	5.691	.000	-27.925	.000
12.	Goldfish (selecting two students and they sit back to back in the middle of the room to debate the view with other students around them, to replace either of the two in turn by to join the debate).	34.530	.000	-4.720	.000	-43.970	.000	-83.220	.000
13.	Mind-map (visual representation of ideas on a given topic or a sketch).	69.217	.000	35.437	.000	1.657	.098	-32.123	.000
14.	Hot-seating (one member of the class is assigned to be a character or one member of each small group to role-play the character of a person from history, a famous scientist, or a famous politician, where the other members of the class/group direct questions at him or her.	29.059	.000	-15.626	.000	-60.311	.000	-104.996	.000
15.	Case study (the teacher provides the students with two or more different situations or scenarios and the students have to study the situation and describe how they would deal with that situation).	34.206	.000	-7.609	.000	-49.424	.000	-91.239	.000

No.	Methodology of teaching	Test Value=0		Test value=1		Test value=2		Test value=3	
		T	Sig. (2-tailed)	T	Sig. (2-tailed)	T	Sig.(2-tailed)	t	Sig.(2-tailed)
16.	Independent work (when the students complete certain activities that allow them to work by themselves independently).	24.897	.000	-14.245	.000	-53.386	.000	-92.528	.000
17.	Pair-work (performing any task in two).	24.932	.000	-14.859	.000	-54.649	.000	-94.440	.000
18.	Group -work (performing a task in a group).	98.434	.000	49.680	.000	.926	.355	-47.829	.000
19.	Visits (organizing a trip to a place of interest).	41.033	.000	-8.552	.000	-58.136	.000	-107.721	.000
20.	Field-work (performing activities outside the classroom).	37.215	.000	-8.190	.000	-53.595	.000	-99.000	.000

It is evident from Table 5.8 and Table 5.9 that the lecture method of teaching was the most frequently utilized and the dominant teaching method applied by the majority of lecturers, rather than teaching methods which demand the active involvement of the students. Demonstrations, discussions, project-work, questions-and-answers, mind-map and group-work were sometimes done, and were give the second place. Field observation, practical work, goldfish, hot-seating, case-study, independent work, pair-work, visits and field-work were rarely done, and the others never.

5.2.4 The descriptive results of the lecturers' questions

The data to follow (from Table 5.10 to Table 5.11) are used to address the research question stated below, namely

How do the student teachers experience the current teaching methods and approaches by the teacher educators in Teachers' Training Colleges in Ethiopia?

TABLE 5.10: Descriptive results of the lecturers' question regarding Geography teaching methods

No	Items		Rating in Percentage		
	A. Geography teaching methods	**No.**	**DD/ DS**	**UD**	**AS/ DA**
1.	The students' role is listening to a lecture, taking down notes, and responding to questions upon request.	24	8.3	33.3	58.4
2.	The lecture method teaching strategy is not more suited to the students' backgrounds.	24	66.7	33.3	0
3.	Most of the students in our TTC use active learning as learning techniques.	24	62.5	29.2	8.3
4.	In the Geography classes at my College I continually involve the students in the teaching-learning process.	24	83.4	16.7	0
5.	I think that the lecture-method is the best way to teach the students in the class.	24	50	50	0
6.	In my college I provide my students with the proper techniques and types of active learning methods for each topic of the day.	24	58.3	25	16.7

No	Items		Rating in Percentage		
7.	Active student learning will not create problems in my classroom management.	24	70.9	8.3	20.9
8.	Collaborative work in groups allows efficient learning in large classes.	24	75	20.8	4.2
9.	It is impractical to implement active learning in large classes.	24	4.2	37.5	58.3
Average			53.3	28.2	18.5

Note: DD= definitely disagree, DS= disagree somewhat, UD= undecided, AS= agree somewhat, and DA=definitely agree.

Table 5.10 shows that 58.4% of the respondents either agreed or definitely agreed that the role of the students is relegated to listening to a lecture, taking down notes, and responding to questions upon request. However, 33.3% of them were not sure about the role of the students. Besides, the majority of the respondents (100%) were either not sure (33.3%) or definitely disagreed/disagreed somewhat (66.7%) that active learning is suited to the current students' background, and 62.5% of them definitely disagreed or disagreed somewhat that the students use different forms of active learning as learning techniques. Additionally, as indicated in Table 5.10, 50% of the respondents could not dare to say that the lecture method is not the best way to teach, rather, 58.3% of the respondents (Item 9) affirmed that it is inefficient and impractical to implement active learning methods, especially in large classes - that was consistent with the finding in Table 5.2 and Item 5. On average, more than half (53.3%) of the respondents are not fully confident about the effectiveness of active learning and are hesitant or uncertain to use it in their teaching.

TABLE 5.11: Descriptive results of the lecturers' question regarding class size and facilities

No.	Items	N	Rating in Percentage		
B.	**Class size and facilities**		**DD/ DS**	**UD**	**AS/ DA**
1.	The class size is appropriate for carrying out active learning.	24	50	29.2	20.9

No.	Items	N	Rating in Percentage		
2.	Learning in large classes reduced learning efficiency.	23	20.9	25	50
3.	At my College the available resources/facilities encourage active learning.	24	50	37.5	12.5
Average			40.6	30.6	27.9

As demonstrated in Table 5.11, 50% of the respondents disagreed with the idea that their class size is appropriate for carrying out active learning methods. Twenty-nine point two percent is uncertain about the appropriateness of class size to make use of active learning techniques. The remaining 16.7% and 4.2% (20.9) seem to agree somewhat or definitely agree that the class size is appropriate for carrying out active learning. Correspondingly, 50% of the respondents showed that learning in large classes reduced learning efficiency, while only 25% of the respondents were undecided, namely that they were not sure whether or not large classes reduced learning efficiency. There seemed to be inadequate resources and facilities to support the use of active learning, as 50% of the respondents disagreed that at their Colleges the available resources/facilities encourage active learning. Once again, about 37% of them were undecided whether or not there were adequate resources to encourage the implementation of active learning strategies. Thus, some of the barriers in using active learning methods are large class sizes and the unavailability of resources.

TABLE 5.12: Descriptive results of the lecturers' question regarding the integration of assessment with active learning in the class

No.	Item	N	Rating in Percentage		
C. Assessment in the class			**DD/ DS**	**UD**	**AS/ DA**
1.	I frequently ask close-ended questions for which there is only one correct answer to evaluate my students.	24	4.2	37.5	58.3

No.	Item	N	Rating in Percentage		
2.	I frequently ask open-ended questions to evaluate the students.	24	29.2	54.2	16,6
3.	I often assess students' understanding through questioning.	24	4.2	4.2	91.6
4.	I provide exercises on some of the lessons.	24	4.2	33.3	62.5
5.	I often asses students by means of a variety of techniques, such as assignments and project work.	24	75	20.8	4.2
Average			23.4	30	46.6

The assessments used in the class are not designed in a way to encourage active learning. For instance, the majority of the lecturers (95.8%) either agreed somewhat (58.3%) or were undecided (37.5%), in that they frequently asked close-ended questions for which there was only one correct answer to evaluate the students, and they rarely assessed the students' understanding through questioning and other active learning techniques, such as assignments and project work.

TABLE 5.13: Descriptive results of the lecturers' question regarding the teachers' attitudes in using active teaching in Geography

No.	Item	N	Rating in Percentage		
D. The teachers' attitudes in using active teaching in Geography			**DD/ DS**	**UD**	**AS/ DA**
1.	I recognize participatory learning.	24	29.2	54.2	16.7
2.	The students' access to the teacher's expertise may be increased if active learning is used.	24	29.2	58.3	12.5
3.	Besides his/her role as knowledge-provider, the instructor is to guide the students in the process of learning	24	20.8	66.7	12.5
4.	The students can present new ideas and arguments in the class	24	45.9	41.7	12.5
5.	Active learning develops the students' self-confidence, independent thinking and working, rather than being spoon-fed.	24	41.7	50	8.4
6.	I generally believe that it is important to link new knowledge	24	0	0	100

No.	Item	N	Rating in Percentage		
	to the students' prior experiences.				
7.	I believe the students learn more effectively if they work in groups rather than individually.	24	0	29.2	70.8
Average			23.9	42.9	33.2

Table 5.13 indicates that 54.2% of the respondents (lecturers) were not sure of their knowledge of participatory learning. Besides, 58.3% of the respondents were doubtful that active learning increases the students' access to the teacher's expertise, and 66.7% were not certain that active learning enhances the teachers' facilitating role. It is further observed that 41.7% of the respondents are unsure that active learning encourages the students to present new ideas and arguments through their own efforts. Similarly, 50% of the respondents were undecided about the fact that active learning develops the students' self-confidence, independent thinking and working, rather than spoon-feeding. On average, 42.9% of the lecturers seemed to have no clear idea about their attitudes towards active learning, and were not ready to use it, as their attitudes in using active teaching in Geography were low.

TABLE 5.14: Descriptive results of the lecturers' question regarding short- and long-term training on active learning

No	Item	N	Rating in Percentage		
E. Short- and long-term training			**DD/ DS**	**UD**	**AS/ DA**
1.	In our College, the qualifications and experience of the staff members are appropriate.	24	70.8	29.2	0
2.	The training at my College enabled me to familiarize myself with different active teaching methods.	24	75	20.8	4.2
3.	The knowledge that I have gained about geo-information technology has helped me to be aware of the latest research developments in Geography.	24	75	25	0
4.	I received adequate pre-service training on the implementation of active learning techniques.	24	75	12.5	12.5
5.	I received training on the implementation of active	24	79.1	20.8	0

No	Item	N	Rating in Percentage		
	learning techniques.				
6.	I have adequate in-service training on the implementation of active learning techniques.	24	83.3	12.5	4.2
7.	I was trained in general teaching methodology rather than in active learning techniques.	24	0	16.7	83.4
8.	I received training on how to prepare teaching material through active learning.	24	20.8	66.7	12.5
Average			59.9	25.5	14.6

Both long-term and short-term training are crucial aspects and determining factors in the selection and use of student-centred approaches. However, the majority of the lecturers, that is, 70.8% responded that the staff members' qualifications and experience are not appropriate to deliver active learning. Eighty-three point three percent seems to attribute this problem to inadequate training at their Colleges to enable them to become familiar with different active learning methods, while 75% attributed the problem to the inadequate pre-service training they received on active learning. Eighty-three percent of them responded that they were trained in general teaching methodology. Sixty-six point seven percent of the respondents indicated that they were not sure whether or not they can prepare the teaching material by means of active learning. Overall, both the pre- and in-service training programmes were not adequate to acquaint the lecturers with active learning strategies.

TABLE 5.15: Descriptive results of the lecturers' question regarding the support received to employ active learning methods

No	Item	N	Rating in Percentage		
F. Support			**DD/ DS**	**UD**	**AS/ DA**
1.	At the College I was given adequate opportunities to think and plan active learning.	24	79.1	16.7	4.2
2.	I think that lack of administrative support (e.g., financial, facilitation) inhibits the implementation of active learning in class.	24	70.8	29.2	0
3.	The Dean of my college is committed to the implementation of active learning.	24	70.8	25	4.2

No	Item	N	Rating in Percentage		
Average			73.6	23.6	2.8

In spite of the need for support in the execution of active learning methods, the majority of the lecturers (on average, 73.6%) were not given adequate opportunities to think about and plan active learning methods, and they were not given administrative support. It seems that the problem is partially due to the lack of commitment on the part of the College Deans, and partly due to the lack of training on the part of lecturers.

TABLE 5.16: Descriptive results of the lecturers' question regarding whether or not guidelines existed

No.	Item	N	Rating in Percentage		
G. Guidelines			**DD/ DS**	**UD**	**AS/DA**
1.	At my College I received proper guidelines that can help me exercise various kinds of teaching methods.	24	58.3	41.7	0
2.	I think that the lack of instructional material (e.g., lecturer guides) inhibits the implementation of active learning.	24	20.8	0	79.1
Average			39.4	20.9	39.6

Table 5.16 demonstrates a lack of clear policy guidelines, and the shortage of manuals and instructional guides that give the lecturers direction to exercise various kinds of teaching methods. This depicts the need to develop an active learning policy at an institutional level, and to prepare teaching material that incorporate active learning methods.

