

ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES

HAMPERING FACTORS TO IMPLEMENT ACTIVE
LEARNING IN SOME SELECTED SECOND
CYCLE PRIMARY SCHOOLS OF CENTRAL
ZONE IN TIGRAY

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ZONE IN TIGRAY**

BY

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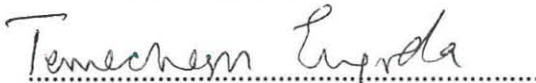
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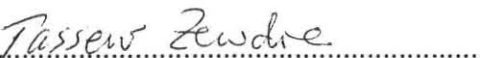
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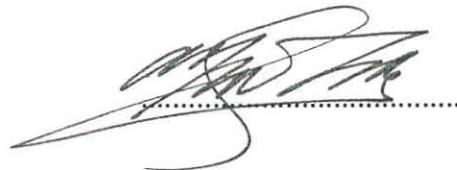
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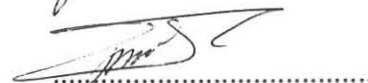
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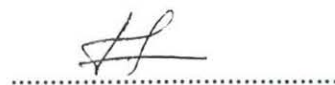

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TABLE OF CONTENTS

| | page |
|--|------|
| Acknowledgement..... | i |
| Table of Contents..... | ii |
| List of Tables..... | viii |
| Acronmys..... | ix |
| Abstract..... | x |
| 1. Introduction | |
| 1.1. Background of the Study | 1 |
| 1.2. Statement of the Problem | 5 |
| 1.3. Significance of the Study | 7 |
| 1.4. Delimitation of the Study | 8 |
| 1.5. Limitation of the Study..... | 9 |
| 1.6. Operational Definition of Concepts | 9 |
| 2. Review of Related Literature | |
| 2.1 Instructional Methods and its Conception | 10 |
| 2.1.1 Classification of Instructional Methods | 12 |
| 2.1.1.1 Teacher-Centered Instructional Approach | 14 |
| 2.2.1.1.1 Features, Advantages and Limitations of the Teacher- centered Approach..... | 14 |
| 2.1.1.2 Learner-centered /Active-Learning/ Approach..... | 19 |

TABLE OF CONTENTS

| | page |
|--|------|
| Acknowledgement..... | i |
| Table of Contents..... | ii |
| List of Tables..... | viii |
| Acronmys..... | ix |
| Abstract..... | x |
| 1. Introduction | |
| 1.1. Background of the Study | 1 |
| 1.2. Statement of the Problem | 5 |
| 1.3. Significance of the Study | 7 |
| 1.4. Delimitation of the Study | 8 |
| 1.5. Limitation of the Study..... | 9 |
| 1.6. Operational Definition of Concepts | 9 |
| 2. Review of Related Literature | |
| 2.1 Instructional Methods and its Conception | 10 |
| 2.1.1 Classification of Instructional Methods | 12 |
| 2.1.1.1 Teacher-Centered Instructional Approach | 14 |
| 2.2.1.1.1 Features, Advantages and Limitations of the Teacher- centered Approach..... | 14 |
| 2.1.1.2 Learner-centered /Active-Learning/ Approach..... | 19 |

| | | |
|-----------|---|----|
| 2.1.1.2.1 | Features, Advantages and Limitations of the Learner-Centered Approach..... | 20 |
| 2.1.1.2.2 | The Role of the Teacher in Implementing Active Learning | 27 |
| 2.1.1.2.3 | Major Types of Learner-centered Instructional Strategies Facilitating Active Learning | 28 |
| | A) Inquiry Learning..... | 29 |
| | B) Discovery Learning..... | 30 |
| | C) The Project Learning..... | 32 |
| | D) The Problem Solving Approach..... | 33 |
| | E) The Role-Playing Technique..... | 34 |
| | F) The Discussion Method..... | 35 |
| 2.1.1.3 | Comparison of Teacher-Centered Verses Learner-Centered..... | 37 |
| 2.2 | Hindering Factors in Implementing Active-Learning..... | 38 |
| 2.2.1 | Human Factors..... | 39 |
| 2.2.1.1 | Teacher's Attitude and Principal's Attitude towards Active Learning | 39 |
| 2.2.1.2 | The Need for Training of Teachers | 42 |
| 2.2.1.3 | The Role of Principals in Implementing Active Learning..... | 47 |
| 2.2.2 | Non -Human Factors..... | 50 |

| | |
|---|----|
| 2.2.2.1 The Role of Classroom Conditions in the Implementation of Active Learning..... | 50 |
| 2.2.2.1.1 Class Size | 51 |
| 2.2.2.1.2 The Physical Environment | 52 |
| 2.2.2.2 Organization of Curricular Materials..... | 54 |
| 2.2.2.3 The Role of Instructional Materials in implementing Active Learning..... | 58 |

3 Research Design and Methodology

| | |
|---|----|
| 3.1 Method of the Study..... | 63 |
| 3.2 Source of Data..... | 63 |
| 3.3 Sampling Procedures..... | 64 |
| 3.4 Instrument and Procedures of Data Collection..... | 64 |
| 3.5 Method of Date Analysis..... | 67 |

4 Presentation, Analysis and Discussion of Data

| | |
|--|----|
| 4.1 Presentation and Analysis of Data..... | 68 |
| 4.1.1 Some Characteristics of the Respondents..... | 69 |
| 4.1.2 The Opinions of Teachers and School Principals towards Active Learning..... | 71 |
| 4.1.3 Adequacy of Teacher's Preserves Training..... | 73 |
| 4.1.4 Participation of Teachers in Workshops and Seminars..... | 74 |

| | | |
|--------|---|----|
| 4.1.5 | Frequency of Preparation and Utilization of Instructional Materials that Enhance the Implementation of Active Learning..... | 75 |
| 4.1.6 | Major Perceived Problems in Preparing and Using Instructional Materials that Facilitate the Implementation of Active Learning..... | 76 |
| 4.1.7 | Teacher's View on Classroom Condition in the Implementation of Active Learning..... | 77 |
| 4.1.8 | Major Reasons for Poor Classroom Condition to Implement Active Learning..... | 78 |
| 4.1.9 | The Role of the School Principals in Supporting Teachers to Implement Active Learning..... | 79 |
| 4.1.10 | An Evaluation School Principals Pertaining to some Expected Activities..... | 81 |
| 4.1.11 | An Evaluation of the Teachers and Curriculum Developers on the Conduciveness of Curricular Materials to Implement Active Learning. | 82 |
| 4.1.12 | Major Reasons for Poor Organization of Curricular Materials to Implement Active Learning Materials to Implement Active Learning. | 88 |
| 4.1.13 | Teacher's Participation on the Development and Improvement of Curricular Materials..... | 90 |

4.2 Discussion of Results

| | | |
|-------|--|-----|
| 4.2.1 | Teacher's and Principals Opinions towards Active-Learning..... | 87 |
| 4.2.2 | Adequacy of Teacher's Pre-service Training on the Implementation of Active Learning | 88 |
| 4.2.3 | Participation of Teachers in Workshops and Seminars..... | 91 |
| 4.2.4 | Frequency of Preparation and Utilization of Instructional Materials that Enhance the Implementation of Active-Learning..... | 92 |
| 4.2.5 | Major Perceived Problems in Preparing and Using Instructional Materials that Facilitates Active Learning..... | 94 |
| 4.2.6 | Teacher's View on Classroom Condition to Implement Active-Learning..... | 96 |
| 4.2.7 | Reasons for Poor Classroom Condition in the implementation of Active Learning..... | 97 |
| 4.2.8 | An Evaluation of School Principals to some Expected Activities..... | 99 |
| 4.2.9 | An Evaluation of Teachers and Curriculum Developers on the Conduciveness of Curricular Materials to Implement Active-Learning..... | 101 |

| | | |
|--------|---|-----|
| 4.2.10 | Major Reasons for Poor Organization of Curricular Materials to Implement Active Learning..... | 102 |
| 4.2.11 | Teachers' Participation on the Development and Improvement of Curricular Materials. | 106 |

5 Summary and Conclusions

| | | |
|-------------------|---------------------|-----|
| 5.1.1 | Summary..... | 108 |
| 5.1.2 | Conclusion..... | 116 |
| 5.1.3 | Recommendation..... | 122 |
| BIBILOGRAPHY..... | | 128 |
| APPENDICES | | |
| APPENDIX-A..... | | 135 |
| APPENDIX-B..... | | 142 |
| APPENDIX -C..... | | 146 |
| APPENDIX- D..... | | 149 |

LIST OF TABLES

Table 1. Some Characteristics of the Respondents

Table 2. The Opinions of Teachers and School Principals towards Active Learning

Table 3. Adequacy of Teachers' Training.

Table 4. Participation of Teachers on Workshops and Seminars.

Table 5. Frequency of Preparation and Utilization of Instructional Materials that Enhance the Implementing Active Learning.

Table 6. Major Perceived Problems in Preparing and Using Instructional Materials that Enhance Active Learning.

Table 7. Classroom Condition in the Implementation of Active Learning

Table 8. Major Reasons for Poor Classroom Conditions to Implement Active Learning.

Table 9. The Role of School Principals in Supporting Teachers to Implement Active Learning.

Table 10. An Evaluation of the School Principals Pertaining to some Expected Activities.

Table 11. An Evaluation of Teachers and Curriculum Developers on the Conduciveness of Curricular Materials to Implement Active Learning.

Table 12. Major Reasons for Poor Organization of Curricular Materials to Implement Active Learning.

Table 12A: Teacher's Responses.

Table 12B: Curriculum Developer's Responses

Table 13. Teacher's Participation on the Development and Improvement of Curricular Materials.

ACRONMYS

1. **LCA**- Learner-Centered Approach.
2. **TCA**- Teacher-Centered Approach.
3. **MOE**- Ministry of Education.
4. **REB**- Region Education Bureau.
5. **DCDR**- Department of curriculum Development and Research.
6. **ICDR**- Institute of Curriculum Development and Research.
7. **GDE**- Guanting Department of Education.
8. **SPC(s)**- School Pedagogical Center(s).
9. **SNNP**- South Nations and Nationalities peoples.
10. **TTI**- Teachers Training Institute.
11. **TTC**- Teachers Training Institute.
12. **BESO**- Basic Education System Overhaul.

ABSTRACT

The purpose of this study was to identify the hampering factors in implementing active learning in the second cycle of government primary schools of central zone in Tigray region. The sources of data were 104 teachers, 10 school principals and 11 curriculum developers. Simple random sampling technique was employed to select *wereda* and school samples. More over, an available sampling method was used to involve teachers, school principals and curriculum developers. Questionnaire was used as data gathering tool. And, the secured data were analyzed using percentages and descriptive phrases.

The findings of the study, then, revealed that the attitude of teachers and school principals towards active learning were found to be satisfactory. The result of the study also showed some major problems that hamper the implementation of active learning. The identified serious problems were: inadequacy of teacher's pre-service and in-service training (lack of significant attention to refreshment courses), poor and uncondusive organization of curricular materials, lack of frequent preparation and utilization of instructional materials that facilitate the implementation of active learning, poor classroom condition and less competency of school principals in accomplishing most of the expected activities.

CHAPTER 1

1. INTRODUCTION

1.1 Background of the Study

In schools throughout the world there is a movement away from learning that is made up of memorizing, learning by rote etc i.e. the teacher-centered, to a new model-student- centered, that emphasizes understanding, making connections in the world around us, collecting and using information in an active manner (Lue, 2000:10).

We should think of active learning first and foremost in terms of students being intellectually active. By intellectually active we mean that teachers do not simply expect students to memorize and repeat facts. Teachers should expect students to use information critically and analytically (Ibid).

Supporting this idea, Nardos (2000:87) has also pointed out that, in active learning the learners have a marked degree of freedom and control over the organization of

learning activities. Usually these activities involve problem solving, inquiry and investigational work etc.

Similarly, Aggarwal (1996:90) has mentioned that the basic purpose of education is to enable the child to adapt him/herself in a society, which is full of problems. Not only social life is full of problems but there are problems and puzzling situations, which are a normal feature of a child's every day life in school as well. Therefore, it is very important that problem-solving skills be encouraged in school learning.

In light of the above argument, the New Education and Training Policy (ETP) of Ethiopia gives due emphasis for strengthening of the individual's and society's problem- solving capacities at all levels. As stated in the ETP (1994:7) one of the objectives of education is "to develop the physical and mental potential and problem solving capacity of individuals by expanding basic education for all".

Supporting the above idea, Ambaye (1999:2) stated that in Ethiopia, the introduction of the new curriculum at the primary schools (1-8) is now underway and calls for emphasis on intellectual stimulation, practical application and learner-centered learning.

There appears to be a general consensus that to improve learning, well-developed methodologies of active learning (such as: problem solving, inquiry, discovery, critical thinking and communication based teaching etc) should be applied (Cyert in Tume and Reif, 1980:5).

From the above arguments supported by different scholars it can be realized that active learning is an essential component of education that have received universal importance. So, as it is mentioned earlier the focus on problem solving/active learning by the ETP of the country is proper and timely. But, there is an anomaly between theory and practice. This is to mean that what has been stated in the policy might not be implemented practically due to some reasons.

Supporting this idea, Darge (1988:33) as cited in Amare (2000:36), argued "more research is needed to investigate the nature of teaching-learning process in the Ethiopian Educational Institutions. It could, however, be easily hypothesized that the teacher-centered technique would predominate in most cases".

Lue (2000:6), shares the same idea concerning the above issue, by saying the following statement:

The kind of simple memorization and recall of facts and information (teacher-centered) still forms the basis of much of our curriculum and instructional materials for grade 1-8 is very damaging intellectually to the young learners of Ethiopia. This damage comes from the fact that this approach restricts our young learners to the very most simple and elementary thinking skills and does not help them to develop higher-order skills.

It seems therefore that this problem should not continue. A serious study of the problem in order to provide solutions will be mandatory.

It is generally believed that the impact of active learning in the teaching- learning process is very crucial. However, educators have also suggested that there are some constraints, which can impede the proper implementation of active learning. Some of the factors are connected with the pressure of syllabus, improper classroom organization and management, lack of trained teachers, school directors and the problem with the students, etc (Plass, 1988; Lue, 2000; Haile and Kifle, 2000).

In relation to the implementation of active learning (student-centered, problem solving, communicative approach, etc) some researches were conducted in TTC, TTI and some selected governmental schools of Addis Ababa. Accordingly, Hilary

(1998), Metasebia (1999), and Haile and Kifle (2000), have carried out research on the need for implementing active learning.

Generally, it seems that there are few research undertakings made so far on the need of implementing active learning at different levels of education in Ethiopia in general and in Tigray in particular. None of these studies were actually intended to examine these hampering factors in the implementation of active learning.

It is with this substantial information that the researcher was initiated to carry out a research undertaking, which focuses on the identification of hampering factors in the implementation of active learning in some selected second cycle primary schools of the central zone in Tigray.

1.2 Statement of the Problem

Active learning leads to effective teaching-learning to bring about the expected behavioral change. Research and experience internationally indicate that this is the case. The New Education and Training Policy of Ethiopia and the new curriculum call for active learning. The curriculum reforms initiated imply a shift from rote, passive learning to more active, learner-focused education (Lue, 2000).

Hence, primary school teachers are expected to implement active learning to attain the desired goal. However, it is hypothesized that there are different hindering factors in the implementation of active learning methodologies. As stated in the background of the study, such factors have not been assessed to what extent they are affecting its implementation.

Thus, the objective of the study is to identify these hampering factors in the implementation of active learning in the second cycle primary schools of central zone in Tigray and to suggest feasible recommendations that encourage implementation of active learning methodologies.

In order to achieve the above stated objectives, the following research questions were raised to be answered in the course of the study.

1. Do teachers and school principals have favorable attitude towards active learning?
2. Have teachers taken appropriate training during their pre-service and in-service training concerning active- learning instructional strategies?

3. Do teachers and curriculum developers believe that curricular materials (syllabus, teacher's guide textbook) for the second cycle primary education are conducive to implement active- learning?
4. Do teachers prepare and utilize instructional materials that facilitate the implementation of active -learning instructional strategies?
5. Do classroom conditions permit effective implementation of active learning?
6. Do school principals make the necessary support for the implementation of active learning?

1.3 Significance of the Study

It is believed that learning should not be soaking up information, which is classified as lower levels of behavioral complexity. Rather, students should be engaged in active learning and use information from their environment and other sources to make a better life. But, there is an assumption that inhibits the effective implementation of active learning methodologies. It is, therefore, assumed that the results of this study:

- Will generate information on the factors, which hinder the implementation of active -learning.
- Are expected to have some contributions to teachers, principals, curriculum developers, REB, the Ministry of Education and other concerned bodies to find out remedies to these hampering factors.
- May also motivate those who are interested in carrying out research on this issue or other dimensions of the area.

1.4 Delimitation of the Study

The researcher believes that it would have been better to conduct the study in a wider scale. Nevertheless, due to constraints of time and other resources, the dimension of this study was confined to the second cycle of some selected primary schools of central zone in Tigray. Moreover, due to the absence of non-governmental second cycle primary schools in the above-mentioned zone, they were not included in the study. The logistic and time constraints have forced the researcher to limit his study to one zone only instead of considering the five zones.

1.5 Limitation of the Study

The researcher strongly agree that the inclusion of a large population size in the study could have a great value so as to elicit more credible information. However, because of time and financial constraints the writer couldn't able to conduct an in-depth research.

1.6 Operational Definition of Concepts

1. **Implementation:** an activity put into practice in a classroom by the teacher.
2. **Active learning:** refers to the active involvement of the learner on different learning tasks within and out of the classroom such as: group work, projects, role-playing, discussion, fieldtrip, and problem solving e.t.c.
3. **Second cycle primary schools:** refers to grade levels five to eight.
4. **Attitude:** the view of teachers towards the implementation of active learning.
5. **Principal:** refers to the school head teachers in the second cycle Primary school.

CHAPTER II

2. REVIEW OF RELATED LITERATURE

This Chapter focuses on reviewing various literatures and research findings, which are assumed to have relevance to the study. Thus, the organization of this chapter is based up on the following major topics: basic concepts of instructional methodology, classification of instructional methodologies and hampering factors in the implementation of active learning. The brief review of the sub topics is presented below.

2.1 Instructional Methods and its Conception

Education, a life long process, is instrumental for it launches improvement, betterment and self-realization in the life condition of man with in the context of society. It is then a social process that aims at leading-out the innate tendencies and potentialities and enable the learner to be him self/her self (Haile and Kifle, 2000:1). Thus, teacher, as member of the teaching profession, have shouldered the responsibility to help students to learn. They further said that objectives of instruction are achieved provided that the content of instruction are clearly

understood and grasped by the learners. Even if a new curriculum may be designed and guides set for it, the objectives of instruction could not be accomplished till appropriate methods of instruction are employed. Therefore, the use of suitable instructional methods taking into consideration the different criteria is imperative.

According to Kindsvatter, etal (1996:167), teachers should understand the nature of different instructional methods and should anticipate their positive and negative impact on students.

In line with this, Nardos (2000:52), supplemented that teachers know well what to do to facilitate pupil's learning and being able to do it. Effective teaching is primarily concerned with setting up learning activity for pupils, which is successful in bringing about the type of learning the teacher intends.

To sum up, an instructional method is an organized arrangement of instructional techniques that are intended to achieve a discrete learning. It is possible to infer from this reviewed literature that instructional methods are ways by which the teacher attempts to bring about the desired learning, i.e. to help learners acquire the necessary knowledge, develop skill, and values. The different instructional

approaches that are available to teachers are varied in their nature and values. Hence, teachers should be empowered to select from the variety of methods that meet the wide range of students' ability in a classroom. However, it is worth mentioning that the desired behavioral change of students at any level can be realized through effective implementation of appropriate methodologies in the teaching-learning process.

2.1.1 Classification of the Different Instructional Methodologies

Mutassa and Wills (1994:59) and ICDR (1999:62), argued that different researchers use different types of classification when referring to instructional methods. These different classifications can be confusing and hard to differentiate. The following are among the various types of classifications of instructional methods:

- Teacher-centered Vs Student-centered methods,
- Direct instruction Vs Indirect instructional methods
- Conventional Vs Non-conventional methods
- Traditional Vs Modern (non-traditional) methods

Though these classifications of methods use different terminology, mostly they have a similar conceptual frame of reference, i.e. the degree of student's

participation in the instructional process is the common basis of all these classifications. In line with this, Schiefelbein, (1992) as cited in Haile and Kifle (1999:3) and Borich (1992) have supplemented that the classification of methods as direct (teacher-centered, traditional, formal, expository, didactic, authoritarian etc) or indirect (student-centered, democratic, active, informal, repressive etc) would be made on the basis of:

1. Source of the knowledge- i.e. who is the center of knowledge?
2. Role of the teacher - i.e. is the teacher a stage settler or information provider?
3. Role of the students - i.e. are the students active listeners or active doers?
4. Mechanism of evaluation - i.e. is the evaluation system subjective or objective.

Finally, despite the variation in names, it is witnessed that these terms have common feature for their classification. It is, therefore, worth mentioning that these terms are implied by the terms Teacher- centered Vs learner-centered (active-learning) methods in this paper.

2.1.1.1 Teacher-Centered Instructional Approach

This aspect deals with some of the features of teacher-centered, its advantages and disadvantages in the teaching- learning process.

2.1.1.1.1 Some Features, Advantages and Limitations of the Teacher-Centered Approach

In the older models of education, often called teacher-centered education, the teacher was the center of classroom activity. The teacher was thought to hold most of the knowledge necessary for students to be successful. (ICDR, 1999; Frazee, et al, 1995; Mutassa and Wills, 1994; Eggen and Kauchax, 1996). The information to be learned is given to the pupil in a completed form.

Similarly, Rosenshine (1979:38) as cited in Eggen and Kauchax (1996:180) described direct (teacher-centered) instruction as follows:

Teacher-centered instruction refers to academically focused, teacher-directed class rooms using sequenced and structured materials. It refers to teaching activities where goals are clear to students, time allocated for instruction is sufficient and continuous, coverage of content is extensive, the performance of students is monitored, ... and feed back to students is immediate and academically oriented. Moreover, the teacher plays a primary role in structuring content, explaining it, and using examples to increase student understanding.

In line with this idea, Kochhar (1981) argued that in this approach the teacher acts as the director of learning and the assumption is made that the teacher knows best. Teaching takes a predominant role over learning. Indeed, pupils are assumed to be "empty vessels" that have to be filled by the teacher (Kifle and Haile, 2000; Plass, 1998; Lue, 2000). Accordingly, the teacher will do most of the talking and it is the student's duty to listen to what the teacher has to say, commit it in to memory and repeat it during recitation period or in examination papers (Eggen and Kauchak, 1996:179).

According to ICDR (1999: 68) in this mode the teacher used "chalk and talk" or other methods of teaching in which the teacher was active and the students passive. She/he either wrote notes on the board, which the students passively copied in their exercise books, or the students memorized the information from their textbooks. Frazee, et al (1995:205), explained that skills are taught by the teacher's telling, describing, demonstrating and explaining the desired technique, step by step in their attempt to master the techniques via drills, practice and recitation.

Lastly, Macharia and Wario (1994:39) have summarized some essential characteristics of the teacher-centered approach as follows:

- a) The teacher is more active than the pupils.
- b) The teacher is active in explaining, monitoring, and describing.
- c) The pupils listen passively while the teacher <pours knowledge in to them>
- d) The desks are arranged in straight rows.
- e) The main pupils activity is listening and perhaps coping notes from chalkboard.
- f) There is usually no group work.

Educators like Schiefelbein (1992) as cited in Haile and Kifle (2000:5) and Plass (1998:42) have enumerated the outcomes of direct instruction as follows: most students do learn how to conform, obey, and follow directions, but they are less likely to learn how to apply classroom skills to the problems of daily life they encounter out side the classroom. Therefore, teacher oriented methodology is the rigid, stereotyped patterns of behavior instead of flexible patterns that can be applied to a variety of life situations.

To sum up, such arguments seem to be sufficiently convincing that in the teacher-centered classroom, learners are the passive receivers of knowledge. Teachers and texts are the sources of authority. Lecture format dominates, and students learn rote fashion, reproducing the subject matter in set exercise, and in examinations. Moreover, the emphasis is on theory rather than on practice and the successful students is the one who can display their knowledge of the facts that have been fed in to them.

With regard to the advantages of this approach, scholars argued that when the approach is used for an appropriate purpose, with appropriate content, and at the right time, they are so crucial instructional strategy menus. The use of this approach would be imperative in the following situations:

- The acquisition of facts, rules and action sequence.
- When the teacher intends to up lift the interests of the students.

The students may have a wrong belief that the reading material or textbook is boring and not worth. Therefore, the teacher's active presentation can alter such misperception by mixing interesting, reinforcing or introductory information with the boring facts.

- This approach is indispensable for the attainment of a certain content and the over learning of fundamental facts, rules, and action sequences that are supposed to be so salient for subsequent learning e.t.c.