TABLE 5.17: Descriptive results of generalized items of the lecturers

No.	Items (Questions)	Mean	Std. Deviation	Std. Error Mean
1.	VA: Geography teaching methods in the college.	2.1968	.19912	.04065
2.	VB: Class size and facilities.	2.6993	.44747	.09134

No.	Items (Questions)	Mean	Std. Deviation	Std. Error Mean
3.	VC: Assessment in the class.	2.4271	.26585	.05427
4.	VD: The teachers' attitudes in using active teaching in Geography.	2.2237	.33324	.06802
5.	VE: Short- and long-term training.	2.0963	.21607	.04411
6.	VF: Support.	1.7979	.24415	.04984
7.	VG: Guidelines.	2.3267	.31359	.06401

Table 5.17 shows that all the generalized items or variables are far below the average (3), that is, the respondents disagreed with items in respect of the appropriate implementation of active learning methods, support, facilities and policy guidelines, due to the inadequate training received and the lack of commitment on the part of the lecturers.

TABLE 5.18: Pearson's correlation of the seven generalized items of the teachers

	VA	VB	VC	VD	VE	VF	VG
VA	1						
VB	.893**	1					
VC	.679**	.552**	1				
VD	.794**	.771**	.534**	1			
VE	.829**	.838**	.576**	.767**	1		
VF	.638**	.578**	.333*	.598**	.545**	1	
VG	.693**	.595**	.575**	.641**	.600**	.729**	1

** Correlation is significant at 0.01 Level (two-tailed test)

*Correlation is significant at 0.05 Level (two-tailed test)

From table 5.18 it is possible to see that the seven correlation coefficients are positive. Accordingly, there is a statistically significantly relationship among the seven variables ($p < 0.01$), except the correlation between assessment in the class and support, which is significant at $\acute{\alpha} = 0.05$ ($p < 0.05$). The results indicate a high demand for training, for developing a favourable attitude towards active learning, guidelines, facilities and support, for minimizing the class sizes, and for integrating active learning into assessment methods.

In summary, the students' evaluation of the current teaching methods and approaches used by the teacher educators in Ethiopian Colleges of Education indicate that some of the barriers in diversifying teaching methods, exercising active learning methods, and considering the students' learning styles are the layout of the lecture rooms, which are not conducive to active learning, the large class sizes, the teachers' high teaching load, inadequate study material, and the absence of proper guidelines. These problems seem to force the lecturers to rely on the lecture method of teaching, rather than on the teaching methods which demand the active involvement of the students.

Concerning the student teachers' experiences regarding current teaching methods and the approaches used by the teacher educators in the Ethiopian Colleges of Education, their views are that the lecturers claim that it is impractical to implement active learning methods. From the data and its interpretation it seems that some of the prohibiting factors in using active learning methods pertain to unfavourable attitudes towards active learning methods and commitment, resulting from a lack of awareness of active learning pedagogy as lecturers' qualifications and the pre- and in-service training that they received have not equipped them with the knowledge and understanding of active learning pedagogy that gives them the opportunity to think and plan active learning methods. The large class sizes, inadequate resources and facilities, the lack of administrative support, assessments which are not integrated with active learning, the absence of clear policy guidelines, manuals and instructional guides, are the other problems identified by the lecturers.

5.3 THE RESULTS FROM THE INTERVIEWS

Interviews were conducted with the lecturers as a means of gathering qualitative data. Discussions, using predetermined questions, were held with the eight lecturers (two from each college), which were recorded. The researcher transcribed them and familiarised himself with the information, and then coded the information according to set themes and categories. The identification of the themes was accompanied by their interpretation, which in turn, was followed by examples of the text that

reflected the themes. Finally, the researcher linked similar themes, keeping in mind the main research question, which was stated as,

"What can be an alternative model of the teaching of the learning methods in Geography in Teachers' Training Colleges in Ethiopia?"

The objective of the interviews was to ascertain the participants' personal experiences of, and general feelings regarding the status of active learning methods in their Colleges. A full transcription of the interviews is attached as Annexure D. In spite of the main goal of teaching and learning being to promote the learners' independence and autonomy, helping to acquire a repertoire of learning strategies and practices, developing a positive attitude towards learning, and gaining confidence in oneself as a learner, the most frequently recurring nine themes that emerged from the interviews included the following:

- an inadequate awareness (preparedness) of active learning pedagogies;
- the inappropriate perception that active learning methods lack the well-organized and structured provision of knowledge;
- giving plausible reasons why the students dislike active learning methods as a pretext to excuse the use of active learning – a lack of motivation, resistance, and insistence on maintaining the status quo;
- the absence of facilities (practicalities);
- the focus being on the coverage of (completing) the syllabus, rather than on the depth of knowledge;
- the large class sizes;
- examination-oriented teaching, preparing the students for examinations;
- a lack of incentives; and
- the inadequate training of departmental Heads, Supervisors and Deans.

5.3.1 Preparedness

The interviewees indicated that the pre-service and in-service training focusing on the theory and practice of active learning pedagogies and professional activities, helpful in facilitating the teachers' implementation of active learning pedagogies, was inadequate. They pointed out that not sufficient time was devoted to the planning of lessons that includes active learning, preparing material that facilitated the students' participation, effective classroom management that enhances learning through

direct involvement, the questioning of strategies that encourage critical and creative thinking, etc. The interviewees signalled the need for the expansion and improvement of these activities. They suggested additional training on the new teaching methodologies, and on producing and using related instructional material. They also called for relevant workshops, and for more resources to be devoted to systematic and extensive follow-up guidance and support activities. They also stressed that increased attention should be given to improving the quality of education, often framed as changing teaching and learning processes from a teacher-centred/transmission and memorization-oriented approach to a student-centred and active learning approach. They further indicated that it is not sufficient for teachers merely to be told about a different way to teach; instead, the teachers need the opportunity to implement active learning. It can be concluded from this finding that the opportunity to exercise active learning begins by experiencing the new approach from the position of a student, and progresses to acting out the role of a teacher organising learning processes for others. After a supervised practice of the new methods, the teachers may be ready to use them in their own classrooms. But even then, their effectiveness in implementing the new technique will be greater if they continue to receive assistance.

It was clear from the responses received that "…both pre-service and in-service trainings are not good enough to acquaint the lecturers with the skills necessary to use active learning methods."

Respondents 1 and 3 expressed, "There exists a necessity for teacher training."

Participant 4 also indicated, "Geography lecturers are very strong in their fields and disciplines, but often do not have any background or training in pedagogic theories, methods or results. They teach the way they had been taught and are unaware of the research in teaching and learning and of the effectiveness of newer teaching methods such as active learning".

It seemed that the interviewees were unable or reluctant to even begin implementing active learning methods without formally organized professional development activities, and they were not likely to deepen and sustain such reform pedagogies without on-going guidance and support, at both interpersonal and policy/system levels.

These results from the interviews under this sub-section are consistent with data in section 5.1.1.3Table 5.8 and Table 5.9, which indicated that the lecture method of teaching is the dominant

teaching method, rather than active learning methods. This implies that negligible attention is given to active learning methods.

5.3.2 Perception

The respondents held the view that active learning methods lacked the well-organized and structured provision of knowledge. The deeply-rooted culture of traditionally-taught lecture courses seems to affect the teachers' perceptions that the lecture method is the best way to provide a pre-arranged and planned body of knowledge.

In the interviews the participants indicated that the lecturers relied on the lecture method due to the belief that it is the best method of teaching to transmit well-structured information and knowledge; active learning makes it difficult to determine the breadth and depth of learning.

One example that reflects these issues was expressed by respondent 4, who said that, "The lecture method is better than active learning; active learning is unstructured, time-consuming, boring, and ineffective."

This confirms what was found in the questionnaire, section 5.1.1.4., Table 5.10, which indicated that the majority of the respondents (53.3%) were not fully confident and were uncertain about the effectiveness of active learning.

5.3.3 Pretext and resistance

The respondents indicated the assumption that the teachers excused the use of active learning by giving the reason that the students dislike active learning methods. They reflected that the teachers do not have the motivation to use active learning pedagogies; they resist them, and insist on maintaining the status quo.

For example, respondent 4 articulated, "The active learning method is a source of fear to some students; some students find active learning methods threatening. They do not want the challenge, or they are more comfortable in a more passive role. They regard learning as copying ideas and information from books and from the heads of the teachers into their own heads."

With this pretext, the teachers seem to prefer didactic instruction, because they are more comfortable or competent in the role of information-giver rather than of a coach which requires more listening and

improvisation. Thus, resistance to change from the Faculty and from the students negatively affects the implementation of active learning. This resistance, especially by the students, is in contradiction with the idea that the motivation to learn affects the amount of time the students are willing to devote to learning. The learners are more motivated when they can see the usefulness of what they are learning, and when they can use it to do something that has an impact on other students.

5.3.4 Practicalities: The absence of facilities and the large class sizes

Consistent with the results indicated in section 5.1.1.4, Table 5.11, the most recurring themes and emerging ideas from the interviews were the absence of facilities and the large class sizes.

One of the interviewees (participant 2) indicated in this regard, "The content of the session, the existence of teaching aids, and of resource, and the class sizes influenced me to decide on the use of teaching strategies."

Thus, according to the respondents, the limited availability of teaching and learning resources, as well as the large class sizes was among the inhibiting factors in the implementation of active learning pedagogies.

5.3.5 Focus on the coverage of/completing the syllabus

Besides the availability of resources and time as determining factors in the selection of active learning methods, the results of the interviews signified the sense that the amount of content to be covered determined the selection of active learning methods.

One of the interviewees, respondent 6, stated, "The need to cover the course content, the lack of material, the shortage of time, and the large class sizes led me to choose the teacher-centred approach."

This indicates that the teachers are more concerned about covering the syllabus than the depth of knowledge. Thus, there is a basic contradiction between the goal of developing the students' capacity to manage their own learning and the goal of teaching the predetermined school curriculum. Besides, the interviewees related problems such as the focus on the transmission of knowledge, the teachers' belief that learning occurs when the students reach a certain task goal by doing what the teacher says, and the teachers' hesitation to hand over the responsibility of learning to their students, because of the feeling that students are not prepared for it.

5.3.6 Examination-oriented teaching/preparing the students for the examination

The requirements of the examination may inhibit active learning. The results from the interview complement the findings from the questionnaire.

All the participants anonymously articulated that, "Assessment is not supporting active learning, as most lecturers are making use of the conventional paper-and-pencil test, making use of the exams. Fewer lecturers add one more assignment."

This is consistent with the finding in section 5.1.1.4, Table 5.12.

The respondents also noted another obstacle to their use of active learning methods, namely the high-risk examination system that demands the memorization of the subject matter rather than critical thinking or problem-solving skills. A related problem, as pointed out by the interviewees, concerns the students' perceptions of the demands made on them by the tests and the examinations. They (interviewees) noted that many students chose to learn on a superficial level because of the testing customs that require surface processing strategies. The fear resulting from the belief that active learning requires too much effort or energy from the students and the teachers seems to be another hindering factor in the use of active learning methods.

5.3.7 The lack of incentives

The lack of motivation is another hindering factor in the use of active learning pedagogies. The interviewed teachers seemed to be frustrated by the energy input and effort needed to use active learning, which has no subsequent recognition in the form of a salary increase. In addition, the interviewees stressed the need for recognition, honour and awards for those teachers who are particularly successful in implementing active learning pedagogies. Thus, the interviewees responded that salary, recommendations, and other incentives encourage them to devote the time and effort to implementing active learning pedagogies.

5.3.8 Inadequate training of the departmental Heads, Supervisors and the Deans

Another factor constraining the teachers' use of active learning pedagogies is the fact that the departmental Heads and Deans who have not been trained to evaluate active learning pedagogies at college level may prevent their implementation. Respondents 1, 3 and 5 articulated that the need exists to indicate to departmental Heads and Deans and that there is still much work to be done by

them in the training of teachers in active learning pedagogy and its theoretical underpinnings and underlying principle, as well as in the techniques for mentoring and evaluating the teachers when they implement active learning methods.

In summary, this section presented information obtained from the lecturers and students from four Teacher Education Colleges in Ethiopia. An analysis and an explanation to further clarify the information and the interpretation of the results were made as to the extent to which the lecturers helped the student teachers to actively participate in the teaching-learning process from both the lecturers' and the students' perspectives. The information obtained by means of the interviews with the lecturers was used to substantiate the information obtained through the questionnaires. Cross-reference was also made between the different forms of data in the section to indicate their interrelation.

The section to follow focuses on discussion of the results.

5.4 DISCUSSION OF THE RESULTS

This study aimed at developing a model that can promote the active learning of Geography in the Ethiopian Teacher Education Colleges.

In this section the research findings are discussed in the light of the research questions that were asked. The discussion focuses on the findings that were generated by means of descriptive statistics (i.e., frequency and percentage), correlation, and qualitative data aimed at answering the research questions. Reference will be made to both local and international literature that was consulted in the theoretical chapters.

5.4.1 The research findings

5.4.1.1 Findings focusing on the research question,

What are the current teaching methods and strategies that the trainee educators employ in Teachers' Training Colleges in Ethiopia?

The categories under this research question are, namely

- the students' views of the approaches used in the Geography training programme; and
- the current teaching-learning methods and strategies that trainee educators employ in Ethiopian Colleges of Teacher Education.

From the analysis of the students' views of approaches used in the Geography training programme it was found that:

- active learning is not properly utilized to facilitate cooperative and individual learning;
- appropriate resources were not integrated, and the layouts of the classrooms are not convenient for group-work;
- the Geography study material is not adequate to encourage the active learning approach; and
- proper guidelines are not in place to help the students to consider various kinds of teaching methods.

Referring to the second category – the current teaching-learning methods and the strategies that the trainee educators employ in the Ethiopian Colleges of Teacher Education, it was found that the lecture method of teaching was the one most frequently used, and was the dominant teaching method applied by the majority of lecturers, rather than teaching methods which demand the active involvement of the students.

This finding is in line with the conceptual framework in chapter 2, section 2.2.1, namely that the current teaching and learning methods and strategies determine the teaching-learning method used in Geography. It is also in line with the logical positivists' view as indicated in Chapter 2 section 2.2.1.1 and the behaviourists' theories, described in Chapter 2, section 2.2.2.1, that encourage the preparation of structured learning material, and the lecture method of teaching. This positivists' view contradicts with the constructivists' view discussed in Chapter 2, section 2.2.1.2, the social-cognitive constructivist theories also discussed in Chapter 2,section 2.2.2.1, and the models of active learning grounded in social-cognitive constructivism, addressed in Chapter 2, section 2.4, that indicate that knowledge is actively constructed.

5.4.1.2 Findings focusing on the research question,

What are the perceptions of the teacher educators (trainers) regarding the teaching of the methods of Geography in Teachers' Training Colleges in Ethiopia?

Here the categories focus on perceptions, attitudes, class sizes and facilities, assessment, staff training, support from administration, and guidelines.

From an investigation of the perceptions of the trainee teachers regarding the teaching-learning methods of Geography in Ethiopian Colleges of Education, it was found that

- the students were not afforded the opportunities to participate actively in the Geography lecture classes;
- the lecture room atmosphere was not conducive to active learning; and
- the unique learning styles of the students were not accommodated in the teaching and learning of Geography.

From an analysis of the data on the lecturers' question regarding the teachers' attitudes in using active teaching in Geography, it was found that:

- the respondents were not sure of their knowledge of participatory learning;
- the respondents were not sure that active learning encourages the students to present new ideas and arguments through their own efforts; and
- the respondents were undecided about the fact that active learning develops the students' self-confidence, independent thinking and working, rather than being spoon-fed.

As regards the descriptive results of the lecturers' question on class size and facilities, it was found that the class sizes were not appropriate for carrying out active learning, as large classes reduce learning efficiency. There were inadequate resources and facilities to support the use of active learning.

On the subject of the descriptive results of the lecturers' question regarding the integration of assessment in the class with active learning, it was found that the assessments used in the class were not designed in a way to encourage active learning. The focus was on rote learning, rather than on critical and creative thinking.

In respect of the descriptive results of the lecturers' question regarding short- and long-term training in active learning, it was found that:

- the qualifications and experience of the staff members were not appropriate to deliver active learning;
- inadequate training existed at the Teachers' Education Colleges, and during pre-service training; and
- the respondents were not sure whether or not they can prepare the teaching material by means of active learning.

In respect of the descriptive results of the lecturers' question on the support received to employ active learning, it was found that:

- the students were not given adequate opportunities to think and plan active learning, and the lecturers were not given administrative support; and
- there existed a lack of commitment on the part of the College Deans and the lecturers.

With reference to the descriptive results of the lecturers' question regarding whether guidelines existed or not, it was found that there was a lack of clear policy guidelines, manuals and instructional guides that give the lecturers direction to exercise various kinds of teaching methods.

These findings are similar to the challenges identified in Chapter 3, section 3.8. Some of these challenges were the lack of the students' motivation, the teachers' workload, the lack of resources, the large class sizes, and the lack of the teachers' training. Focusing on the large content of the course, the lack of knowledge and experience about the role of active learning methods, and the unfavourable attitude towards active learning, are the other challenges in using active learning methods. So, the major student-centred teaching methods in Geography identified in Chapter 3, section 3.5, could not be realised.

5.4.1.3 Findings focusing on the research question,

How do the student teachers experience the current teaching methods and approaches by the teacher educators in Teachers' Training Colleges in Ethiopia?

It was found that:

- the role of the students was relegated to listening to the lecturers, taking down notes, and responding to questions upon request;
- the respondents were not sure that active learning is suited to the students' backgrounds; and
- the respondents were not fully confident about the effectiveness of active learning, and felt that it was ineffective and impractical to implement, especially in large classes.

Consistent with the problems identified by means of the questionnaire, from the interviews some of the emerging problems in using the active learning methods included the following:

- the lack of knowledge of the theory and practice of active learning pedagogies;
- the views (perceptions) that the lecture method is the best method of teaching to transmit well-structured information and knowledge;
- the pretext for resistance that the students dislike the active learning methods of teaching;
- practicalities, namely the shortage of facilities, and the large class sizes;
- the focus on covering/completing the syllabus;
- examination-oriented teaching, namely focusing on preparing the students for the examination;
- the lack of incentives, recognition and awards for the teachers who were particularly successful in implementing active learning pedagogies; and
- the inadequate training of department Heads, Supervisors and the Deans who need to have the training to evaluate active learning pedagogies at College level.

In order to obtain an overall picture regarding the factors hindering the use of active learning, the information from the questionnaires and the interviews is integrated and discussed from the points of view of the trainee teachers and the lecturers.

The students' perceptions and the current teaching and learning methods will be discussed next.

5.4.2 The students-teachers' perceptions, and the current teaching-learning methods

In this section the results in respect of the two research questions indicating the perceptions of the trainee teachers regarding the teaching and learning methods of Geography in Ethiopian Colleges of Education, and the current teaching and learning methods and strategies that trainee educators employ in the Ethiopian Colleges of Education will be discussed.

The major principles behind the active learning strategies are to engage the students in thinking critically or creatively, in speaking with a partner in a small group or with the entire class, in expressing ideas through writing, in exploring personal attitudes and values, in giving and receiving feedback, and in reflecting upon the learning process. The society needs young people who are flexible, creative, and proactive – young people who can solve problems, make decisions, think critically, communicate ideas effectively, and work efficiently within teams and groups, that demand the application of active learning methods that promote the individual and social construction of knowledge. However, the students who completed the questionnaire reported that little attention was given to the active learning methods that promote these principles.

The majority of the lecturers mostly used the lecture method of teaching (where it was even mostly difficult to maintain the students' attention),rather than other available teaching methods, such as demonstration, discussion, project-work, and questions-and-answers, as discussed in Chapter 3, section 3.5. The lecture method mostly involves the transfer of information from the notes of the lecturer to the notes of the student without necessarily understanding the subject matter. Still, there is a tendency to maintain this model of education that has dominated higher education for centuries, and which emphasises the positivists' view that reality exists independently of human perception, and that knowledge is absolute, as discussed in Chapter 2, section 2.2.1.1. The teacher's job in the teaching-learning process is to transmit knowledge to the students by means of lectures, where the students' job is to absorb it. The problems that surfaced in this study's findings were attributed to the belief that knowledge is given and absolute, to the lack of clear guidelines, the teachers' inability to play a facilitative role, the scarcity of resources and the classroom layout, and the ineffectiveness of the study material incorporating active learning.

The findings in this study agree with the logical positivists' view, as indicated in section 2.2.1.1, and disagree with the constructivists' view, as indicated in section 2.2.1.2, namely that the learners need to be engaged in the meaning-making process, and in generating knowledge rather than passively receiving the information transmitted by the teachers (Crotty, in Creswell, 2009:8). The constructivist model holds that whether or not there is an objective reality, individuals actively construct and reconstruct their own reality in an effort to make sense of their experience. According to the constructivist view, instruction should begin with the content and experiences likely to be familiar to the students, so that they can make connections to their existing knowledge structures. New material should be presented in the context of its intended real-world applications and its relationship to other areas of knowledge, rather than being taught abstractly and out of context. The material should not be

presented in a manner that requires the students to alter their cognitive models abruptly and drastically. The students should not be forced outside their 'zone of proximal development', i.e., the region between what they are capable of doing independently and what they have the potential to do under adult guidance, or in collaboration with more capable peers. They should also be directed to continually revisit critical concepts and improve their cognitive models with each visit. The goal of the cognitive or the social construction of knowledge should be to wean the students from dependence on their instructors as their primary sources of information, helping them to become independent learners.

In conjunction with the findings in this study, studies by Nardos (1999:29), UNESCO (2006:1-4), Hake (1998), Springer, et al. (1998) and Knight and Wood (2005) indicated the need for active learning that compared with the traditional lecture-based instruction, instructional approaches that promote interactive engagement that produce dramatic student gains in conceptual and problem-solving capacity, higher achievement test scores, more positive student attitudes, and higher levels of student persistence. Additionally, Dejene, et al. (2007:119), Daniel, et al. (2009:84-86) and Demirci (2010:54) explain the necessity of active learning, and state that students do not learn much merely by sitting in a class listening to teachers, memorizing pre-packed assignments and spitting out answers; rather, they learn by means of direct involvement and hands-on experience.

Consistent with the problems identified in this study, Ajibade and Raheem (2008) found that Geography as a school subject in developing countries experiences serious problems in terms of the quality and quantity of trained teaching staff, the lack of incentives and of the dedication on the part of the available staff, the dearth of instructional material, and particularly, the handicaps in respect of practical and field-work.

In general, the constructivists' views that help to shift education from the teacher-centred to the student-centred approach is not realised as desired. The implication is that the students are not given the opportunity to engage in activities to utilize the content and skills that they are learning, to assimilate or incorporate new information into their existing knowledge, to accommodate and to adjust their schemes to fit the new information and experience, and/or to reflect on information.

5.4.3 The student-teachers' experience of the current teaching methods and approaches

This section discusses the results related to the student teachers' experience of the current teaching methods and approaches, namely, the teaching methods and approaches of the teacher educators in Ethiopian Colleges of Education.

Most college students undergo a developmental progression from a belief in the certainty of knowledge and the omniscience of the authorities to an acknowledgment of the uncertainty and contextual nature of knowledge, an acceptance of personal responsibility for determining the truth, the inclination and ability to gather supporting evidence for judgments, and openness to change if new evidence is forthcoming, which need the application of a student-centred approach to develop the capacity for autonomous lifelong learning. However, in view of the research question, the lecturers reported that the students are mostly passive recipients of knowledge imparted by the lecturers. The students' role is listening to lectures, writing down what is said by the lecturer, copying note and responding to the teachers' questions, all of which mostly promotes surface learning. The majority of the respondents suspect the practicability and effectiveness of active learning, especially in large classes, and therefore are not ready to use active learning, as their attitudes in using active teaching in Geography is thin on the ground. In other words, the idea that the active learning method promotes deep and lasting student learning and provides the students with the opportunities to apply the material in a broader range of contexts, is mostly neglected, as is the idea that active learning methods help the students to translate what they have learned into practice, and receive immediate feedback from their peers and/or the lecturers. The assessments used in the class are also not designed in a way to encourage active and creative learning.