Supporting the above ideas, ICDR (1999:70) has noted that it is possible to transfer a lot of information in a short period of time. It is also effective for teaching those aspects of any subject in which the information or skill is well structured and can be taught in a step-by-step fashion. In line with this idea, yalew (1992:35) has also added that if these teacher-centered methods are properly used, their contribution to give the necessary knowledge is very significant. However, Harris (1980:131) as cited in yalew (1999:36), argued that many scholars in the field of pedagogy magnify their disadvantage than their advantage.

In line with the above idea, educators, based up on their research findings have noted (stressed) that the teacher-centered instructional methods are disadvantageous so as to bring the desired behavioral change in the teaching-learning process. Accordingly, Harris (1980:131) as cited in yalew (1999:36) have listed the major shortcomings of this approach as follows:

- Since this approach has no variety, they become monotonous and boring.
- The learning process depends on the talking of teacher where the learner becomes passive receiver
- It inhibits active participation and research ability of the learner and encourages him/her to be submissive.

Supporting the above idea, Arends (1991) stated that this method is:

- a) Teacher oriented.
- b) Not appropriate for teaching creativity, higher level thinking skills, or abstract concepts and ideas for teaching attitudes and appreciation.
- c) Very regimented, associated with a great deal of teachers talk and memorization and emphasis on learning.

2.1.1.2. Active Learning /Student-Centered/ Instructional Methods

This aspect deals with some of the basic features of active learning, its advantages and disadvantages in the teaching-learning process.

2.1.1.2.1. Some Features, Advantages and Limitations of Active-Learning

In the new approach to education, often called active-Learning students not only receive information from lectures and books they also collect information, record it systematically, discuss it, compare it, analyze it, draw conclusions from it and communicate about it (ICDR, 1999:71). When they are given information and facts from their teacher or their text books, they are asked to do something active and creative with the information- analyze it, think about it, discuss it, and make reports on it (Schiefelibein, 1992 in Haile and Kifle, 2000).

Similarly, Sguazzin and Graan (1998) explained that learner-centered (active learning) is a social process and the emphasis in this process is on collaboration and the exchanging of ideas, experiences, values and attitudes. It is a negotiated process where our understanding expands through interaction and active engagement with others. This is to mean that the emphasis in viewing knowledge as something "out there" - positivist idea has shifted to the view of constructing knowledge (Frazee,etal, 1995). Thus, the emphasis in teaching has shifted from transmission of "facts" or information to teaching learners how to learn, how to find information for themselves etc. Constructivism places the learner in the center of the learning process (Lue, 2000:4). In line with this idea, Brophy (1992)

as cited in Eggen and Kauchax (1996:) puts the learner at the center of the learning process by stating:

Current research . . . focuses on the role of the student. It recognizes that students do not passively receive or copy information from the teacher. Instead actively mediate by trying to make sense of it and to relate it to what they already know about the topic. Thus, students develop new knowledge through a process of active construction.

In conformity with these ideas, Plass (1998:310) has explained that in the learner-centered classroom, students are actively involved in the learning process, and their prior knowledge and experience is integral part of that process. They are encouraged to articulate their ideas and opinions. The teacher creates opportunities for learning and encourages learner's autonomy.

In addition, Nardos (2000: 87) has explained the feature of active learning by saying: active learning refers to any activity where pupils are given a marked degree of autonomy and control over the organization, conduct and direction of the learning activity. Most usually such activities involve problem solving, investigational work, group work etc.

Haile and Kifle (2000:6), Lue (2000:11) and Plass (1998:312) stated that in active-learning students previous knowledge and experiences are so crucial and valued

since they help to construct new knowledge. And the role of the teacher is creating conducive environment for learning and offering a guide, stage setting, facilitating, observing and evaluating his/her students in a more objective way. In other words, the teacher, as a facilitator and co-worker, is not expected to give information only, but also to design instructions that would lead students learning for understanding through debating, interrogating, discussion, creativity, explanation e.t.c.

Machria and Wario (1994:39), described that in a classroom where a child-centered method is use, the following points may be observed:

- 1) The pupils are more active than the teacher. They are learning by doing.
- 2) The teacher takes the role of guidance or helper.
- 3) The atmosphere in the classroom is relaxed.
- 4) The pupils are busy in working.
- 5) There is plenty of learning aids in use.
- 6) There is freedom of movement for the pupil.
- 7) The pupils often work in-group.

To sum up, the focus of active learning is the learner and not the teacher. Active learning promotes the notion that learners learn through active involvement in the learning process and through interaction with other people. Learners also need to form connections to the previous learned knowledge and experience.

Generally, active learning methodologies do not look like the traditional lecture-method lessons. Instead, groups of students may be found working together on projects to develop or study something, having discussions, carrying out investigations, solving problems, and practicing skills, reading or writing in groups or individually. Lastly, the guiding principle of active learning strategies adhere that learning should be focus on quality rather than on quantity, and on understanding rather than on memorization.

Active learning instructional methods have numerous benefits in the teaching learning process. ICDR (1999:70), for instance, have explained that one of the important aspects of this new model of teaching is that learning that goes on the classroom is "active". Why is active learning considered to be so important in this new mode? The following are some basic points to consider:

- ❖ Teaching is effective only when students are learning.

- ❖ Learning is effective only when students can use it, connect it to their lives, or actively participate in it.
- ❖ Memorizing facts and bits of knowledge alone is not effective learning.
- ❖ We damage young learners when we teach only by giving facts: we are preventing meaningful learning from taking place.
- ❖ Learning facts alone does not prepare students to understand their environment or function effectively in it; it does not prepare them to understand and participate in a complex world.
- ❖ We must prepare students to solve problems and to use information from their environment and other sources to make a better life for themselves, their families and their communities.
- ❖ We must encourage students to learn facts, but also to investigate, to understand the world around them, to analyze, draw conclusion and communicate in other words, to think.
- ❖ We must encourage students to use higher order thinking skills (analyzing, comparing, drawing, conclusion) and more away from the exclusive use of lower order thinking skills (memorizing).
- ❖ We must encourage students to communicate effectively about what they are doing and what they are learning.

- ❖ When we give students facts and knowledge to memorize, we must encourage them to use it actively and critically and connect it to the world they know.

Moreover, Nardos (2000:87-88) has listed a number of educational benefits for active learning:

- 1) Active learning is intellectually more stimulating and thereby is more effective in eliciting and sustaining pupil motivation and interest in the activities.
- 2) It is effective in fostering a number of important learning skills involved in the process of organizing their own work during individualized activities, and interaction and communication skills during co-operative activities.
- 3) Active learning strategies are likely to be enjoyed, offer opportunity for progress, are less threatening than teacher talk activities and thereby foster more positive pupils attitudes to wards the subject.
- 4) It enhances self-discovery and the development of sense of commitment and responsibility.

In conclusion, we can say about active learning that how pupil learn is as important as the content of what they learn.

Though scholars in the field of pedagogy emphasized (magnified) the advantages of active learning instructional methods than their disadvantages, it does not mean this approach do not have any limitation in the teaching-learning process.

In this regard, Mutassa and Wills (1994:42) have stated the limitations of active learning strategies as follows:

- a) It involves a lot of time. So that teachers find it difficult to cover the prescribed syllabus.
- b) The implementation of active learning instructional methods requires very capable and well-trained teachers so as to provide effective guidance to students.
- c) It may not be possible to use it in all situations.
- d) It is not economic in that it is necessary to use any apparatus, resource or chemicals.
- e) The method is not also economic in terms of space. For instance, Role-play or group experimentation necessitates a larger amount of space.

2.1.1.2.2 The Role of the Teacher in Implementing Active Instructional Methods

Broadly speaking, many educators have strictly underlined that teachers play a crucial role in the implementation of active learning. Pertaining to this issue, Lue (2000:5), has stated that the teacher's task in this model is to use class room methods that encourage the pupils to be as active as possible by analyzing and interpreting knowledge through the use of higher-order thinking skills, active learning, problem solving and communication based methods in their teaching.

Moreover, in the learner-centered classroom we want the teacher to start moving from the front of the classroom to the middle and other parts of the room to guide and follow the progress of individual pupils and groups of pupils. In addition, teachers should assign tasks to individual pupils or to groups of pupils and ask them to discuss and do something intellectually active based on the information given. This approach does not make the teacher less important. The teacher become much more important in learner-centered classroom (Lue, 2000:12). The teacher must guide and manage the activities; she/he must make sure that all pupils are working productively on the activities and must monitor the progress of all pupils (Frazee, et.al, 1993; Callahan etal, 1988).

To sum up, the implementation of effective teaching strategies is one of the basic criteria to be an effective teacher. If teachers are on the position to help students to learn, they must be able to select and use teaching strategies that produce learning. In doing this, the inevitable question concerning the best way to teach arises.

2.1.1.2.3 Major Types of Learner-Centered Instructional Strategies Facilitating Active Learning

Learner-centered instructional techniques are based on involving the learners in the learning process (Squazzin and Graan, 1998). Using different instructional techniques such as: group work, drama and role-play, inquiry or problem solving etc active learning can be realized. Similarly, Frazee, et al (1995:205) stated that long-term learning occurs through active involvement in a variety of instructional strategies that are thoughtfully and purposely planned by the teacher.

Hence, in this part of the reviewed literature, some of the basic ways of learner-centered (active-learning) instructional methods used in the classroom will be presented.

A. Inquiry learning

The inquiry method places a great emphasis on the process of learning; students learn by conducting an investigation (ICDR, 1999:72). In line with this idea, Haile and Kifle (2000:12) explained that the central purpose of inquiry is to teach each student to be able to analyze, plan and decide on his/her own. However many problems and individual encounters require groups for their solution and the student must learn to co-operate well with others in working on such problems.

Similarly, Hinlo and Sampson (1998:18), stated that in this approach, the learners are active participants in the learning process: investigating, hypotheses, gathering and interpreting data and forming conclusions.

The inquiry approach is something more than what the other approaches are. It is premised on the idea that the mind is an active agent rather than a spectator of things and events. It impacts on the systematic process of behaving intelligently rather than regarding the mind as a receptacle of knowledge. The method it self seeks to avoid the danger of rote memorization and verbatimism as well as the hazards of developing dependency in the learner.

According to Kaplan (1990), inquiry experiences can take place in the classroom, the library, or outside on a field trip. But, just going on a trip is not sufficient for a true inquiry-based learning experience to take place. For instance, taking learners to the zoo and letting them run around is not inquiry. There must be a problem to solve, question to ask, and data to collect. This does not mean that a trip does not have value for its own seek.

To sum up, inquiry method places a great emphasis on the process of learning; students learn by conducting an investigation. The teacher provides structure, questions, and problems to stimulate students thinking and interest.

B. Discovery learning

Discovery learning is another kind of learner-centered method. Jerome Bruner (1960 and 1970) as cited in Kaplan (1990), the best-known advocate of discovery argued that education should emphasize on the structure of a particular discipline and important cases rather than facts. Instead of just memorizing certain facts, we discover them for ourselves. We will learn how to learn.

Moreover, Mutassa and Wills (1994:46), explained that in discovery learning, the content to be learned, the method by which the content is learned as well as the time for learning is decided upon the learner. In classroom situation discovery learning is not possible because of the existence of syllabuses with huge contents, rigid timetables, etc. what occurs in most schools is what is called guided discovery because the teacher is responsible for designing learning materials and situations, which enables the learner to 'discover'. When pupils discover, they need a due guidance of the teacher.

In line with the above idea, Frazee, etal (1995:207), stated that there is no one method that facilitates guided discovery. There are many ways of guiding pupils so that they arrive at the information to be learned on their own. Case studies, small group discussions, small group practicals etc are some examples of guided discovery method.

To sum up discovery learning is more meaningful and hence results in better retention.

C. The project method

A project is a natural, life like learning activity involving the investigation and solving of problem by individuals or a group of students (ICDR, 1999:84). Ideally, project work should consist of a task in a student sets out to achieve some definite goal of real personal value.

In line with this idea, Haile and Kifle (2000:17), have enumerated the project approach of instruction as follows: it is the do it your self-learning sessions for the student. This method involves co-operative investigation of real life situation or problem under the supervision of the teacher. It encourages students to plan and carry out investigations of real life situations in the student's immediate environment individually or in-group. This strategy helps in developing skills and attitudes more than imparting specific knowledge.

In conformity with these ideas, Sguazzin and Graan (1998), have explained that projects are valuable learning experiences if at all they are well planned and learners get enough guidance and there is sufficient time to carry out that particular project. In addition, carrying out a project with all of its components allow students to be involved in doing activities from the various disciplines.

To sum up, this approach produced a close contact with real life situations, encourages co-operations in between or among learners; offers to play a leadership roles etc.

D. The problem solving approach

Problem solving is an instructional method or technique whereby the teacher and pupils attempt in a conscious, planned and purposeful effort to arrive at some explanation or solution to some educationally significant difficulty (Aggarwal, 1996:91). This approach has numerous values in the teaching-learning process. Callahan, etal (1988:87), for instance, has explained that problem solving ability enables the child to find out appropriate solution of the problems, which confront him. In this approach to teaching the students inquire into a problem with a view to find some answers or reasons why the problem exists.

Learning through problem solving approach focus on activities that are relevant and useful to the life of the learner. The goal of learning is to understand and making the world meaningful rather than just memorizing facts that may have no connection with the learner's life. Problem based learning, according to Lue

(2000:22), derives from the conviction that the learner is an active and creative individual with the will and ability to seek knowledge and self-development.

To sum up, problem-based teaching involves providing pupils with content related problems, which serve as the force for the class research activities. In work with a problem, students should formulate hypothesis, gather relevant data, and organization of these data to arrive at conclusion.

E. The role-playing technique

Role-playing is a deliberate acting of a social role in a classroom. During role-playing a small number of students presents the content while others in the class observes. Students have the opportunity to experience and analyze the specific situation being studied (Frazee, etal 1995). Role-playing fosters small group interactions. It allows students the opportunity to act out selected text. It is also useful and enjoyable for learning about people, places, events and times. Moreover, this method enables student to see the reality through the eyes of others.

To sum up, role-playing is a highly active-learning experience that enables learners to draw their own conclusion and formulate their own idea.

F. The discussion method

Discussion in the classroom is an important kind of learner-centered activity (ICDR, 1999:92). It is a method that encourages student's hot participation. This approach gives a room for the student to exchange, explore and air their views (Nardos, 2000:196). However, they need to be managed and organized well to be effective.

The purpose of discussion is to examine information in order to develop a deep and broader understanding of a topic. However, students should have prior knowledge and experience with a current topic for discussion to be successful. In line with this idea, Frazee, etal (1995) argued that through discussion, there is the opportunity for higher-order thinking and increased interaction among all students.

Haile and Kifle (2000:15), have identified some forms (ways) by which a teacher can use (implement) discussion method. Those are:

- a) *The brain storming session* - is a discussion in which members of a group generate different ideas on a given problem. Members of the group are free and relaxed to forward their opinions freely with out self-censoring. In here the greater number of ideas, the greater will be devising solution to the problems.

b) *Panel discussion* - is a co-operative discussion among a group of 5-8 students who have special knowledge and interest on a topic, question or issue that is to be discussed. In here we have a chairperson, panel members and audience. Moreover, panel discussion helps in facilitating learning via sharing of knowledge and experience. It also helps to solve problems via democratic exchange of ideas.

c) *Buzz group discussion* - is a brief discussion, which is conducted by small groups of students usually 5-10.

d) *Debating* - is a very formal approach consisting of sets of speeches by participants of two opposing teams and a rebuttal by each participant. Debating gives a depth study of a controversial matter and offers two sides of an issue.

To sum up, discussion is one of the major learner centered methods, which is essential for obtaining feedback about the learner's level of understanding and ability to apply knowledge.

2.1.1.3. Comparison of Teacher-Centered Verses Learner-Centered

Many educators have asserted that in schools through out the world there is a movement away from learning that is made up of memorizing, learning by rote to a new approach (active-learning) that emphasizes understanding, making connections in the world around us in an active manner. When we compare the old and the new approaches, the new model-active learning is important and effective in many of its dimensions. In this regard, Lue (1998:65), has summarized the differences of the old and the new model using a chart as follows:

| Old Modes (teacher -centered) | New model (Active -learning) |
|--|--|
| rote (passive) learning. | active learning. |
| <i>knowledge:</i> the world is made up of fixed facts or information; we divide knowledge strictly according to subject areas derived from academic disciplines in higher education. | <i>knowledge:</i> the world is made up of much information which is used actively in order to create knowledge depends on interpretation; the world of knowledge is seen as integrated & holistic. |
| <i>Learning:</i> memorizing this information and repeating it accurately. | <i>Learning:</i> discovering, analyzing, problem solving, evaluating to create understanding and often new knowledge. |
| <i>The learner</i> uses lower order thinking skills. | <i>The learner</i> uses higher order thinking skills. |

(Lue, 1998, in ICDR, 1999: 65)

Similarly, Allen (1994) as cited in SNNP, REB (1997:19) provides a brief summary contrasting learner-centered verses teacher centered education in terms of seven basic aspects as follows:

| Aspect | Learner centered | Teacher Centered |
|---------------------|---|--|
| Focus of attention | Learner | Teacher |
| Objective | Learning for understanding | Transfer as much information as possible to learners |
| Content | Knowledge, (generated by students) skill, attitudes | Facts presented by teacher |
| Methods | Participatory, group discussion & projects, problem solving | Lecture, teacher demonstration |
| Role of student | Active participants in their own learning | Passive recipients of teacher instruction/information. |
| Role of teacher | Guide, facilitator, designer of learning experiences | Expert, source of content knowledge |
| Focus of assessment | Continuous, feed back on teaching and learning. | Terminal, passing to next level |

2.2. Hampering Factors in Implementing Active Learning

Different educators, based on their research findings, have noted that the effective implementation of active learning can be influenced by a multiple of factors. Thus, some of these factors, which can foster or hinder the effective implementation of active instructional strategies are considered and discussed here under. The researcher has categorized the factors in to two broad divisions: Human and Non-Human factors.

2.2.1 Human factors

This aspect deals with some of the human related factors that can facilitate or deter the effective implementation of active learning in the teaching-learning process.

2.2.1.1 The Attitude of Teachers and Principals towards Active Learning

Many educators have asserted that the attitude of teachers and school principals towards active learning is a determinant variable in their effective implementation. Accordingly, Lue (2000:13), argued that teacher's attitude to wards active learning largely depends on the epistemology they adhere. This is to mean that teachers who strongly support positivist epistemology assume that knowledge exists separate from the learner. Knowledge is something "out there" in the world, fixed and made up of discrete and irrefutable pieces of information or facts. The assumption is that the teacher is the source of knowledge and knows best. Teaching takes a predominant role over learning. Indeed, pupils are assumed to be "empty vessels" to be filled by the teacher (Plass, 1997:311). Thus, those teachers and principals who are in favour of positivist epistemology could have negative attitude to wards active learning.

On the contrary, there are also teachers who view knowledge as it is produced through interaction between the learner and the world around him/her-constructivist epistemology. This interaction leads to interpretation and understanding, not just memorization. Therefore, learners should be active participants and active learners and the teachers task in this model is to use class room methods that encourage the pupils to be as active as possible through the use of higher-order thinking skills, problem solving and communication based methods (Lue, 2000:4). Hence, in light of this idea, teachers who adhere constructive epistemology have positive attitude to wards active learning.

Now a days teachers attitude towards active learning have been improved from time to time. Pertaining to this issue, Lue (2000:1), has noted that the curriculum reform initiated in 1994 after the adoption of the New Education and Training Policy of Ethiopia has led to extensive changes in primary education based on regionally relevant content, the use of regional languages, and the introduction of active learning approaches. Rodwell (1978) as cited in Berhane (1999:14), has stated that teachers may develop a negative attitude to wards active learning methodologies when they are least oriented.

In connection with this, Cohen, et al (1993:45), stated that various research findings confirm that there is a strong tie between teacher's attitude towards learner-centered instructional strategies and their effort in implementing it. For instance, a survey study which was conducted in Namibia in 1998 confirmed that teachers who had a positive attitude towards active learning showed a better effort in using it and vice versa. Sguazzin and Graan(1998), also showed that teacher's attitude have a great influence on the effective implementation of learner-centered instructional approaches.

Some research undertaking has been carried out in the Ethiopian context in relation to teacher's attitude towards active learning. For example, Lue (2000:10), Plass (1998:310), Metasebia (1999) and Haile and Kifle (2000:22) have indicated that some teachers have unfavorable attitude towards active learning. For instance, Lue (2000: 14) has argued that when teachers organize classes so that pupils discuss with each other and interact, more seats or desks around to do different activities at the same time, she/he afraid of losing control.

Similarly, Plass (1998:310), explained that many teachers feel that the students are allowed too much freedom and too much power in the learner-centered

classroom, with the subsequent undermining of the teacher's authority. Certainly it is physically less easy to dominate. Instead of the control afforded by facing the class, the teacher now has to monitor several groups of students who are producing noise, working at different speeds, demanding her/his attention that is certainly difficult at first, but again it is only a question of time before it becomes an accepted way of working. In line with this idea, Lipson (1973:8) as cited in Amare (2000:35) has supplemented by saying as follows:

It can be argued that in most of the countries of the world until now the teacher's main source of satisfaction has been through the control of children, through the opportunity to perform in front of captive audience with effective techniques.

Therefore, teacher's attitude towards active learning can have a decisive impact on implementing it. Indeed, pertinent efforts should be made to enable teachers to have positive attitude towards learner-centered approach that facilitate active learning. The reason is that an unfavorable attitude can definitely cripple the effective implementation of active learning.

2.2.1.1. The Need for Training of Teachers

A number of scholars have confirmed that instructional strategies contribute a lot to promote effective learning. Nevertheless, their effectiveness depends largely

up on the role and quality of the teachers who play a pivotal role in the teaching-learning process. In this regard, Mutassa and Wills (1995) have explained that instructional methods by themselves can not do much to improve learning, and thus, their value lies on the professional skill of the teacher in using or handling them. Moreover, Mutassa and Wills (1995) extended their argument by saying:

There is nothing so dangerous as using a method one can't use well. In deed it is better to use a 'poor' method which one can handle well rather Than a 'good method clumsily done.

Moreover, Kakkar (1995) stressed that the teacher is increasingly becoming the focus of interest because of the key role he/she plays in the delivery of quality education to the learner. Similarly, Sguazzin and Graan (1998) have stressed that good and effective education in the classroom demands a well-prepared teacher, a competent teacher (both academically and pedagogically) and selection of best teaching strategies, activities and materials to achieve the objectives.

However, educators have noted that there is a problem in teacher training programmes because they failed to relate theory with practice. In this regard, Amare (2000:36) has explained that one could speculate (although this has to be confirmed through systematic investigation) a possible student exposure to the new perspectives in a teacher-training program. The discrepancy could, however, be

explained partly by the conflict between what prospective teachers are told to do and by what their instructors actually do. This is in short anomaly between theory and practice exists.

Amare (2000) extended his argument by saying, in theory an instructor may advocate a two- way communication, in practice, he/she may limit it. In fact, there are arguments that support the idea that students imitate more of what they see than that of what they hear and read. They imitate the action of their instructors and exercise selectively on what their instructors tell them to do.

In line with the above idea, ICDR (1999:1) supplemented that teacher educators are often strong proponents of reform in teaching, but they lack both analytical and practical experience with the kind of teaching they advocate. Even though they are taught about new strategies for teaching and learning that derive from research and theory, teacher educators are not educated to teach in ways that are different from how they were organically taught, nor are they educated to help others make such changes.

Moreover, ICDR (1999:67) supplemented the above ideas by saying: *"teachers teach the way they were taught"*. If teacher trainees learn mainly through the lecture method, this will be their main mode of instruction. If teacher trainees experience participatory methods they will tend to use them in their own teaching. Several studies indicated that, "teachers should be taught by the same methods which will be expected to use in their future career" (Friedman, et al, 1989:111; Mwenda, 1970:7 in Ambaye, 1999:3). This calls for the trainee's proper orientation and continuous on job training exposure to the career demands expected of him/her.

However, Ambaye (1999) noted that instructors in our current teacher training institutes predominantly use conventional types of teaching methods, that are very familiar to them, perhaps even the ones that they themselves experience when they were students at schools. Much research supports this contention. For instance, Marshal (1990) as cited in ICDR (1999) indicated that teachers use only a small number of methods, typically teacher talk, question and answer and textbook assignments.

Ambaye, extended his argument by saying: all available evidence indicates that among many teachers in Ethiopia, the critical determination of effective teaching,

namely, knowledge of the subject matter, pedagogical skills and motivation are actually lacking, although teachers are in the frontline of educational reform programmes. One reason for this situation is the inability of the teacher training system to respond to the different tasks of training teachers to handle an increasingly complex process of education. Thus, in terms of professional development, the teacher should acquire his/her tools of trade through initial teacher training courses offered by teacher training institutes.