The problem of using active learning pedagogies seems to emanate from the lack of adequate knowledge about active learning methods, unfavourable attitudes towards participatory learning, a lack of understanding about its significance in increasing the students' access to the teachers' expertise, of presenting new ideas and arguments of their own, and of developing their self-confidence and independent thinking. These problems are mainly attributed to the lack of adequate pre- and in-service training programmes focusing on active learning, and the lack of support in the execution of active learning methods. Geography lecturers often do not have any background or training in pedagogic theories or methods. They teach the way they had been taught, and are unaware of the research in teaching and learning, and of the effectiveness of newer teaching methods, such as active learning. Besides, some of the pretexts for not using active learning methods are the amount of work to be covered, the time active learning methods take for their preparation, and the students'

negative attitudes towards active learning. The problem in respect of employing active learning techniques is serious, due to the lack of clear institutional policy guidelines to encourage the lecturers to implement various kinds of teaching methods.

Similarly, Eison (2010:3, 4, 5) summarizes the obstacles to using active learning instructional strategies as (1) the intention to cover as much course content in class within the time available – a reluctance to reduce the amount of material covered, (2) devising active learning strategies takes too much pre-class preparation, (3) large class sizes, (4) most instructors think of themselves as being good lecturers (and, therefore, see no reason to change), (5) a lack of material or equipment needed to support active learning approaches, (6) the students resist non-lecture approaches - because active learning alternatives provide a sharp contrast to the very familiar passive listening role to which they have become accustomed, (7) the fear of ensuring that the students participate actively, learn sufficient course content, use higher-order thinking skills, and enjoy the experience of active learning, (8) the fear of the risk to control the class, (9) a deeply-rooted culture of traditionally-taught lecture courses, and (10) a resistance to change, from the Faculty and from the students who expect to be taught and to learn in a specific way.

According to Niemi (2003) and Bonwell (2009), some of the hindering factors in employing active learning methods are the focus on the coverage of the course content, the large class sizes, the lack of relevant material for active learning, the lack of motivation on the part of both the teachers and the students, the long preparation time it takes, and the teachers' inability to use computer technology. In the Ethiopian context, besides the abovementioned problems, a lack of awareness of active learning methods and experience, the teachers' insistence to maintain the traditional approach (Ministry of Education, 1994:2), the lack of planning in advance - effective time management (Tesfaye & Atota, 2011:15-18), a curriculum which is not interactive, an inability to internalize the idea of active learning pedagogy (Diribssa, 2006),the teachers' workload, the shortage of laboratory materials, and the shortage of books (learning material) (Wudu, et al., 2009:32-39) are some of the barriers mentioned to utilising active learning approaches.

In general, the teaching and learning process in Ethiopian Colleges of Education more or less lack the following twelve characteristics which are inherent to active learning pedagogies and constructive learning, namely the fact that constructive learning is (1) an active, (2) constructive, (3) cumulative, (4) goal-directed, (5) diagnostic, (7) reflective process, (8) is discovery-oriented, (9) contextual, (10) problem-oriented, (11) case-based, (12) social and intrinsically-motivated. Additionally, six

characteristics are believed to be of primary importance, namely being active, cumulative, constructive, goal-directed, diagnostic and reflective. Six other characteristics stressed in other theories are considered to be of secondary importance only, namely the fact that constructive learning is discovery-oriented, contextual, problem-oriented, case-based, and socially- and intrinsically-motivated.

Thus, an active learning model was developed based on the relevant literature, the empirical research findings discussed above, and the context of teaching Geography in Ethiopian Teacher Education Colleges.

The next section is devoted to the presentation and description of the model.

5.5 A LEARNER-CENTRED MODEL FOR THE TEACHING OF THE LEARNING METHODS OF GEOGRAPHY IN TEACHERS' TRAINING COLLEGES IN ETHIOPIA

Different theoretical models have been developed by different researchers on the basis of empirical research findings that suit the different learning institutions. These models may not all be relevant to the Ethiopian context, due to cultural and economic realities, as well as the differences in the level of awareness of active learning pedagogies, amongst others. Thus, from the analysis of the actual problems identified in the empirical research, a learner-centred model (see Figure 5.1) was ultimately developed to address the following research question, namely

What can be an alternative model for the teaching of the learning of Geography in Teachers' Training Colleges in Ethiopia?

The suggested model takes into account the need for awareness-creation about philosophy and values, theories and research, policy and strategies, the various interests of the learners, and the opportunities to develop their own learning skills, and the nature of the subject matter of Geography. It also gives emphasis to the needs of the participating learners (student teachers) in the decision-making process about what to learn, how to learn it, what kind of help is required, and how to decide how much is to be learned. This awareness-creation contributes to critical, reflective and creative thinking that, in turn, may help the teachers (lecturers) to value the role of active learning in the students' construction of knowledge. Valuing the role of active learning has the power to encourage the teachers to translate theoretical knowledge about active learning into practice. Implementation of active learning or action

is multifaceted. For example, it involves decision-making, commitment, planning, motivation and reflection-in-action. Action or good practice needs to be accompanied by evaluation and motivation. The *evaluation* of the extent to which active learning is employed has to be done at individual, peer, departmental and college levels. *Motivation* serves as a driving force to encourage the teachers to pursue and internalise the use of the active learning techniques of teaching. Learners are active at the stages of ideas/thinking, planning, application, evaluation, and development.

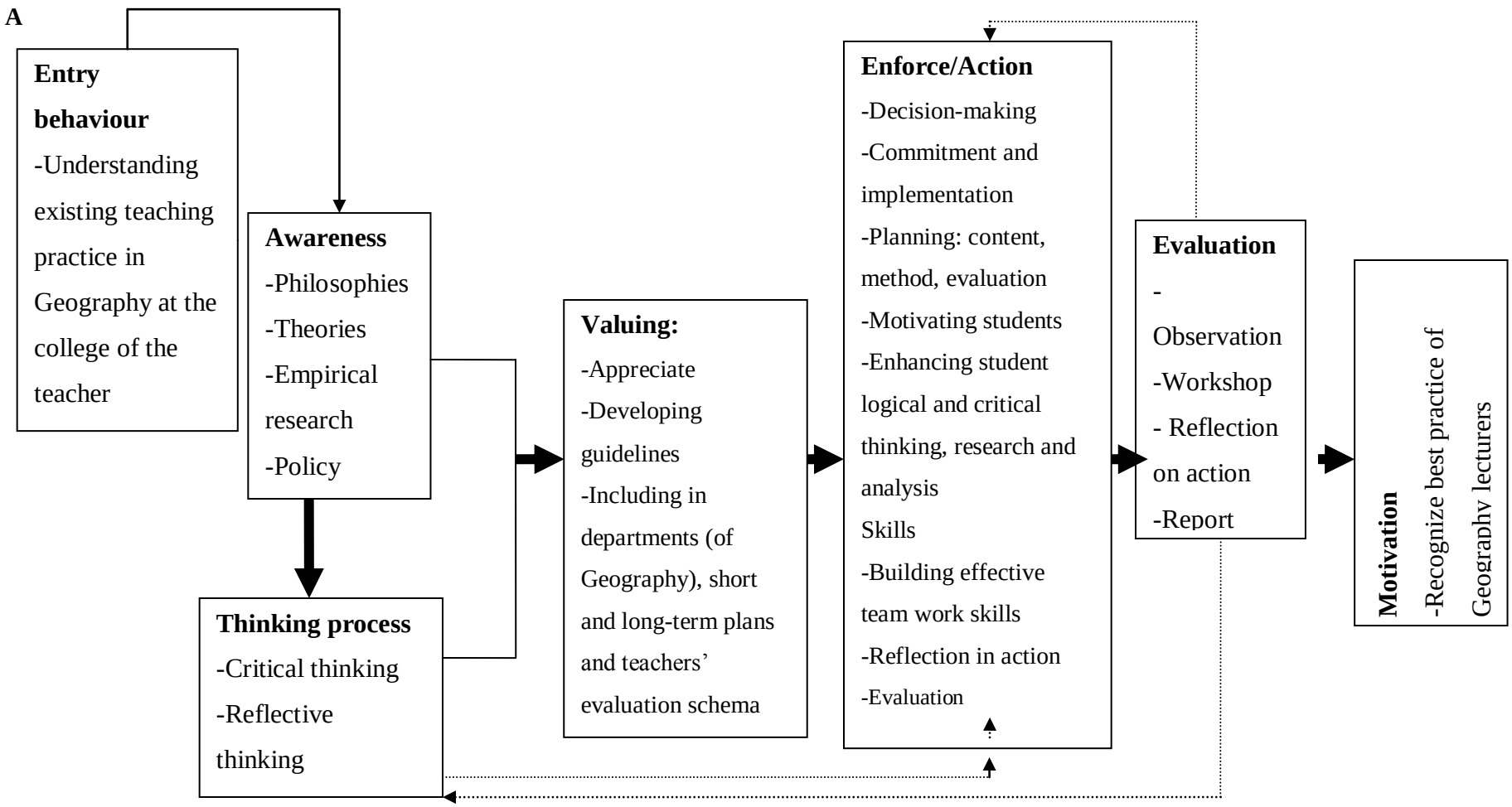

Figure 5.1: A Learner-centred Teaching (LCT) Model for the teaching of the learning of Geography in Teachers' Training Colleges in Ethiopia

The LCT model above consists of seven main parts, i.e., entry behaviour, awareness-creation, thinking processes, valuing, action, evaluation and motivation.

Entry behaviour: The application of active learning methods in Geography should start with a careful study of existing traditions, the motivating force, problems and the demands of the present generation.

Awareness-creation: Knowledge and understanding of the philosophies (especially social-cognitive constructivism), theories, policies and empirical research of active learning methods and techniques (collaborative, cooperative, team-based, case-based and problem-based learning) as they are related to the objective, content, resources and facilities of learning during pre-service training, that can be furthered by on-the-job training and practice. Awareness-creation lays the foundation for the implementation of active learning.

Thinking processes: Learner-centred teaching begins with one's thinking, Creative thinking and critical thinking which are closely related to reflective thinking, are important for the teacher to value the role of the active learning methods. These processes are also important for action/implementation which is the main stage in the use of active learning techniques.

Valuing: Appreciate the role of active learning in the students' learning. This is where a favourable attitude towards active learning reaches its highest peak, and that motivates the teachers to employ it. Valuing begins with including active learning in college policies, short- and long-term plans and the teachers' evaluation schema that need to be followed through the development of clear guidelines.

Action: This section of the model includes tasks in active learning. Learner-centred teaching/action comes about as a result of the thinking processes and the realization of activities. This stage comprises decision-making, planning, motivation, commitment and implementation, reflection-in-action (examining own practice while in a situation), and evaluation.

- *Decision-making* refers to a prior preparation and choice of content to be presented, and methods and techniques that are to be used.
- *Planning* involves the preparation of the content to be taught, the active learning method(s) to be employed, and how to motivate the students to keep them on task. The methods (collaborative, cooperative, team-based, case-based and problem-based learning) are opted to build effective team work skills, to enhance the students' logical and critical thinking, their research and analytical skills.

- *Reflection-in-action* helps to keep the implementation of active learning techniques on the right track, and to change approaches when the need arises.
- *Evaluation* helps to check progress made and the actual outcome. Formative evaluation is used to see the development made while exercising active learning and summative evaluation is used to examine the overall achievement of active learning by every Geography teacher at individual levels.