However, Sguazzin and Graan (1998) have criticized the over dependency on initial pre-service training. According to them, therefore, teachers should get continuous training in their respective area of study. Similarly, Cropley and Dove (1978:42) have noted that there was a problem in teacher training programmes because they failed to relate theory with practice. For this reason, they claimed that teacher training should be linked closely with the actual classroom situation.

In line with this idea, Kakkar (1995) stated that the changing role of teachers and the dynamics in education necessitate that the teacher must grow in profession and practice of teaching through in-service education programs.

Generally speaking, as mentioned by Oslen (1976:56) teachers are expected to be knowledgeable, skillful, concerned and effective professionals. Hence, teachers at the primary school level should possess the desired knowledge, skill and attitude, which enable them to teach the child effectively.

Thus, it is evident that primary school teachers must get appropriate training on how to implement instructional methodologies in general and active learning in particular.

2.2.1.3 The Role of Primary School Principal in Implementing Active Learning

First and foremost, school principal can be considered as a prominent figure in the school system as far as he/she is the one who is assigned to lead all activities that go on in the school environment. It is a common experience that a school principal is responsible for both the academic and administrative affairs in the school. Pertaining to this issue, Moffet (1978:8) stated that, at the primary school level, much is dependent upon the effectiveness of the principal. To this effect, according to him, a primary school principal is expected to have dedication, commitment and a positive attitude towards his/her profession. Moreover, he

extended his argument by saying: the primary school principal should acquire the desired knowledge and skill competencies.

In addition, Ornestein and Hunkins (1998:228-43), have said that the school principal is a key guarantor of successful implementation of school programmes. In light of this idea, considerable research undertakings have been carried out in relation to the school principal. Research findings on educational innovation and school effectiveness showed that the principal strongly influence the likelihood of change. For instance, in Ethiopia, the introduction of the new curriculum at primary school is now underway and calls for emphasis on intellectual stimulation, practical application and student- centered learning, and therefore will place new demands on teachers and school principals for its effective implementation. Supporting this idea, Sguazzin and Graan (1998) argued that so as to implement active learning the management of the school: the principal, head department and others need to understand that, active learning is the building block of long life learning. The school as a whole should do everything possible to facilitate active learning. This may involve allocating funds for additional equipment, ordering books in sets to allow use by a small group.

Moreover, Mudumo (1998:128) as cited in Sguazzin and Graan (1998) concluded that for any reform to succeed, we need effective school managers. School managers are supposed to provide necessary induction and continuous professional support to teachers. Teachers can only whole-heartedly support reforms if they understand the need for it and know that they will be supported. This can only happen if the management of the school has vision, encourages the involvement of the teacher and this can be achieved through extensive training (both in pre and in service programmes). In light of this idea, Mudumo extended his argument concerning the need for principals training by saying as follows:

Teacher's support in implementing educational policies and programmes could be improved if the managers of schools are properly trained. (p-129).

Similarly, a research conducted by Leithwood and Montgomery in Fullan, (1993:381) indicated that most school principals do not play instructional leadership roles in the desired manner. In addition, Calillods and postlethwaite (1989:172) mentioned that a survey study, which was conducted in primary schools of India, showed that principals do not spend much time on supervision and guidance of teachers.

To sum up, such arguments seem to be sufficiently convincing that a school principal should get appropriate training that enables him/her to be competent enough in the

full implementation of educational programme in general and active instructional methods in particular.

2.2.2. Non Human Factors

Like the human factors, non-human factors are equally important variables that can either facilitate or inhibit the effective implementation of active learning. Thus, there are many non-human factors that can affect the implementation of active learning. However, due to shortage of time, the researcher has reviewed only some of them, which are assumed to have a direct relevance to the topic under investigation.

2.2.2.1 The Role of Classroom Conditions in the Implementation of Active Learning

The condition of the classroom is one of the important non-human factor, which facilitates or hinders the instructional program in general and the implementation active learning strategies in particular. Under this factor, class size and the physical environment will be treated as follows.

2.2.2.1.1 Class size

Many educators have asserted that the number of students in a class (class size) is one of the determinant variables in the implementation of active learning. Accordingly, Lue (2000: 17), explained that teachers who have many students in over-crowded classroom often say that it is certainly not suitable to provide activities and group works for such classes.

Similarly, SNNP, REB (1997:19) in its survey study has indicated that many teachers believe that they cannot do practical activities, problem-solving investigations or other learner-centered approaches in over-crowded classroom with many students. In light of this idea, Sguazzin and Graan (1998) in their survey study have indicated that primary school classes in many parts of Africa are composed of large number of children. Thus, in some of the schools a single teacher must teach several grades at the same time. Even when the teacher has only one grade, they often teach pupils of quite different ages and levels in the same class and therefore, giving pupils enough attention and meeting the need of very different children so as to engage actively in the learning process is difficult. For this reason, teachers attempt to retain control and teach all the children at the

same time by lecturing to them. However, since young children have short attention spans, and all children learn by doing, this is neither appropriate nor effective.

Thus, it is evident that the number of students in class should be as minimum as possible so as to implement active learning. Pertaining to this issue, the New Education and Training Policy noted that the number of students in a class should be fifty (50). (ETP, 1994).

2.2.2.1.2. The Physical Environment

A number of scholars have confirmed that the physical environment (classroom arrangement, furniture arrangement, classroom appearance and layout etc) contribute a lot to promote learning in general and the implementation of active learning in particular. A clean and well-kept room with appropriate resources in evidence, which appears comfortable, light and well aired, helps to establish a positive expectation towards the lesson. It is also very important to keep the classroom clean and tidy.

Moreover, the classroom layout has its own impact on the implementation of active learning. In this regard, the Gauteng Department of Education (1998:46) stated

that 'in open classroom' characterized by more active learning methods including frequent use of group work, movement of learners between areas, the use of resource- centers, independent work etc. The seating arrangement will almost certainly require desk to be grouped together and the use of activities in specific areas. On the other hand, in 'traditional classroom', which emphasize didactic (teacher-centered) teaching, formal arrangement of rows and desks are more appropriate. Unfortunately, the large sizes of some classes in relation to the room, often places sever constraints on teachers in some schools in creating the most functionally efficient lay out.

In light of the above idea, SNNP, REB (1997:64) supplemented that the traditional formal arrangement in which students are seated in rows and the teacher behind a desk at the front of the classroom encourages teacher-centered instruction and more passive roles for students. On the other hand, a less formal arrangement in which student's seats are grouped or chairs are arranged in a circle or semi-circle facilitates more student activity and discussion. An arrangement may be temporary to create a specific learning situation, or long lasting.

Moreover, Sguazzin and Graan (1998) have explained that in active learning communication is especially important. The fact that the learners are doing learning it may be necessary for them to move around the classroom, read the walls or even go outside to do part of an activity. This has two important implications for the classroom arrangement:

- The arrangement of desks, tables should allow movement and communication.
- The arrangement should be changed when ever necessary so that it is appropriate for the learning experiences that you have planned.

To sum up, the classroom should stimulate learning and allow for aspect of problem solving and co-operative learning.

2.2.2.2. Organization of Curricular Materials

Educators, based upon their research findings have noted that the organization of curricular materials (syllabus, textbook and teachers guide) largely depends on the epistemology that we adhere. The two general models of epistemology that are often used when we talk about the organization of curricular materials are positivist epistemology and constructivist epistemology (Lue, 2000:26).

In light of the above idea, Lue(ibid), argued that within the positivist epistemology the learner's task is to absorb or memorize facts. There is less emphasis on linking facts and making a coherent and meaningful whole. This being the fact, the task of the curriculum developers is to design curriculum and materials that just present bits of information for the pupil learn. Moreover, curricular materials which are organized based on this model is often 'over crowded'. They are with too many contents. For instance, the textbooks tend to be long and contain many pages of information. It is possible to find activities, but they often play a minor role and are placed at the very end of the unit.

Lue(ibid) extended her argument on the role of the teacher by saying as follows: "Teachers will often skip over these activities and go on to the next unit, because they are pressed to "get through" the book, to 'cover' or present all the information contained in the book.

Moreover, the Gauteng Department of Education (GDE) (1999:8) explained that traditionally the curriculum was divided into subjects each with a specific and prescribed time allocation. The timetable was divided into periods and lessons were planned in strict slots of minutes. This arrangement works well in a curriculum

focused on content. Activities such as: copy, recite, fill in the blanks etc that followed teacher dominated input could start and end neatly prescribed time periods.

On the other hand, within the constructivist epistemology the learners task is to interact with the world around him/her, to understand, think critically, interpret, analyze, draw conclusions and communicate about what he/she is learning, not just to observe information (Lue, 2000:27). And the task of the curriculum developer is to design and organize curricular materials that invite active involvement of the learner. Thus, here they do not just give in formations in textbooks. Rather, they should design activities that requires the student to collect information from the world around them, ask students to do something active with it, such as to analyze or critique it. The textbooks should contain instruction and guidance for pupils to discover information on their own.

Similarly, ICDR (1999:63) stated that the New Education and Training Policy is guided by a new view of education, one that promotes active learning. And the need for active learning in the classroom comes out of the view of 'constructivist'. Thus,

so as to implement active learning in the class room the curricular materials should be organized based on constructivist epistemology.

A survey study conducted by SNNP, REB (1997:42) in collaboration with BESO suggested that carefully developed curricular materials can assist even inexperienced and under qualified teachers to employ a wider variety of teaching methods. Teachers who have been taught and trained by predominantly lecture methods will find it difficult to employ more active, participatory, learner-centered methods, with out specific guidance and detailed examples in the teacher's guide. If the teacher's guide is composed primarily of subject content, with out guide line as to how the content might be presented and what activities and materials could aid in the presentation, chalk and talk methods will continue to predominate.

Moreover, SNNP, REB (1997:45) extended their argument concerning the crucial role of teachers in the development and improvement of curriculum by saying as follows:

Although teachers are subject specialists, as generalists, they are extremely knowledgeable about the leaning environment, their pupils, etc. The process of curriculum development is complex and benefits from multiple perspectives. For this reason, it is common to employ a curriculum development team.

Hence, bringing primary school teachers to such a team of experts could contribute a practical, experience based perspective of what works and what does not work. Their roles may vary from describing and explaining the development level and abilities of the pupils they teach to suggesting activities and resources that are feasible and available in their classroom and communities, or reviewing and critique draft materials based on their experiences.

2.2.2.3. The Role of Instructional Materials in Implementing Active Learning.

Instructional materials have a great role in the teaching-learning process. Heinich, etal (1982:12), for instance, have explained that the key role of instructional materials is to improve the balance between concrete and abstract learning experiences. They further said that instructional materials not only provide concrete experiences but also help students integrate prior experiences.

Educators like Brown, etal (1982:194) and Sampath, etal (1990:85-87), have enumerated the values of instructional materials as follows: They ensure longer retention of the information gained; they provide integrated experiences varying from abstract to concrete.

In conformity with the above idea, Amare (2000:5), has explained that our experiences vary according to the degree in which they involve us physically or in thoughts. An experience of doing calls for a good deal of concrete, direct and immediate action use of all senses and muscles. On the other hand, when we observe symbolic experiences less physical action is involved. The student is an observer and not a doer. If an experience involves more of our sense organs and the media approximates reality (the real object), the experience is called Concrete. An abstract experience would, however, mean minimum involvement of our senses. Therefore, these concrete experiences could have a great value in implementing active learning than symbolic experiences. Hence, realia and direct purposeful experiences have a great value because: the student is provided with real objects, there is full physical involvement of all senses and muscles. Learning is therefore the consequence of doing.

To sum up, instructional materials play a vital role in imparting and receiving the necessary information in the teaching-learning process. It is possible to infer from this reviewed literature that instructional medias, which approximates the reality, gives the opportunity to learn through active engagement and immediate action use of all senses and muscles.

In this regard, various research findings confirmed that teachers should be equipped with the necessary principles that govern the preparation of instructional materials during their training. In connection with this, Simpson (1987:5) has stressed that teachers should grasp the ground rules that are applicable to the preparation of instructional materials. However, Lownds (1987:65) as cited in Berhane (1999:29) for instance, in his survey study in Great Britain on the use of instructional materials confirmed that teachers had difficulty in preparing instructional materials. He reasoned out that the root for this problem was teacher's insufficient practical knowledge in their training programme.

Furthermore, reviewing various research findings, Aggarwal (1996:302) has come up with the conclusion that realizes the utilization of instructional materials in the teaching-learning process is usually ineffective due to lack of considerable emphasis during the preparation stage. It is, therefore, evidentful that teachers need an adequate training on how to prepare and utilize appropriate instructional materials so as to realize effective implementation of active learning.

Moreover, the preparation of instructional materials demands some allocation of time. Pertaining to this issue, Heinich, etal (1989:51) have asserted that time is a

determinant factor in designing and producing new instructional materials. Regarding this issue, some indigenous research undertaking which substantiate the former view have been carried out in different places. For instance, the research undertaking by Endalew (1984:61) and Fantu (1992:56) in Addis Ababa; Askale (1995) and Yihdego (1990 E.C.: 12) both in Tigray have demonstrated that most of the teachers failed to use the school pedagogical center to prepare instructional materials due to heavy teaching load.

Besides, it is quite evident that the production of instructional material requires financial support. In other words, instructional materials that will be produced at all level call for some amount of budget allocation. Lyver (1977:23) has also firmly said that the pedagogical center requires adequate fund in order to serve its purpose properly.

In line with this some research undertakings have also been carried out in different schools. For example, Endalew (1984:62) and Amare and Tassew (1996:37) in their survey study in some selected schools of Addis Ababa indicated that the schools did not have their own budget allocation for the pedagogical centers and instructional materials. On the contrary, Kebede (1990:71), Alemu

(1991:51) and fantu (1992:56) confirmed that the surveyed schools had budget allocation for instructional materials, which is insufficient amount. Similar research undertaking that were conducted in Tigray, by Askale (1995) and Yihdego (1990E.c: 12) has come up with conclusions that the schools did not have enough budgets.

CHAPTER III

3. RESEARCH DESIGN AND METHODOLOGY

3.1 Method of the Study

The principal objective of this study was to investigate the hampering factors in implementing active learning in the second cycle of primary schools of central zone in Tigray. Hence, the descriptive survey method was employed on the assumption that it would help to reveal the current hampering factors in implementing active learning.

3.2 Sources of Data

Teachers who are currently teaching in the second cycle of governmental primary schools of central zone in Tigray, principals, and curriculum experts in the department of curriculum development and research of Tigray region education bureau were taken as sources of data for this study.

3.3 Sampling Procedures

The target population of this study encompasses teachers and principals in the second cycle of governmental primary schools of central zone in Tigray and curriculum experts of the regional education bureau. According to Tigray Region Education Bureau (1993E.C.), there are 10 *weredas* in central zone. Out of these 50% of them (five in number) were selected using random sampling techniques. In the selected *weredas* there are a total of 34 full second cycle (1-8) primary schools. Out of these 30% of them (10 in number, i.e. two from each *wereda*) were selected randomly (see, appendix-f). Thus, using an available sampling technique, all teachers (104 in number), all principals (10 in number) found in these selected second cycle primary schools and all curriculum experts (11 in number) were involved in the study.

3.4 Instruments and Procedures of Data Collection

As it has been stated earlier, the principal objective of this research undertaking is to identify the hampering factors to implement active learning. Hence, three kinds of structured questionnaires (for teachers, principals, and curriculum experts) were prepared with the intention of securing pertinent information for the study.

The teacher questionnaires consisted of items regarding their background; their attitude towards active learning, their training; the extent of preparation and utilization of instructional materials that facilitate the implementation of active learning; classroom condition to implement active learning; the role of the school principal and the conduciveness of curricular materials to implement active learning (see, appendix-A).

The questionnaires for school principals comprised of items pertaining to their background, their attitude towards active learning and their role in providing necessary support to the teacher (see, appendix-B).

Curriculum developer's questionnaires dealt with their background and their view on the conduciveness of curricular materials to implement active learning (see, appendix-C).

Initially, the questionnaires (for teachers and principals) were prepared in English and then were translated in to Tigrigna. This helps to alleviate any unnecessary complication in responding to the items. At this stage experts from English and

Tigrigna languages at Adwa TTI were consulted so as to check the grammatical clarity of the items.

Subsequently, a pilot testing of the questionnaire in two randomly selected second cycle primary schools and in 11 curriculum developers were carried out.

Latter on, based on their responses and critical comments from my advisor, my associates in the department of pedagogical science of Adwa TTI and curriculum developers in DCDR of Tigray Region Education Bureau, some vague items in the questionnaires were revised by statements that might not be open to questions. For instance, in the teacher's questionnaire, part 2, item 4&7; part 3, item 3; part 4, item 3; and part 7 on the instruction part of item 2 were revised.

Similarly, on the school principal's questionnaire some three items, which were not relevant to this study, were deleted from part 1 and two items in part 2 (item4&7) were a little bit modified.

Moreover, one item was also removed from the curriculum developer's questionnaires because it required extensive study through content analysis on

books of different grade levels to be answered. The finalized questionnaires were administered to these selected teachers, principals, and curriculum experts

3.5 Method of Data Analysis

A number of statistical tools have been developed by many authorities to measure different variables. Among the various statistical techniques, in analyzing the findings of this study, percentages were used so as to identify the hampering factors in implementing active learning.

CHAPTER IV

5. PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

As it has been stated at the preceding Chapters, the general objective of this study was to investigate the factors that hamper the implementation of active learning. Pertinent data were, therefore, gathered through questionnaires. Hence, this chapter deals with the presentation, analysis and discussion of the already gathered data.

4.1 Presentation and Analysis of Data

This section attempts to present and analyze the collected data in response to the leading questions, which were raised in the first chapter. Thus, the data are presented in tables and analyzed using percentages and descriptive statements.

Table - 1 Background of the Respondents

| R. N. | Items | Teachers | Principals | Curriculum Experts |
|-------|---------------------------------------|------------------------|---------------|----------------------|
| | | N= 104 | N= 10 | N= 11 |
| 1 | Sex | | | |
| | a) Male b) Female | 71(68.3%) 33(31.7%) | 10(100%) - | 10(90.9%) 1(9.1%) |
| 2 | Educational level | | | |
| | a) 12+TTI | 73(70.2%) | 7(70%) | - |
| | b) 12+2 | 20(19.2%) | 1(10%) | 4(36.4%) |
| | c) 12+4 | - | - | 7(63.6%) |
| | d) Others | 11(10.6%) | 2(20%) | - |
| 3 | Year of experience in the current job | | | |
| | a) 1-5 | 12(11.5%) | - | 2(18.2%) |
| | b) 6-10 | 16(15.4%) | 3(30%) | 9(81.8%) |
| | c) 11-20 | 57(54.8%) | 4(40%) | - |
| | d) 21-30 | 15(14.4%) | 3(30%) | - |
| | e) 31-40 | 4(3.8%) | - | - |
| 4 | Teaching load per week | | | |
| | a) 15-20 | 2(1.9%) | 8(80%) | - |
| | b) 21-25 | 25(24%) | 2(20%) | - |
| | c) 26-30 | 74 (71.2%) | - | - |
| | d) 31-35 | 3(2.9%) | - | - |
| 5 | Average number of students per class | | | |
| | a) 50-60 | - | - | - |
| | b) 61-70 | 21(20.2%) | 2(20%) | - |
| | c) 71-80 | 48(46.2%) | 5(50%) | - |
| | d) 81-90 | 30(28.9%) | 3(30%) | - |
| | e) greater than 90 | 5(4.8%) | - | - |

According to the table above, 104 teachers, 10 primary school principals, 11 curriculum developers (subject experts) were involved in the study. Regarding their sex, 68.3 percent of the teachers, 100% of the school principals, 90.9% of the

curriculum experts were males. And 31.7% of the teachers and 9.1% of the curriculum experts were found to be females.

With respect to their Educational background, 70.2% of the teachers, and 70% of the principals had a 12+TTI certificate. Out of the 104 teachers, 10 school principals and 11 curriculum experts, 19.2%, 10% and 36.4% of them had 12+2 qualification, respectively. Of the 11 curriculum experts, 63.6% had 12+4 qualification. Besides, 10.6% of the teachers and 20% the school principals had other qualifications such as 10+2, 12th grade, 12+1.

As to the experience of the respondents in their respective current jobs, 11.5% of the teachers and 18.2% of the curriculum developers were between 1 and 5 years. Besides, 81.8% of the curriculum developers were between 6 and 10 years. In addition, 54.8% of the teachers and 40% of the school principals were between 11 and 20 years. Moreover, 14.4% of the teachers and 30% of the school principals were between 21 and 30 years. Of the 104 teachers, 3.8% of them were also between 31 and 40 year of service.

Concerning to their teaching load, 2.9% of the teachers have more than 30 periods per week and 71.2% of them were between 26 and 30 periods. In addition, 24% of the teachers and 20% the principals were found to be in between 21&25 periods per week, respectively.

With regard to class size, 4.8% of the teachers have more than 90 students per class. Besides, 28.9% of the teachers and 30% of the school principals have between 81&90 students averagely in each class.

Table-2 The Opinions of Teachers and School Principals towards Active Learning.

| R N | Items | Teachers | | | Principals | |
|--------|---|---------------|---------------|--------------|--------------|--------------|
| | | Agree | Disagree | Undecided | Agree | Disagree |
| 1 | Active learning enables the learner to understand and solve their problems. | 85 (81.8%) | 14 (13.5%) | 5 (4.8%) | 9 (90%) | 1 (10%) |
| 2 | Active learning provides better concrete experiences. | 72 (69.2%) | 19 (18.3%) | 13 (12.5) | 9 (90%) | 1 (10%) |
| 3 | It creates a democratic relationship b/n the teacher and the learner. | 79 (75.9%) | 19 (18.3%) | 6 (5.8%) | 10 (100%) | - - |
| 4 | It is inappropriate to implement in the second cycle primary schoolers. | 29 (27.9%) | 65 (65%) | 10 (9.6%) | - - | 10 (100%) |
| 5 | It gives a room for the learner to participate actively & share their experiences. | 86 (82.7%) | 16 (15.4%) | 2 (1.9%) | 9 (90%) | 1 (10%) |
| 6 | It creates a problem in classroom management. | 61 (58.7%) | 37 (35.6%) | 6 (5.8%) | 4 (40%) | 6 (60%) |
| 7 | It creates a heavy teaching load on the part of the teacher & it is difficult to implement it . | 35 (33.7%) | 62 (59.6%) | 7 (6.7%) | - - | 10 (100%) |

As indicated in Table 2, seven statements were presented to teachers and school principals so as to assess their opinions toward active learning. The above-mentioned table reveals the fact that majority of the teachers and principals have had a favorable attitude towards active learning. Thus, based on the information in the table above, the attitude of teachers do not seem to be assumed as a major hampering factor in the implementation of active learning. But, in one of the seven items (item-6) teachers tend to express unfavorable opinion that can hinder the implementation of active learning. In line with this, majority of the teachers (58.7%) reported that the implementation of active learning creates a problem in classroom management.

Moreover, no principal had selected the third alternative "undecided" in all of the items. The opposite is true in teachers by which they had selected the third alternative "undecided" through out the items (see, appendix-A).

Table-3 Adequacy of Teacher's Training

| R. No. | Items | Respondents |
|--------|--|---|
| | | Teachers |
| 1. | Did you have training on implementing active learning during your pre-service training? a) Yes b) No | 91 (87.5%) 13(12.5%) |
| 2. | If Your answer to the question number 1 is "yes", how do you evaluate the contribution of the training programme? a) Adequate b) Moderate c) Fair d) Poor | 7(7.7%) 15 (16.5%) 22 (24.2%) 47 (51.7%) |
| 3. | To what extent your instructors practically implemented active learning methodologies during your pre service training? a) High b) Moderate c) Fair d) Low | - 27 (26%) 26 (25%) 51 (49%) |

As shown in Table 3, 87.5% of the teachers took training regarding the implementation of active learning while they were in the teacher training institutes and colleges. However, 12.5% of the respondents reported that their training was poor. In addition, as indicated in the table above there was a few teachers (12.5%) who responded that they took no training on the implementation of active learning during their pre-service training. Moreover, the information, which is depicted in table 3, demonstrated that 49% of the respondents described that the practical implementation of active learning by their instructors was found to be poor. This is to mean that theoretically they advocate their trainees to implement active

learning in their future career, but they fail to implement active learning in their classroom practically. Generally, the information in Table 3 appears to reveal that teacher training institutes failed to equip their trainees with the necessary knowledge and skill on how to implement active learning.