Evaluation: Entails the observation and feedback by fellow teachers, workshops to identify strengths and weaknesses in the implementation of active learning, and to share experiences with the teachers in the department of Geography and elsewhere. Reflection-in-action also helps to glimpse back at the previous practice of teaching and provides future direction in the use of active learning techniques. Regular progress reports may also help in the evaluation process.

Motivation: The teachers in teacher education colleges will be awarded a certificate and praised for their achievements in employing active learning methods. Exceptional and outstanding performances will receive the attention of the department and get the official recognition of the College through certification.

5.6 CONCLUSION

In this chapter the findings from the empirical study were presented, analysed and discussed. The first section of the chapter was devoted to the students' evaluation of the present status of active learning in their institutions. The second section presented the lecturers' views of the present status of active learning, and was accompanied by the results from the interviews. The findings from the empirical study were presented in the context of the sub-questions that were posed in Chapter 1. From the empirical investigation it was ascertained that active learning pedagogies could not be used by the lecturers due the inconvenient classroom layouts, the large class sizes, the lecturers' high teaching load, inadequate study material, and the absence of proper and clear policy guidelines. A lack of awareness active learning pedagogy and related unfavourable attitudes towards the active learning methods, and the perception that active learning methods lack the well-organized and structured provision of knowledge, largely limited the use of active learning methods. Deficiencies in the use of active learning methods were also attributed to the lack of appropriate qualifications, pre- and in-service training, commitment, and inadequate resources and facilities. The problem in the implementation of active learning methods was becoming severe, due to the lack of administrative support, continuous assessment of courses which was not integrated with active learning, the focus on

covering the syllabus, examination-oriented teaching, the lack of incentives for those who properly employ active learning methods, and inadequate training for departmental Heads, Supervisors and Deans. Accordingly, a comparison was made between the findings and the relevant national and international literature. The implication is that there is a high demand for the training of lecturers in the philosophy, theory, values, principles and practices of active learning pedagogies. Finally, founded on the literature that was reviewed, and on the findings of the empirical research and the context in teacher education colleges in Ethiopia, a relevant Learner-centred Teaching (LCT) Model was developed for Geography in Teachers' Training Colleges in Ethiopia.

CHAPTER 6

OVERVIEW, CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

In the previous chapter the empirical data collected in the course of this study were interpreted and the findings were presented.

This chapter of the research report brings the study to conclusion by providing an overview of the study, making recommendations, and drawing the final conclusions. As part of the overview, the questions and objectives of the study are restated, and a synopsis of the findings is presented, before giving the conclusions of the research. The recommendations are categorised into two groups, consisting of those that are concerned with the improvement, or of solving of the research problem, and those that anticipate further research. Finally, the limitations encountered and the contribution of the study will be acknowledged.

6.2 OVERVIEW AND CONCLUSIONS OF THE STUDY

This study set out to develop a model that may promote active learning methods in respect of Geography in Teachers' Training Colleges in Ethiopia. The background information on the nature of, and the necessity for using active learning methods in the teaching of Geography, the development and present scenario at the Teachers' Training Colleges as regards the teaching of Geography, as well as the philosophical roots of active learning, and the conceptual models that draw on constructivism, were briefly discussed in Chapter 1. The constructivists' learning theories, specifically the conceptual models, including the Constructivist Teaching Model, Fink's Model, the Model of Teaching Integrative Thinking and the Problem-based Active Learning Model were used as the theoretical framework for the study. The background information, the description of the present scenario, and the formulation of the theoretical framework gave a view of the following sub-questions:

- What are the existing theories in the teaching of the learning of Geography in the Teachers' Training Colleges in Ethiopia?
- What are the current teaching methods and strategies that the trainee educators employ in Teachers' Training Colleges in Ethiopia?
- What are the perceptions of the teacher educators (trainers) regarding the teaching of the methods of Geography in Teachers' Training Colleges in Ethiopia?

- How do the student teachers experience the current teaching methods and approaches by the teacher educators in Teachers' Training Colleges in Ethiopia?
- What can be an alternative model for the teaching of the learning methods of Geography in Teachers' Training Colleges in Ethiopia?

The first research question was addressed by surveying the relevant literature (see Chapter 2), focusing on positivism and constructivism as philosophies and teaching-learning theories. The second research question was addressed by the teaching methods and strategies of Geography in Teachers' Training Colleges in Ethiopia (see Chapters 3 and 5)that focused on the concepts and challenges of using active learning in the teaching of Geography in general, and in the Ethiopian context in particular. The third, fourth and fifth research questions were addressed by means of the data presentation and analysis, and the active learning model of Geography that was developed (see Chapter 5).

The mixed–methods research design, that is, both the quantitative and qualitative research methods were used to answer the second, third and fourth research questions. By means of quantitative research it was endeavoured to investigate the perceptions and experiences of the students regarding the extent to which active learning pedagogies were used at their respective colleges. The views of the lecturers were obtained on the current status of active learning methods at their respective institutions. Information was also gathered on the qualifications of the lecturers, as well as their continuous professional development, for example, by means of in-service training. By means of qualitative research it was aimed to identify the current teaching methods in Geography, and the strategies that the lecturers implement in their college classes. An attempt was also made to ascertain the lecturers' understanding of the active learning approaches, how they implemented these approaches, if at all, in their Geography classes, whether or not they had received training on active learning methods, and how the Geography student teachers perceived and experienced the current teaching methods and approaches.

Questionnaires were used as a means to secure quantitative data, and interviews as a means to obtain the qualitative data. The questionnaires were administered to 632 students and 24 Geography lecturers in four randomly selected Teachers' Training Colleges (TTCs) in Ethiopia. Interviews were conducted with eight purposefully selected lecturers (two from each college). Frequencies, percentages, means, standard deviations, correlations and t-tests were used in the analysis of the data

obtained through the questionnaires, while thematic content analysis was used in the analysis of the data obtained by means of the interviews.

From the analysis of the data it seemed, according to the students, that active learning methods were not properly applied by the lecturers, and they felt that the competence of the lecturers was inadequate to employ active learning techniques. The reaction of the students, in general, indicated that negligible attention was been given to active learning methods. They reported that the majority of the lecturers mostly used the lecture method of teaching, mirroring the positivists' view, rather than active learning methods, reflective of the constructivists' view, where the teachers play a facilitative role. It was also found that the scarcity of resources and study material, and the inconvenient layout of the classrooms were the other constraints in the use of active learning pedagogies.

The perceptions of the lecturers indicated that they did not work according to the desired models of active learning, taking the Ethiopian context into account. They indicated that the students were passive recipients of the lectures delivered by the lecturers. The problems were found to be associated with a lack of adequate knowledge about active learning methods because of little or no adequate pre- and in-service training in this regard, unfavourable attitudes towards participatory learning, a lack of understanding about the importance of active learning in developing the students' self-confidence and in enhancing the construction of their own knowledge. The pretexts that the lecturers were expected to cover large amounts of material, and the lack of resources, also constrained the situation. It was also found that a lack of clear institutional policy guidelines worsened the situation even further.

The results of the qualitative research corroborated the findings from the questionnaires by identifying some of the factors deterring the implementation of active learning methods. Some of the deterring factors included a lack of adequate pre- and in-service training on active learning methods, the perception that the lecture method is the best method of teaching, and alack of awareness of, and commitment to the significance of active learning among such significant role-players as the lecturers, the students and college top management. The students' resistance to using active learning methods and the lecturers' insistence on maintaining the status quo in respect of the lecture method, the shortage of facilities necessary to support active learning, the large class sizes, their focus on covering the syllabus, examination-oriented teaching, and a lack of incentives are the other deterring factors. An additional factor included a lack of systematically-organised policy guidelines.

On the whole, from the questionnaires administered to the students and the lecturers, and the interviews that were conducted with the lecturers, the results of the analysis culminated in the detection of a problem at all levels. There existed a lack of awareness and attention in the college management structures, and a lack of resources, as well as a lack of active learning at the selected colleges. There was neither an active learning model that could be followed, nor were there sufficient policy guidelines. The situation was aggravated by the shortage of lecturers with the appropriate qualifications and competence, who were supported through continuous professional development. When added together, the existence of all the above-mentioned problems served to diminish the students' levels of construction of knowledge and confidence regarding their ability to learn on their own. Thus, the status of active learning in Ethiopian Colleges of Teacher Education was found to be far below the expected international standards, and was not even near the benchmark that was established in the literature that was reviewed.

The conclusions reached necessitated the development of a Learner-centred Model for Geography in Teachers' Training Colleges in Ethiopia- see Chapter 5, section 5.5, and specific recommendations, which will now be made.

6.3 RECOMMENDATIONS

There is a high demand that all education stakeholders need to understand that the society today and the increasingly complex, fluid, and rapidly evolving world in which we live need young people who are flexible, creative, and proactive. More specifically, there is a high demand for young people who can solve problems, make decisions, think critically, communicate ideas effectively and work efficiently within teams and groups. These expectations from the young people demand life-long learning, and the opportunities to develop personal capabilities and effective thinking skills, which in turn, demand the use of active learning strategies. On the basis of these premises of demands, and the foregoing findings from the literature review and the empirical investigation, recommendations (areas of concern) in respect of the following are proposed, whereby active learning methods in Ethiopia may be addressed more effectively:

6.3.1 Curriculum policy makers

Starting at the large-scale level, active learning in Ethiopia should become an integral part of the pedagogical part of the educational policy. As changes take place in the education system, policy focusing on active learning should also be adjusted, and this should be communicated to the colleges at grassroots level by means of the proper channels. The policies should contain and keep in mind

such contexts as the culture, the psycho-social environment, and the socio-economic circumstances of the students.

6.3.2 Management structures

Taking into account education policy of the government, colleges and other concerned structures, such as zone and regional educational bureaus should act as stakeholders to collaborate, and to appraise the effective implementation, and to give their input in the curriculum, as well as in relevant policies.

6.3.3The Geography Department

The relevant active learning Model that was developed in this study, takes into account the existing internationally-recognised philosophies and theories of active learning methods, but can be applied locally in terms of available resources. It takes note of the existing challenges and of the fact that the present students' needs have to be taken into account. This Model has to be introduced to the lecturers at the beginning of the academic year. Continuous support and encouragement should be offered until it is can be internalised by the lecturers. This Model should be supported by unremitting pre-service and in-service training that incorporates the ever-changing needs of education. In other words, to change the teachers' notions of how the students learn, also by the activities and experiences offered to the learners, awareness-creation training programmes should be in place for Geography lecturers at departmental and national levels. Specific mechanisms (e.g., easy access to the internet) should also be devised to update the lecturers in respect of the current international and local empirical research findings on the developments in pedagogical strategies.

While being conscious of the importance of allowing the students to take control of their own learning, and their ability to construct their own and others' knowledge by engaging in active learning, meta-cognition and the transfer of knowledge, the lecturers should be encouraged to use active learning methods. Exceptional performance should be praised at departmental and college levels.

The model of education that has dominated higher education for centuries (positivism model) should be replaced by an alternative model (constructivism model). In the former model, the teacher's job is to transmit knowledge existing independently of human perception to the students, and the students' job is to absorb it. The latter model implies that whether or not there is an objective reality,

individuals actively construct and reconstruct their own reality in an effort to make sense of their experiences.

Clear policy guidelines should be based on SWOT (identifying strength, weaknesses, opportunities and threats), an analysis that comprises philosophy, values, theories, empirical research results, underlying principle and the duties and responsibilities of the stakeholders.

6.3.4 The lecturers

The lecturers need to use locally available resources, and produce the missing ones. Besides, active learning should be one of the priority areas in Teachers' Training Colleges, and a reasonable amount of the available budget should be allocated by the government and the colleges to purchase teaching material that sustains active learning methods.

It is highly recommended that the lecturers use a combination of teaching approaches to stimulate the students' learning by means of different active learning methods and learning styles, and that they advocate active learning techniques which include all aspects of learning. The teachers should organize the learning environment as a scaffold across the entire curriculum. When the students are immersed in an active learning curriculum that teaches them how the subject and/or discipline is structured, active learning can be a vehicle for the achievement of deep-rooted learning.

The lecturers may think that if they teach large numbers of students that it is not possible to actively involve their students in the learning process. But most active learning techniques, with some modifications, can be applied in large classes. For example, questions may be asked by the lecturers on material just covered or as an introduction to material about to be presented, and a hand-out with basic questions not only prepares students for their presentation, but also provides the students with the opportunity to summarize the material as answers to the questions.

The lecturers need to promote active learning methods by connecting new material with existing knowledge structures by using scaffolding, or requiring the students to fill in gaps that they can fill, or to extrapolate material presented by the teacher, and involving the students in working together in small groups.

Though it is not possible to make a total change of the classroom layout at once, modifications may be made in the seating arrangements that suit active learning.

Whilst covering the syllabus is part of the lecturers' responsibilities, it is better to focus on the depth of knowledge rather than on a shallow coverage of the content.

Assessment should be used to promote the students' active involvement in the teaching and learning process.

6.4 SUGGESTIONS FOR FURTHER RESEARCH

Although this study has attained its anticipated objectives, it has opened up avenues for future research in the following areas:

- A national survey that includes other variables affecting active learning should be conducted.
- A further investigation into, and verification of the active learning Model that was developed is recommended.
- It would be useful to replicate this study, using a larger sample, chosen to represent all Teachers' Training Colleges in Ethiopia. The study could be extended by having a wider range of responses, preferably from the Ministry of Education and regional educational bureaus.
- The present study suggests that there is much to be explained with regard to such situational college variables as curriculum design, evaluation procedures, and teachers' and administrators' attitudes and behaviours, as they relate to active learning methods, which a further study can probe into.
- A dilemma which could be addressed is whether traditional approach (the lecture method) of teaching impacts the changes that should be made by the lecturers.
- A study of the degree to which variables identified in this study affect the extent to which active learning methods employed should be studied, using robust statistical methods.
- A comparative study should be undertaken to see whether or not there are differences among the colleges regarding the implementation of active learning.

6.5 LIMITATIONS OF THE STUDY

The empirical study was confined to four colleges in Ethiopia, namely to Robe Teachers' Training College, Debre-Brehan Teacher Education and Vocational Training College, Hawassa Teachers' Training College, and Kotebe College of Teacher Education. This could limit the generalizability of the findings to all colleges in Ethiopia. The data were collected from students and lecturers, excluding

the Colleges' top management, authorities from the Ministry of Education and Regional Educational Bureaus, which may have limited the depth of the information obtained. Collecting data from the latter stakeholders could have given a more complete picture of the status of the active learning methods.

The following section highlights the main contributions of the study.

6.6 CONTRIBUTION MADE BY THE STUDY

In spite of the above-mentioned limitations of the study, as far as is known, this empirical study is the first of its kind to focus on the status of active learning at college level in Ethiopia from students' and lecturers' perspectives. The study enriches the existing body of knowledge on the status and the quality of active learning. The knowledge conveyed in this thesis largely assists such stakeholders as lecturers, administrators and other concerned structures to devise workable strategies to improve the implementation of active learning. Future researchers on similar topics could use the study as a springboard for further studies.

The study has further contributed to understanding the status of active learning methods, which, previously, was unknown, with preceding studies having largely focused on elementary, secondary and university students.

No other model of active learning in Ethiopian Colleges of Teacher Education has previously been developed. This study has contributed by developing a model from the literature review and empirical research results.

The study serves as a stepping stone for the development of thoughtful, independent policy guidelines through the application of relevant learning theories.

In the final analysis, the researcher hopes that the study will make an invaluable contribution to the better understanding of the multifaceted nature of active learning methods in Teachers' Training Colleges in Ethiopia.

A REFLECTION ON THE PROCESSES OF SUPERVISION, AND OF THE STUDY

This study is an important turning point in my life. In all walks of my life I have been aspiring to become a specialist in my area of study. My dream is becoming true. The realization of my dream, has, however, not been without its challenges. I had to read books and articles related my study, sit with my laptop for long periods of time, and consult my friends when things were coming demanding.

But, the guidance and endless support I received from my supervisor has a special place in my success. He led me throughout my journey of the thesis, starting from the development of the proposal to this final stage. I feel as if he was nurturing me like sprout until it gets strong, ripens, started flowering and produced fruit. He was always with me when I needed help. He always alerted me about the requirements of a thesis, giving me feedback related to how well the argument has been articulated, correcting errors and inconsistencies, drawing my attention to the broader issues across the full thesis document, like for example how a given issue can be understood and investigated, and how to make sense of the data collected in the pursuit of the investigation. He also helped me to understand what constitutes good academic writing, and to think about how an examiner might look at my work.

He really helped me to knock the door off the scientific community, and to join them. Now, I can say I can conduct scientifically sound research.Finally, I feel both blessed and honoured that he was willing to guide me throughout the challenges of the thesis writing process.

Together with the support I obtained from my supervisor, the study really helped me to understand international perspectives, philosophies, theories, models, challenges, and local realities regarding the issues of the teaching and learning process, more specifically, the issues in respect of active learning methods. These understandings, together with the empirical research findings, enabled me to develop a relevant active learning Model for Teachers' Training Colleges in Ethiopia, and to make feasible recommendations.

But, most importantly, the study helped me to acquaint myself with scientific research procedures and arguments.

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ANNEXURES

ANNEXTURE A: THE STUDENTS' QUESTIONNAIRE

The objective of this questionnaire is to obtain information on the teaching and learning of Geography in Ethiopian Teacher Education Colleges. Your genuine responses will be of paramount importance for the success of this study. There is no right or wrong answers, and what is required is to show your personal opinion about each item. Wherever possible, let your personal experience determine your answer.

Please note that your responses will be kept confidential and it is not necessary to write down your name.

Thank you for your cooperation.

Instruction: Please give the exact information, figure or indicate your response by encircling the appropriate number.

Part I: General information

Please give the exact information, figure or indicate your response by putting a tick mark (√) in the space given.

1. Name of TTC_____.
2. Your gender

Male	Female
1	2

3. Year:

First	Second	Third
1	2	3

Part II: Consider the current teaching methods used by your college teachers, and indicate your extent of agreement or disagreement with each statement by ticking under the appropriate rating, using the 5-point scale below:

1= definitely disagree, 2= disagree somewhat, 3= undecided, 4= agree somewhat, 5= definitely agree

No.	**Items**	**1**	**2**	**3**	**4**	**5**	**Researcher's use only**
A: Participation and experience of the students							
1.	In my Geography lectures I am afforded an opportunity to participate actively.						
2.	As a trainee I play an active role to exercise various types and techniques of active learning methods.						
3.	The atmosphere in the lecture room is conducive for active learning.						
4.	My lecturer encourages cooperative and group-work learning.						
5.	In my Geography lectures I am exposed to alternative teaching methods and strategies.						
6.	My unique learning styles are being accommodated in the teaching and learning of Geography.						
7.	How Geography is presented has helped me to understand geographical issues that have shaped the current world system.						

No.	Items	1	2	3	4	5	Researcher's use only
8.	How Geography knowledge is presented in my lectures has helped me to understand geo-information technologies and the latest developments in Geography.						
9.	How Geography is presented has helped me to become aware of the relevance of field-work, and interactive web applications, executing various projects, and reflecting on spatial phenomena.						
B: Teaching approach and methods							
1.	My College Geography teachers provide me with the proper techniques and types of active learning methods.						
2.	The Geography lecturers apply various methodologies in teaching their courses.						
3.	The lecturers encourage passive rather than active participation by the students during lectures.						
4.	The lecturers consider the students' individual differences in their lectures.						
5.	The lecturers encourage my colleagues and me to ask questions and to develop confidence.						
6.	My Geography lecturers are well-prepared for their lectures.						
7.	My Geography lecturers allow the students the time to think about the topics that they teach.						
8.	My Geography lecturers are facilitators and are resourceful.						
9.	Most of the learning activities are						

No.	Items	1	2	3	4	5	Researcher's use only
	structured in such a way to make me use creative mental processes and innovative actions.						
10.	I am exposed to a variety of teaching methods appropriate for the students' diversified needs, interests and capacities.						
C: Integration of resources							
1.	The layout of the Geography lecture room is convenient for group-work.						
2.	I have access to the various kinds of Geography study material that encourage an active learning approach.						
3.	The activities in the Geography textbooks help me to embark on investigation activities.						
4.	The teaching methods suggested in the course materials are appropriate to learn Geography.						
5.	The available resources/facilities encourage active learning.						
6.	I receive proper guidelines to help me consider various kinds of teaching methods.						
7.	The Geography lectures help me to understand and apply various types of active learning methods.						
8.	The Geography teaching methods help me to acquire various geographical skills, knowledge and competence.						
9.	My training has enabled me to identify the differences between traditional and active teaching and learning methods.						

Part II: From the list of methods given below, indicate the degree to which they are applicable in you lectures.

No	Items	Never	Rarely	Sometimes	Most of the time	Always
1.	Lecture (presentation predominantly given by a lecturer)					
2.	Demonstration (showing how to do something in front of the class)					
3.	Field observation (investigation activities outside the classroom content)					
4.	Project work (an activity to be completed within a certain schedule)					
5.	Discussion (a talk among or between the students and the teacher)					
6.	Practical work (activities accompanied by application)					
7.	Experiment (scientific investigation)					
8.	Inviting guests (a lesson to be delivered by guest lecturers)					
9.	Debate (discussion on motions being divided into 'pro' and 'against' groups)					
10.	Film (watching a play/drama on a screen)					
11.	Question-and-answer (activities which need posing and responding to questioning)					
12.	Goldfish (selecting two students who sit back to back in the middle of the room to debate a view with other students around them, to replace either of the two in turn to join the debate)					
13.	Mind-map (visual representation of					

No	Items	Never	Rarely	Sometimes	Most of the time	Always
	ideas on a given topic or a sketch)					
14.	Hot-seating (one member of the class is assigned to be a character, or one member of each small group to role-play the character of a person from history, a famous scientist, or a famous politician, where the other members of the class/group direct questions to the person in the centre, who has to respond as that person)					
15.	Case study (the teacher provides the students with two or more different situations or scenarios, and the students have to study the situation and describe how they would deal with that situation)					
16.	Independent work (when the students complete a certain activity that allow them to work by themselves independently)					
17.	Pair-work (performing any task in two)					
18.	Group-work (performing a task in a group)					
19.	Visits (organizing a trip to a place of interest)					
20.	Field-work (performing activities outside the classroom)					

Rank according to priority those methods from the list below, which are applicable in you lectures. Assign 1 to the method mostly used, 2 for the second mostly used, etc.

a) Lecture (presentation predominantly given by a lecturer)_____

b) Demonstration (showing how to do something in front of the class)_____

c) Field observation (investigation activities outside the classroom content)_____

d) Project work (an activity to be completed within a certain schedule)_____

e) Discussion (a talk among or between the students and the teacher)_____

f) Practical work (activities accompanied by application)_____

g) Experiment (scientific investigation)_____

h) Inviting guests (a lesson to be delivered by guest lecturers)_____

i) Debate (discussion on motions being divided into 'pro' and 'against' groups)_____

j) Film (watching a play/dram on a screen)_____

k) Question-and-answer (activities which need posing and responding to questioning)_____

l) Goldfish (selecting two students and they sit back to back in the middle of the room to debate the view with other students around them, to replace either of the two in turn to join the debate)

m) Mind-map (visual representation of ideas on a given topic or a sketch)_____

n) Hot seating (one member of the class is assigned to be a character or one member of each small group to role-play the character of a person from history, a famous scientist, or a famous politician, where the other members of the class/group direct questions to the person in the centre who has to respond as that person)_____

o) Case study (the teacher provides the students with two or more different situations or scenarios and the students have to study the situation and describe how they would deal with that situation)_____

p) Independent work (when the students complete certain activities that allow them to work by themselves independently)_____

q) Pair-work (performing any task in two)_____

r) Group-work (performing a task in a group)_____

s) Visits (organizing a trip to a place of interest)_____

t) Field-work (performing activities outside the classroom)_____

ANNEXTURE B: THE LECTURERS' QUESTIONNAIRE

The objective of this questionnaire is to obtain information about the teaching and learning of Geography in the Ethiopian Teacher Education Colleges. Your genuine responses will be of paramount importance for the success of this study. There is no right or wrong answers and what is required is for you to indicate your personal opinion about each item. Wherever possible let your personal experience determine your answer.