Table-4 Participation of Teachers on Workshops and Seminars.

| R. No | Item | Respondents Teachers |
|-------|---|----------------------|
| 1. | Have you ever participated in workshops or seminars regarding to the implementation active learning | |
| | a) yes | 73(70.2%) |
| | b) no | 31 (29.8%) |
| 2. | If your answer to question number 1 is "yes" for how long? | |
| | a) For two days | 33 (45.2%) |
| | b) For three days | 21(28.8%) |
| | c) For a week | 10 (13.7%) |
| | d) For two weeks | 4(5.5%) |
| | e) For a month | 3(4.1%) |
| | f) For more than a month | - |
| | g) Others | 2(2.7%) |
| 3. | How do you evaluate the contribution of the workshops and seminars you have participated in? | |
| | a) High | 11(15.1%) |
| | b) Average | 30(41.2%) |
| | c) Fair | 25(34.1%) |
| | d) Low | 7(9.6%) |

It is true that the involvement of teachers in workshops, seminars e.t.c play a crucial role in updating the knowledge and skill of teachers in implementing instructional methodologies that invite active learning. In line with this, Table 4 shows that 70.2% of the teachers had got the opportunity to participate in

learning in their future career, but they fail to implement active learning in their classroom practically. Generally, the information in Table 3 appears to reveal that teacher training institutes failed to equip their trainees with the necessary knowledge and skill on how to implement active learning.

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| 2. | If your answer to question number 1 is "yes" for how long? | |
| | a) For two days | 33 (45.2%) |
| | b) For three days | 21(28.8%) |
| | c) For a week | 10 (13.7%) |
| | d) For two weeks | 4(5.5%) |
| | e) For a month | 3(4.1%) |
| | f) For more than a month | - |
| | g) Others | 2(2.7%) |
| 3. | How do you evaluate the contribution of the workshops and seminars you have participated in? | |
| | a) High | 11(15.1%) |
| | b) Average | 30(41.2%) |
| | c) Fair | 25(34.1%) |
| | d) Low | 7(9.6%) |

It is true that the involvement of teachers in workshops, seminars e.t.c play a crucial role in updating the knowledge and skill of teachers in implementing instructional methodologies that invite active learning. In line with this, Table 4 shows that 70.2% of the teachers had got the opportunity to participate in

workshops and seminars regarding the implementation of active learning. However, as can be observed from the table above, 29.8% of the teachers hadn't got any chance of participation in workshops and seminars concerning active learning.

Moreover, Table 4 revealed that majority of the teachers had participated in workshops and seminars. Regarding the duration of time they had participated, 45.2% and 28.8% of the teachers reported that they had attended a two day and a three day workshops and seminars. In addition, teachers were also asked to evaluate the contribution of the workshops or seminars they had participated in. Accordingly, most of them (41.2%) reported that the workshops or seminars were found to be moderately satisfactory.

Table-5 Frequency of Preparation and Utilization of Instructional Materials That Enhance the implementation of Active Learning

| R.No | Item | Teachers |
|------|--|-----------|
| 1. | Do you prepare and utilize instructional materials that facilitate active learning (such as: science kit, models, specimen, realia etc)? | |
| | a) Yes | 70(67.3%) |
| | b) No | 34(32.7%) |
| 2. | If your answer to question number 1 is "yes", to what extent do you prepare and utilize them? | |
| | a) Always | 3(4.3%) |
| | b) Sometimes | 23(32.9%) |
| | c) Rarely | 44(62.9%) |

As can be seen from Table 5, teachers were asked to report whether or not they prepare and utilize instructional materials that facilitate active learning. Accordingly, 67.3% of the teachers reported that they prepare and utilize instructional materials that enhance the implementation of active learning instructional strategies. However, as can be observed from the same table most teachers (62.9%) have replied that the extent of preparation and utilization was rare. Moreover, 32.7% of the teachers reported that they do not prepare and utilize instructional materials that enhance the implementation of active learning.

Table-6 Major Perceived Problems In preparing and Using Instructional Materials that Enhance Active Learning.

| R.No | Items | 1 st problem | 2 nd Problem | 3 rd Problem | 4 th Problem | 5 th Problem |
|------|------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| 1. | Inadequacy of Training | 65(63.5%) | 22(21.2%) | 9(8.7%) | 6(5.8%) | 2(1.9%) |
| 2. | Lack of materials | 14(13.5%) | 17(16.3%) | 25(24%) | 48(46.2%) | - |
| 3. | Lack of finance | 6(5.8%) | 22(21.2%) | 48(46.2%) | 23(22%) | 5(4.8%) |
| 4. | Lack of time | 25(23%) | 47(45.2%) | 18(17.3%) | 15(14.4%) | 1(0.96%) |
| 5. | Lack of interest | - | 1(0.96) | 2(1.9%) | 7(6.7%) | 94(90.4%) |

As it is mentioned in Table 5, though most teachers prepare and utilize instructional materials that enhance active learning, it is found to be in rare cases. Thus, questions were presented to teachers in order to rank the major problems in preparing and using instructional materials that facilitate the implementation of

active learning. Accordingly, Table 6 shows that 65% of the teachers ranked "Inadequacy of training" as the first acute problem.

Moreover, the same table reveals that, "Lack of time" was considered as the second most serious problem, which was ranked, by 45.2% of them. "Lack of finance" and "Lack of materials" was also ranked by teachers as the third and fourth major problems, respectively. Lastly, most of the respondents (90.4%) considered "Lack of interest" as the least problem.

In general, however, Table- 6 seems to disclose that inadequacy of training, lack of time, lack of finance and lack of materials were the four major common problems in the surveyed schools of central zone

Table-7 Teacher's View on Classroom Condition in Implementing Active Learning

| Items | Respondents |
|---|-------------|
| | Teachers |
| 1. How do you evaluate the conduciveness of the classroom condition to implement active learning? | |
| a) high | 5(4.8%) |
| b) moderate | 12(11.5%) |
| c) fair | 21(20.2%) |
| d) low | 66(63.5%) |

Many research findings have revealed that the condition of the classroom is one of the important factors that facilitate or hinder the instructional program in general and the implementation of active learning strategies in particular. In this regard, questions were presented to teachers so as to evaluate the conduciveness of their classroom to implement active learning.

As show in the table above (Table-7) majority of the respondents (66.5%) reported that the conduciveness of the classroom condition to implement active learning was low.

Table-8 Major reasons for poor classroom conditions to implement active learning

| R. No. | Items | Teachers | | |
|--------|--|-----------------|-----------------|-----------------|
| | | 1 st | 2 nd | 3 rd |
| 1 | Large number of students in a class. | 52(78.9%) | 11(16.7%) | 3(4.5%) |
| 2 | Traditional arrangement of furniture (chairs, tables etc.) | 13(19.7%) | 42(63.6) | 11(16.7) |
| 3 | Absence of relevant services (water, electric light etc) | 2(3.0%) | 12(18.2%) | 52(78.8%) |

As depicted in Table 7, the condition of the classroom was found to be un favorable to implement active learning instructional strategies. Thus, questions were raised to teachers in order to rank the main reasons that are accountable for poor classroom condition in the implementation of active learning. Accordingly, Table 8 shows that

78.9% of the respondents ranked "Large class size" as the first major reason for low classroom conduciveness in their respective school. Moreover, the same table reveals " traditional arrangement of furniture (chairs, tables e.t.c)" ranked by 63.6% of the respondents as the second main reason. "Absence of relevant services (water, electric light etc)" was also ranked by (78.8%) of the teachers as the third major reason for low/poor classroom condition in the course of implementing active learning.

Generally, Table 8 discloses that large class size, traditional arrangement of furniture and absence of relevant services were the three major reasons for low classroom conduciveness.

Table-9 The Role of Principals in Supporting Teachers to Implement Active Learning

| R. No. | Item | Respondents | |
|--------|--|--|---------------------------------|
| | | Teachers | Principals |
| 1 | Does the School principal provide necessary supports in the implementation of active learning? a) Yes b) No | 90(86.5%) 14(13.5%) | 10(100%) - |
| 2 | If your response to question 1 is "yes", how do you evaluate the contribution of the school principal in implementing active learning? a) High b) Average c) Fair d) Low | 11(12.2%) 53(58.9%) 16(17.8%) 10(11.1%) | 6(60%) 3(30%) 1(10%) - |

School principals are very significant figures in facilitating instructional processes in general and student centered instructional strategies in particular. In connection with this, Table 9 indicates that 86.5 percent of the teachers and 100 percent of the school principals responded that the school principals had offered the needed assistance for effective implementation of active learning.

With regard to the extent of principal's support, the same table reveals that 58.9 percent of the teachers reported that the contribution of their principals' support for the implementation of active learning was moderate. However, the response of teachers concerning this question is found to be inconsistent with that of principal's response. Thus, 60% of the school principals reported that the support by which they provide for teachers so as to implement active instructional strategies was high.

It seems surprising, however, that there were a few teachers (13.5%) who responded that they got no support from their principals so as to implement active learning.

Table-10 An Evaluation of School Principals pertaining some expected activities

| R. N. | Items | Teachers | | Principals | |
|----------|--|---------------|---------------|--------------|------------|
| | | Yes | No | Yes | No |
| 1. | He/she plans and arranges workshops or seminars for the teaching staff. | 40 (38.5%) | 64 (61.5%) | 8 (80%) | 2 (20%) |
| 2. | He/she offers incentives to those teachers who are efficient in implementing active learning. | 23 (22.1%) | 81 (77.9%) | 3 (30%) | 7 (70%) |
| 3. | He/she makes necessary effort to allocate sufficient amount of budget for the implementation of active learning. | 59 (66.3%) | 35 (33.7%) | 7 (70%) | 3 (30%) |
| 4. | He/she provides relevant advice and feedback after classroom observation. | 97 (93.3%) | 7 (6.7%) | 10 (100%) | - - |
| 5. | He/she assesses the problems of teachers in implementing active learning and provides immediate solution. | 30 (28.8%) | 74 (71.2%) | 8 (80%) | 2 (20%) |
| 6. | He/she encourages discussion on the implementation of active learning among the teaching staff. | 38 (36.5%) | 66 (63.5%) | 7 (70%) | 3 (30%) |

As shown in Table 10, 93.3% of the teachers and 100% of the school principals had reported that school principals provided better efforts in providing relevant advice and feedback after classroom observation. But, they were not fruitful in offering incentives to those teachers who are efficient in implementing active learning. Moreover, 66.3% of the teachers reported that the efforts made by principals in allocating sufficient amount of budget for the implementation of active learning was satisfactory. However, they found to be failed in accomplishing most of the activities, which were expected to perform. As depicted in the same table, 61.5%,

71.2% and 63.5% of the respondents had expressed that school principals tend to fail in arranging and planning seminars and workshops for the teaching staff, in assessing the problems of teachers in implementing active learning and providing immediate solution as well as in encouraging discussions on the implementation of active learning among teaching staff, respectively (see items 1, 5&6).

In addition to this, there was also inconsistency in responding to an item, which was the same for teachers and principals. For instance, as shown in Table 10(items 5&6), 80% and 70% of the principals reported that they assess the problem of teachers in implementing active learning and provide immediate solution as well. And also encourage discussions among the teaching staff. But, 71.2% and 63.5% (items 5&6) of teachers responded in such away that school principals had not been performing the above-mentioned activities. This inconsistency may happen from shortage of extensive and critical evaluation on the expected activities

Table-11 An Evaluation of Teacher and Curriculum Developers on the Conduciveness of Curricular Materials to Implement LCA.

| Item | Teachers | Curriculum experts |
|--|-----------|--------------------|
| Do you believe that the curricular materials /syllabus, teachers guide and text books/ are conducive to implement active learning? | | |
| a) Yes | 21(20.2%) | 4(36.4%) |
| b) No | 83(79.8%) | 7(63.6%) |

The conduciveness of the organization of curricular materials plays a crucial role for effective implementation of active learning. Inline with this, Table 11 shows that 79.8% of the teachers and 63.3% of the curriculum experts strongly believed that the curricular materials/syllabus, teachers guide and text book/ were not organized in away that are conducive to implement active learning.