Please note that your responses will be kept confidential and it is not necessary to write down your name.

Thank you for your cooperation.

Instruction: Please give the exact information, figure or indicate your response by encircling the appropriate number.

Part I: GENERAL BIOGRAPHICAL INFORMATION

1.Name of your Teachers' Training College _____

2.Your gender

Male	Female
1	2

3.Age in years

Below 25	26 – 30	31 – 35	36 – 40	Over 40
1	2	3	4	5

4.Teaching experience in years

5 &below	6 – 10	11 – 15	Over 15 years
1	2	3	4

5.Highest recent qualification

Certificate in Education	Diploma in Education	Bachelor degree	Master's degree	Other(Specify)
1	2	3	4	

6. Average number of students in your class

Below 30	30 -40	40-50	50-60	Over 60
1	2	3	4	5

7. Total teaching credit hours per week

Below 10	10 – 15	16- 20	Over 20
1	2	3	4

Part II: Consider the current teaching methods you use and related issues, and indicate your extent of agreement or disagreement with each statement by ticking under the appropriate rating using the 5-point scale below:

1= strongly disagree, 2= disagree somewhat, 3= undecided, 4= agree somewhat and 5= strongly agree

No	**Items**	**Rating numbers**					**For the researcher's use only**
II A.	**Geography teaching methods in your College**	1	2	3	4	5	
1.	The students' role is listening to the lecture, taking down notes and responding to questions upon request.						
2.	The lecture-method teaching strategy is not more suited to the current students' background.						
3.	Most students in our TTC make use of active learning techniques.						
4.	At my college, of geography classes I continually participate students in the teaching learning process.						
5.	I think that lectures are the best way to teach students in the class.						

No	Items	Rating numbers					For the researcher's use only
II A.	**Geography teaching methods in your College**	1	2	3	4	5	
6.	In my College I provide my students with the proper techniques and types of active learning methods for each topic of the day.						
7.	Active student learning will not create problems in my classroom management.	my					
8.	Collaborative work in groups allows efficient learning in large classes.						
9.	It is impractical to implement active learning in large classes.						
B.	**Class size and facilities**						
1.	My class size is appropriate for carrying out active learning.						
2.	Learning in large classes reduces learning efficiency.						
3.	At my College the available resources/facilities encourage active learning.						
C.	**Assessment in the class**						
1.	I frequently ask close-ended questions for which there is one correct answer to evaluate my students.	only					
2.	I frequently ask open-ended questions to evaluate the students.						
3.	I often assess students' understanding through questioning.						
4.	I provide exercises on some of the lessons.						
5.	I often assess the students by means of a variety of techniques such as assignments and project work.						
D.	**The teachers' attitudes in using active teaching in Geography**						
1.	I recognize participatory learning.						
2.	The students' access to the teacher's expertise may be increased if active learning is used.						
3.	Besides his/her role as knowledge provider, the instructor is to guide the students in the process of learning.						
4.	The students can present in the class new idea and arguments through their own efforts.						

No	Items	Rating numbers					For the researcher's use only
II A.	**Geography teaching methods in your College**	1	2	3	4	5	
5.	Active learning develops the students' self-confidence, independent thinking and working, rather than being spoon-fed.						
6.	I generally believe that it is important to link the new knowledge to the students' prior experiences.						
7.	I believe students learn more effectively if they work groups than individually.						
E	**Short- and long-term training**						
1.	In our College the qualifications and experience of the staff members are appropriate.						
2.	The training at my College enabled me to familiarize myself with different active teaching methods.						
3.	The knowledge that I have gained about Geo-information technologies has helped me to be aware of the latest research developments in Geography						
4.	I received adequate pre-service training on the Implementation of active learning techniques.						
5.	I received training on the implementation of active learning techniques.						
6.	I received adequate in-service training on the implementation of active learning techniques.						
7.	I was trained in general teaching methodology rather than in active learning techniques.						
8.	I received training on how to prepare teaching material through active learning.						
F.	**Support**						
1.	At the College I have been given adequate opportunities to think and plan active learning.						
2.	I think that a lack of administrative support (e.g. financial, facilitation) inhibits the implementation of active learning						

No	Items	Rating numbers					For the researcher's use only
II A.	**Geography teaching methods in your College**	1	2	3	4	5	
	in class.						
3.	The Dean of my college is committed to the implementation of active learning.						
G	**Guidelines**						
1.	At my College I received proper guidelines that can help me to implement various kinds of teaching methods.						
2.	I think that a lack of instructional materials (e.g., lecturer guides) inhibits the implementation of active learning.						

ANNEXTURE C: THE INTERVIEW GUIDE

Biographic data and interview questions for the lecturers.

Introduction:

During the interview the researcher will introduce himself and inform the participants about the general procedure.

1. **Biographical data:**
1. Name of your college ----------
2. Your gender ----------
3. Your age ----------
4. Years' experience in teaching ----------
5. Level of education and qualifications ----------
6. The average number of Geography students in your class ----------
7. Years' teaching Geography at a Teachers' College----------

II. Interview questions for the lecturers:

1. What are the current Geography teaching methods and strategies that you implement in your college classes?
2. How do you decide to use the proper types and techniques of teaching methods in your daily lessons at the college?
3. What is your understanding of the active learning approach?
4. Could you describe the process you follow when you plan to decide on the proper teaching methods, and how you collect the feedback from your trainees?
5. As a college Geography teacher, what are the reasons to choose the teacher-centred approach or the student-centred approach?
6. Explain how you implement the active learning approach in your Geography classes?
7. How do you integrate the active learning approach in the assessment of your Geography students?
8. Did you receive relevant training in the different types and techniques of active learning?
9. How do the Geography student teachers perceive and experience the current teaching methods and approaches that are applied by you as a trainer?

10. What can you recommend that will enable the lecturers to implement a variety of active learning techniques?

ANNEXTURE D: DATA OF IN-DEPTH INTERVIEW WITH THE LECTURERS (Direct Response of Interviewee)

Researcher:

Thank you for your willingness to participate in the interview. My name is Awol Ahmed Mohammed. I am a Ph.D. student at the University of South Africa. I am conducting research on the topic 'A model for teaching learning methods of Geography in the Ethiopian Colleges of Teacher Education". The purpose of this study is to ascertain the status of active learning in the Colleges of Teacher Education in Ethiopia. You have been selected as one source of information. The information that you provide me with will make a significant contribution to the success of this study. Before we start, allow me to ask a few requests from you. Firstly, you should know that the interview is being tape-recorded, so that I can refer back to the discussion when I write my report. There are no right or wrong answers. What you are required to do is to express your opinions and feelings, depending on your actual experience as a lecturer. The information that you provide me with will be used only for research purposes. Thank you again for your willingness to sit for the interview. We will start our interview by you telling me your name and your position in the university.

All eight the interviewees introduced themselves.

Researcher:

Okay, thank you. Let me pose my first question:

What are the current Geography teaching methods and strategies that you implement in your college classes?

Participant 1:

I mostly use the lecture method of teaching and I rarely use co-operative and peer-learning, group-work, field trips, picture analysis and brain storming are the current geography teaching methods and strategies implement in the classes.

Participant 2:

I mostly use the lecture method in my teaching. When I see my students are tired of the lecture, I sometimes use group-and pair-discussions, brain-storing, bus-stop, cross-over, presentations, and self-readings are the strategies I implemented.

Participant 3:

I usually lecture the students as I have to cover the syllabus. I sometimes try to use demonstrations, reflections, peer-teaching, micro-teaching, peer work and group work are the major active learning methods I used while delivering the course.

Participant 4:

I know that I have to use different active learning methods to make the learning and teaching process effective. However, I always opt for the lecture method.

Participant 5:

Currently, my emphasis is on presentation, group-work, jigsaw, pair-work, and questions and answers to deliver the course. When we come to practice, there is no convenient environment to use them. Therefore, I usually slide back and use the lecture method of teaching.

Participant 6:

The lecture or traditional method.

Participant 7:

The lecture method, and sometimes student-centred methods.

Participant 8:

The lecture method is the dominant teaching method rather than active learning methods.

Researcher:

How do you decide to use the proper types and techniques of teaching methods in your daily lessons?

Participant 1:

It is based on my course plan, experience, the nature of the content and the students' abilities.

Participant 2:

The content of the session, the existence of teaching aids, resources and the class size lead me to decide on the use of my teaching strategies.

Participant 3:

The objective of the lesson, the nature of the content, and the nature of the students are the main factors that I consider in the selection of my teaching methods.

Participant 4:

The nature of the contents, the teaching materials, resources and the class size indicate to me which appropriate teaching methods to use.

Participant 5:

Based on the course plan, my experience, the nature of the topics and in take capacity of the learner, I decide which proper techniques of teaching methods to use.

Participant 6:

The nature of the content and the objective of the lesson are the core reasons to decide which method to use. The need to cover the course content, the lack of materials, a shortage of time and the large class size lead me to choose the teacher-centred approach.

Participant 7:

Based on the content of the course, I decide to use the methods of teaching.

Participant 8:

Based on the nature of the objectives I will choose the methods to use in the instruction.

Researcher:

What do you understand by the 'active learning approach'?

Participant 1:

Though my knowledge about active learning is limited, I know that there is a paradigm shift in the world from the traditional to the active learning approach. It requires students' engagement.

Participant 2:

Though I am not sure, there is an assumption that it enhances the students' learning rate by increasing their engagement level. Active learning hasn't been deeply embedded in my teaching practice for many years. I tend to use the classic lecture method.

Participant 3:

I think 'active learning' is a teaching method that leads the learners to take responsibility for their own learning. But I do not think that it is realistic as many of us are not ready to use it. Many of us lack a deeper understanding of it.

Participant 4:

According to my understanding, the 'active learning approach' is a teaching paradigm based on the notion that the learners can learn when they are engaged in their learning. However, when we come to its implementation, I do not have the necessary skills. I therefore rarely use it in my class when there is supervision by the Department and the College.

Participant 5:

From my limited knowledge, I guess that the active learning method is one way of teaching. But I think my colleagues and I are unaware of the need to work in this way.

Participant 6:

I know that the active learning method is one of the top agendas in today's educational debate. All that I know about active learning is about getting students to do things. I do not see the difference between active learning and transmitting your knowledge to them as a teacher, and follow it by providing assignments where the students try and respond to that which makes them active.

Participant 7:

From the limited literature I have read and the knowledge I obtained from one workshop, I learned that the active learning method is a method that is used to enhance the students' learning by themselves. But it is the most rarely utilised approach, as many of us lack any knowledge about the alternative techniques to be used and the procedures to be followed.

Participant 8:

The active learning method is said to be the one to increase the students' participation. But I have a blurred vision about it, and am not fully convinced about its benefits to the students. I may need to read more on it and get training on its full spectrum.

Researcher:

Please, could you describe the process you follow when you plan to decide the proper teaching methods and how you collect the feedback from your trainees?

Participant 1:

First I think about the subject I am going to teach, and then about its nature and the characteristics of the students.

Participant 2:

I survey the content, check the availability of the resources, and then proceed to plan the lesson of the session, deliver the lesson, and finally I collect the feedback from the learners. However, I confess that while I think I know what active learning is, I am confused by the capitalised Active Learning, which suggests it is a special strategy which exists outside the conventions of teaching and learning.

Participant 3:

Based on the specific lesson, I normally prepare the lesson plan just for the satisfaction of the departmental Head and the College where I actually teach, usually using the lecture method.

Participant 4:

I usually start with identifying the topic of the lesson, and plan the lesson according to didactic elements such as introduction, presentation, stabilisation and evaluation. For my presentation, I select teaching methods based on the nature of the subject matter and the content of the course. Though my

plan is to diversify my teaching methods, I usually end up lecturing. I don't have the confidence to use active learning techniques.

Participant 5:

I start with completing the lesson plan, including the space to write down the teaching methods. I select and usually use the lecture method of teaching, and rarely revert to discussion and brainstorming.

Participant 6:

For the most part, I have a plan which, of course, looks good on paper. I think all learning should be active, but I need more experience on how to make my current role effective in providing active learning.

Participant 7:

"Based on the time, the content and the class size I plan the process to be implemented. However, I believe that I haven't fully begun using active learning as a teaching approach.

Participant 8:

My selection of the teaching method depends on the instructional facilities and on the feedback from the students. But I am not aware of active learning as a specific set of practices. I am very frustrated to have used various active learning.

Researcher:

As a college Geography teacher, what are your reasons for choosing either the student-centred or the teacher-centred approach?

Participant 1:

The nature of the content influences me to use either the student-centred or the teacher-centred approach. I feel my background also matters in the selection of the teaching method.

Participant 2:

The availability of the resources and the time that I have to cover the syllabus make me usually resort to the teacher-centred approach, and that enables me to cover the vast content in a short period of time.

Participant 3:

What I usually consider are the contents of the lesson, the available time, and objective of the lesson in choosing either the teacher- or the student-centred approach.

Participant 4:

My selection of method usually takes class size, the level of the students and the nature of the course into account.

Participant 5:

My orientation is towards the use of the formal lecture because I feel that it gives the students the most structured knowledge. Even the students themselves admire a teacher who lectures well, rather than the one who designs activities for the students. Sometimes they come with complaints to the Department that the teacher is not teaching, and they say that they are carrying the burden of the teacher. Thus, my orientation and the students' preference are the major determining factors, and they dominate the selection of the teaching method – the lecture.

Participant 6:

The lack of material and the time available to cover the syllabus usually lead me to choose the teacher-centred approach.

Participant 7:

The content of the subject-matter mainly determines my selection of the teaching method.

Participant 8:

Due to the lack of instructional material and of time I predominantly prefer the lecture method of teaching.

Researcher:

Explain how you implement the active learning approach in your Geography classes.

Participant 1:

To be honest, I seldom use any active learning methods, not beyond a few minutes' discussion and questions-and-answers. I feel that it is an imposition from the Ministry of Education and the College authorities.

Participant 2:

As I tried to mention earlier, due to the lack of resources and the expectation to cover a huge amount of contents in a semester my preference is for the lecture method. Active learning seems to take much of your time. For me, giving home assignments is sufficient to make students active by reading beyond what they have learned in the class.

Participant 3:

I don't feel I am an expert in using active learning techniques. The best technique I know is the lecture method. That was what I was learned from my teachers at high school and university. Thus, at

the moment I am not using the active learning method. However, with proper support and training, as this is the order of the day, I may shift my way of teaching from the lecture method to active learning by selecting appropriate techniques of the active learning method, supervise the work of the learners, and assess or check whether they have achieved the objective of lesson.

Participant 4:

Actually, I do not feel that I am properly utilising the active learning techniques. Of course, sometimes I feel that I have to implement active learning methods in the form of individual work, project work and questions-and-answers. But I could only realise the questions-and-answer technique.

Participant 5:

I know, still, we are using the old-fashioned approach used in traditional education, the lecture method, where rote learning is emphasised. Our awareness is not as required. Most of us do not know the philosophy behind active learning and the results of the empirical research. We are afraid of the burden of active learning on the teacher, as it needs more time to prepare, and requires proper time-management. We feel safe when we use the lecture method and group-work, which doesn't take too much of the teacher time.

Participant 6:

My inclination is rather towards the lecture method.

Participant 7:

I am not fully certain about how to use the active learning techniques. I rarely make use of field trips where I select the appropriate sites for our visit, and where the students are expected to report on their observations.

Participant 8:

My use of the active learning methods is limited to group-work and project-work.

Researcher:

How do you integrate the active learning approach in the assessment of your Geography students?

All the participants anonymously said, "Assessment does not support active learning as most of the lecturers are making use of the conventional paper-and-pencil test, mid-examinations and the final exams. Fewer lecturers add one assignment."

Researcher:

Did you get proper training in the different types and techniques of active learning?

Participant 1:

I do not have sufficient training on the concept and theories of active learning and the underlying skills to use the active learning methods. Training in active learning is very important for the teachers to be able to transfer it to the students. There is also a need to train the department Heads and the Deans, and there is still much work that has to be done to train the teachers. I suggest additional training on new teaching methodology. There is a necessity for teacher training.

Participant 2:

Both pre-service and in-service training are not sufficient to address active learning methods. Where there is in-service training the trainers usually focus on the concept and theory of active learning. In the limited training, there are not subject-specific skills of using active learning - there exists a need for teacher training.

Participant 3:

Training on the active learning methods is very inadequate in order to teach the students. There should be policy guidelines indicating the responsibility of the stakeholders, as well as impact evaluation as to the effectiveness of active learning.

Participant 4:

I do have some training, such as Continuous Professional Development (CPD) and workshops organized by our College. But they never properly address the issues of concern related to active learning. During the workshops everybody was complaining bitterly about the challenges of active learning. The training providers were not able to answer some of questions raised by the participants. Thus, the Geography lecturers are very strong in their fields and disciplines, but often do not have any background or training in pedagogic theories, methods or results. They teach the way they had been taught and are unaware of the research in teaching and learning, and of the effectiveness of newer teaching methods, such as active learning.

Participant 5:

I feel that it is necessary to train the department Heads and the Deans, and that there is still much work to be done to train the teachers.

Participant 6:

There are short-term training programmes like the Higher Diploma Programme (HDP) where every teacher is expected to participate. However, the time given for active learning never exceeds one week in a semester.

Participant 7:

Not, as such enough.

Participant 8:

I am not sure that both pre-service and in-service training is sufficient to be able to use active learning methods. Training on active learning is very important for teachers in order to be able to transfer it to the students. It is necessary to train the academic wing of the College management, and to train the teachers.

Researcher:

How do the Geography student teachers perceive and experience the current teaching methods and approaches that are given by you as trainers.

Participant 1:

Surprisingly, they perceive the lecture method is the best one. The students are very interested in the structured provision of lessons. They feel quite safe when the teacher is lecturing, as this is a culture that they experienced in high school.

Participant 2:

Though not as required, currently there is a change or improvement concerning student-centred teaching strategies. It is possible to say both the teachers and the students are starting to develop positive perceptions towards active learning.

Participant 3:

The students perceive active learning methods as a burden to them. They think that the teachers are the providers of well-organised knowledge.

Participant 4:

The lecture method is better than the active learning methods due to the fact that the active learning methods are time-consuming, boring and ineffective. The active learning methods are a phobia to some students; they find the active learning methods threatening. They do not want the challenge, or they are more comfortable in a more passive role. They regard learning as copying ideas and information from books and the heads of the teachers into their own heads.

Participant 5:

The students consider active learning methods as incomplete and boring.

Participant 6:

Very few students have good perceptions concerning active learning methods.

Participant 7:

A number of students enjoy different active learning methods.

Participant 8:

The student teachers perceive and experience the current teaching methods as a waste of time.

Researcher:

What do you recommend that will enable the lecturers to implement a variety of active learning techniques?

Participant 1:

The provision of incentives for the best active learning implementers, the provision of adequate resources, assigning a manageable number of students to each class, the provision of training for the teachers and the Deans, and providing adequate time, are some of the recommendations for the effective implementation of active learning methods.

Participant 2:

There has to be awareness-creation training workshops together with clear guidelines and appropriate monitoring and evaluation.

Participant 3:

There exists a need to train the departmental Heads and Deans in the training of teachers in active learning pedagogy and its theoretical underpinnings, as well as the techniques for mentoring and evaluating teachers when they implement active learning methods.

Participant 4:

There has to be pre-service and in-service training focusing on active learning. The teachers have to be given the opportunity to learn the theories and empirical research findings regarding active learning.

Participant 5:

The provision and incentives for the best active learning implementers, the provision of adequate resources, assigning manageable students in the class, the provision of training for the teachers and

the Deans, and adequate time are some of the recommendations for the effective implementation and active learning methods.

Participant 6:

I feel that the College wants us to implement active learning methods in the absence of the necessary resources and without reducing the number of students in the class. At least basic resources have to be available to be utilised, and the number of students have to be reduced to a manageable size.

Participant 7:

The teachers have to be aware of the fact that active learning is a necessary condition for learning to take place. They have to know what is going on in the other parts of the world concerning active learning.

Participant 8:

The teachers should not feel as if the implementation of active learning is imposed from above, from the Ministry of Education.

Researcher:

I think we can end our interview here, because we have covered all the matters that I wanted to ask you about. Thank you so much for your willingness to sit for the interview, as well as for your time and cooperation in providing me with the necessary information. I wish you all the very best in your work. Goodbye.

ANNEXTURE E: Permission to conduct research at Debre-Brehan Teacher Education and Vocational Training College

Debre Brhan Teacher Education And
Vocational Training College

Ref. DBTVT-0037/1-3/11

No. 11/01/2005

To the University of South Africa (UNISA)

Subject: Sending Confirmation letter

Your PHD student Muhammed Awol Ahmed in seeking of confirmation letter applied to our college that, whether our college will be cooperative or not for his data collection activities. This is therefore; I can confirm that he can collect data for his dissertation in our college Debre Brehan Teacher Education & Vocational training College.

With Best Regards !

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Debre Brhan Teacher Education And Vocational Training College

Jun 08:51 From: To:0226652519 P.1/1

ANNEXTURE F: Permission to conduct research at Hawassa Teachers' Training College

FROM : PHONE NO. : 0000000000000888800 Sep. 20 2012 10:40PM P1

S/N/N/P/R/State Education Bureau
Hawassa College of Teacher Education

Date: 12/1/2005

TO WHOM IT MAY CONCERN

LETTER FOR PERMISSION TO CONDUCT RESEARCH

- **Hawassa Teachers Training College**
  Hawassa

Subject: - permission to conduct Research

Based on the Ref. Letter AA-46-9017 date on 25/12/04 E.C (August 31/2012 G.C) we want to confirm that our institution has granted permission that Mr. Mohammed Awol Ahmed can collect data for his PhD in Curriculum Studies with the University of South Africa (UNISA).

With Best Regards!

Abera Argo Lankamo
Dean of the College

ANNEXTURE G: Permission to conduct research at Kotebe College of Teacher Education

Attn. to Awel

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THE FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA
ADDIS ABABA CITY GOVERNMENT
KOTEBE COLLEGE OF TEACHER EDUCATION

ቁጥር 1/72/2012/05
Ref.
ቀን 15/01/05
Date

TO WHOME IT MAY CONCERN

LETTER FOR PERMISSION TO CONDUCT RESEARCH

Kotebe College of Teacher Education
Addis Ababa

Subject:- *Permission to conduct Research*

Based on the Ref. Letter AA-46-9017 date on 25/12/04 E.C. (August 31/2012 G.C.) we want to confirm that our institution has granted permission that Mr. Mohammed Awol Ahmed can collect data for his Ph.D. in Curriuclum Studies with the University of South Africa (UNISA).

With Best Regards!

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City Government of Addis Ababa
Kotebe Collegeof Teacher Education

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Addis Ababa Ethiopia

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ANNEXTURE H: Permission to conduct research at Robe Teachers' Training College

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Mootummaa Naannoo Oromiyaatti
Kolleejjii Barsiistotaa Robee
Robe Teachers College

No- KBP23-1 3594/12
Date: 18-01-05

TO WHOM IT MAY CONCERN

LETTER FOR PERMISSION TO CONDUCT RESEARCH

- **Robe Teachers Training College**
  Robe

Subject: - permission to conduct Research

Based on the Ref. Letter AA-46-9017 date on 25/12/04 E.C (August 31/20 2 G.C) we want to confirm that our institution has granted permission that Mr. Mohammed Awol Ahmed can collect data for his PhD in Curriculum Studi s with the University of South Africa (UNISA).

With Best Regards!

Zallaqa Gomes Wordofaa
DIREKTII KOLLEEJJII
PHAX