Table 12 Major Reasons for poor organization of curricular materials to implement active learning

12 A Teacher's responses

| R.NO | Items | 1 st | 2 nd | 3 rd | 4 th | 5 th |
|------|--|-----------------|-----------------|-----------------|-----------------|-----------------|
| 1. | The presence of too much contents | 49 (59%) | 17 (20.5%) | 12 (14.5%) | 3 (3.6%) | 2 (2.4%) |
| 2. | Insufficiency of activities and or exercises that enable the learner to participate actively. | 11 (13.3%) | 33 (39.8%) | 18 (21.7%) | 10 (12%) | 11 (13.2) |
| 3. | Due emphasis is given to teacher's explanation | 4 (4.8%) | 20 (24%) | 23 (27.7%) | 32 (38.6) | 4 (4.8%) |
| 4. | The curricular materials don't fit with real situations of the schools. | 6 (7.2%) | 10 (12%) | 15 (18.11%) | 16 (19.2) | 36 (43.4) |
| 5. | Lack of due consideration to learners interest and ability while their design and development. | 23 (27.7%) | 18 (21.7%) | 13 (15.7%) | 6 (19.3) | 13 (15.7) |

12.B Curriculum expert's Responses

| R.No | Items | 1 st | 2 nd | 3 rd | 4 th | 5 th |
|------|---|-----------------|-----------------|-----------------|-----------------|-----------------|
| 1. | The presence to much contents | 6 (85.7%) | 1 (14.3%) | - | - | - |
| 2. | In sufficiency of a activities and or exercises that enable the learner to participate actively | 1 (14.3%) | 5 (71.4%) | 1 (14.3%) | - | - |
| 3. | Due emphasis was given to teacher's explanation | 1 (14.3%) | 1 (14.3%) | 1 (14.3%) | - | 4 (57%) |
| 4. | The curricular materials don't fit with real situations of the schools. | - | - | - | 5 (71.4%) | 2 (26.6) |
| 5. | Lack of due consideration to learners interest and ability while their design and development. | - | - | 5 (71.1%) | 1 (14.3%) | 1 (14.3%) |

Similar questions were presented to teachers and curriculum experts in order to rank the major reasons for the poor organization of curricular materials so as to implement active learning. Accordingly, Table 12 depicts that 59% of the teachers and 85.7% of the curriculum experts ranked "The presence of too much contents" as the first major reason. Moreover, the same table shows that "Insufficiency of activities and/or exercises that enable the learner to participate actively" was considered as the second main reason for poor organization by 39.8% of the teachers and 71.4% of the curriculum experts. "Due emphasis was given to teachers explanation" was also ranked by 27.7% of the teachers as the third major reason.

This reason was found to be the least reason for more than half of the curriculum developers ranked by 57% of them.

Inline with this, for curriculum experts the third main reason was "Lack of due consideration to learners interest and ability while development", which is ranked by 71.1% of them. In addition, the same table reveals that" the curricular materials do not realize the real situations of the school in the course of development" was considered as the last (5th) reason for teachers and as the fourth reason for curriculum experts which was ranked by 43.4% of the teachers and 71.4% of the curriculum experts, respectively. Generally, in some of the items, variations of responses in ranking were observed between teachers and curriculum experts.

To sum up, Table 12 revealed that (a) the presence of too much contents,(b) insufficiency of activities and or exercise(c), due emphasis is given to teacher's explanation, (d) the curricular materials do not consider the needs and abilities of the learner while their design and development (e) The curricular materials don't fit with real situation of the school were the five main reasons for the poor organization of the curricular materials to implement active learning in the

surveyed schools of the central zone and Department of Curriculum Development and Research in Tigray region.

Table-13 Teacher's Participation in the Development and Improvement of Curricular Materials

| R. N. | Items | Teachers | Curriculum experts |
|-------|--|-----------------------|-----------------------|
| 1. | Do teachers get any chance of participation during the course of curriculum development and/ or curriculum improvement? a) Yes b) No | 5 (4.8%) 99(95.2%) | 4(36.4%) 7(63.6%) |
| 2. | If your response of question above is "Yes", to what extent is it? a) Always b) Sometimes c) Rarely | - 4(80%) 1(20%) | - 3(75%) 1(25%) |

Many research findings revealed that teachers play a crucial role in the development and improvement of the curriculum. In line with this, Table 13 shows that 95.2% of the teachers and 63.6% of the curriculum developers reported that teacher's hadn't got any chance of participation during the course of curriculum development. 4.8% of the teachers and 36.4% of the curriculum experts responded that teachers had got the opportunity to participate in the development process. Regarding the extent of their participation, out of these 4.8% who had got the chance, 80% of the teachers and 75% the curriculum developers reported that extent of participation seems to be occasional.

4.2 Discussion of Results

In this part of the paper, an attempt is made to explain the results of the study with reference to the basic questions raised earlier.

4.2.1. Teacher's and Principal's Opinions Towards Active Learning

Various research findings confirmed that there is a strong tie between teachers and principal's attitude towards active learning and their effort in implementing it. For instance, a survey study which was conducted in Namibia in 1998 proved that teachers and principals who had a positive attitude towards active learning showed a better effort in implementing and using it and vice versa (GDE, 1999).

Similarly, Sguazzin and Graan (1998) showed that teachers' attitudes have a great influence in the effective implementation of learner-centered instructional strategies. Based on this, seven statements were included in teachers and school principal's questionnaires with the intention of assessing their attitudes towards active learning/student-centered approach. Hence, it appeared that in almost all of the items the majority of the teachers and principals in the first cycle of government primary schools of central zone had favorable attitude towards active

learning. However, in one specific statement or item teachers seem to disclose negative attitude. Teachers agreed that active learning creates a problem in classroom management. Hence, the findings in this study appear to comply with that of Lue (2000:10), Plass (1998:310) and Haile and Kifle (2000:22) ideas. For instance, Lue (2000:14) has argued that when teachers organize classes so that pupils discuss with each other and interact, more seats or desks around to do different activities at the same time, they are afraid of losing control. Similarly, Plass (1998:310) argued that many teachers feel that when students are allowed too much power and freedom in the learner-centered classroom, it undermines the teacher's authority.

4.2.2. Adequacy of Teacher's Pre-service Training on the Implementation of Active Learning

A number of scholars have confirmed that instructional strategies contribute a lot to promote effective learning. Nevertheless, their effectiveness depends largely up on the role and quality of the teachers who play a pivotal role in the teaching-learning process. In this regard, Mutassa and Wills (1995) have explained that instructional methods by themselves cannot do much to improve learning, and thus, their value lies in the professional skill of the teacher in using or handling them. Thus, the training of teachers on instructional methodologies in general and on the

implementation of active learning in particular calls for special emphasis. Teachers were asked to report regarding their training in implementing active learning instructional methodologies while they have been in Teacher Training Institutes/colleges. Hence, the data indicated that a vast majority of the teachers took training in implementing active learning instructional strategies. According to the data, teachers were also asked to evaluate the contribution of the training to implement active learning instructional methodologies. Thus, the findings of this study showed that almost half of the teachers evaluated the contribution of the training on implementing active learning as poor.

In accordance to this finding, Ambaye (1999:3) argued that one reason for this situation is the inability of the teacher training system to respond to the different tasks of training teachers to handle an increasingly complex process of education. Thus, in terms of professional development, the teacher should acquire his/her tools of trade through initial teacher training courses offered by Teacher Training Institutes. In addition to this, it seems surprising that there were few teachers (12.5%) who did not get the training.

Moreover, teachers were also asked to evaluate to what extent their instructors practically implement and use active instructional strategies for their trainees during their pre-service training. The findings revealed that more than half (56.7%) of the teachers reported as low/poor. In line with this, the findings in this study appear to comply with that of Amare (2000:36), ICDR (1999:1) and Ambaye (1999), which demonstrated that in theory, an instructor might advocate a two-way communication, in practice, he/she may limit it. In fact, there are arguments that support the idea that students imitate more of what they see than that of what they hear and read. They imitate the action of their instructors and exercise selectively on what their instructors tell them to do. This is to mean that there is a conflict between what prospective teachers are told to do and what their instructors actually do. This is in short anomaly between theory and practice (Amare, 2000). Besides, ICDR (1999:1) and Ambaye (1999) supplemented that teacher educators are often strong proponents of reform in teaching, but they lack both analytical and practical experiences with the kind of teaching they advocate. Even though they are taught about new strategies for teaching and learning that derive from research and theory, teacher educators are not different from how they were originally taught, nor are they educated to help others make such changes. Similarly, Cropley and Dove (1978:42) have noted that there was a problem

in teacher training programmes because they failed to relate theory with practice. For this reason, they claimed that teacher training should be linked closely with the actual classroom situation.

4.2.3 Participation of Teachers in Workshops and Seminars

According to Squazzin and Graan (1998), teachers should get continuous training in their respective areas of study. In other words, they strictly underlined that over dependency on initial pre-service training of teachers doesn't guarantee effective teaching. Therefore, teachers should get continuous training so as to up date their knowledge and skill through workshops and seminars (James, 1978) cited in Berhane, 1999:16). In line with this idea, Kakkar (1995) stated that the changing role of teachers and the dynamics in education necessitates that the teacher must grow in profession and practice of teaching through in service education programs.

The findings of this study demonstrated that majority of the teachers had got the opportunity to participate in short-term training like workshops and seminars. As regard to the duration of training, most of the respondents reported that they had attended a two and three day workshops. In addition, some of the respondents

(41.2%) evaluated the contribution of the workshop in which they had been involved as moderately satisfactory.

In general, however, the data appeared to reveal that less attention was given to short term training. Moreover, the results in this research undertaking also indicated that a reasonable number of teachers had never participated in workshops or seminars. And this seems that the role of workshops and seminars in the teaching learning process had not gained significant attention from the concerned bodies.

2.2.4. Frequency of Preparation and Utilization of Instructional Materials that Facilitate Active Learning.

Instructional materials have a great role in the teaching-learning process. Henich, etal (1982:12) for instance, have explained that the key role of instructional materials is to improve the balance between concrete and abstract learning experiences. They further said that instructional materials not only provide concrete experiences but also help students integrate prior experiences.

Moreover, educators like Brown, etal (1982:194) and Sampath, etal (1990:86) have enumerated the value of instructional materials in general and those that facilitate

active learning in particular as follows: They ensure longer retention of the information gained and they provide integrated experiences. Especially, instructional media, which approximate the reality, give the opportunity for the learner to learn through active engagement and immediate action, use of all senses and muscles. Thus, these concrete experiences could have a great value in implementing active learning. And therefore, realia and direct purposeful experiences as well as the abridged reality (such as models, science kit, specimen, simulators etc.) have a great value. Because the student is provided with real and abridged objects, there is full physical involvement of all senses and muscles. Learning is therefore the consequence of doing. Hence, teachers should always prepare and utilize instructional media that facilitate active learning strategies. However, the result of the study is found to be inconsistent with the above-mentioned ideas. In connection with this, the data revealed that, though more than half of the respondents reported that they prepared and utilized instructional materials that facilitate active learning, their frequency of preparation and utilization is found to be rare.

Moreover, the findings in this research undertaking also indicated that significant number of teachers failed to prepare and use instructional materials that facilitate

active learning. As a whole, the results of this study seem to comply with the findings of Amare and Tassew (1996:36) and Berhane (1999:72).

4.2.5. Major Perceived Problems in Preparing and Using Instructional Materials that Enhance Active Learning

Various research findings confirmed that teachers should be equipped with the necessary principles that govern the preparation of instructional materials during their training. In connection with this, Simpson (1987:5) has stressed that teachers should grasp the ground rules that are applicable to the preparation of instructional materials. However, Lownds (1987:65), as cited in Berhane (1999:29) in his survey study in Great Britain on the use of instructional materials confirmed that teachers had difficulty in preparing the materials. He reasoned out that the root for this problem was teacher's insufficient practical knowledge in their training programme. In line with this the findings of the study showed that inadequacy of training is found to be the first acute problem accountable for the rare and insufficient preparation and utilization of instructional materials that enhance the implementation of active learning. Thus, the result seems to comply with the findings of Lownds (1987) and Berhane (1999).

Moreover, the preparation of instructional materials demands some allocation of time. Pertaining to this issue, Heinich, etal (1989:51) have asserted that time is a determinant factor in designing and producing new instructional materials. Regarding this issue, some indigenous research undertaking which substantiate the former view have been carried out in different places. For instance, the research undertaking by Endalew (1984:61) and Fantu (1992:56) in Addis Ababa; Askale (1995) and Yihdego (1990 E.C.: 12) both in Tigray have demonstrated that most of the teachers failed to use the school pedagogical center to prepare instructional materials due to heavy teaching load. In connection with this, the data revealed that almost half of the teachers ranked "Lack of time" as the second most serious problem accountable for rare preparation and utilization of instructional materials.

Besides, the production of instructional materials requires an allocation of adequate amount of money. Pertaining this issue, the finding of this study demonstrated that one of the major problems in the preparation and utilization of instructional materials is shortage of finance. Thus, majority of the teachers (46.2%) ranked "lack of finance" as the third acute problem in their respective schools. And the same is true for "lack of materials" and "lack of interest" which were ranked by the respondents as the fourth and fifth (least) problems. As a

whole, the result of this study seems to comply with the findings of Berhane (1999:65).

4.2.6. Teachers View on Classroom Condition to Implement Active Learning

The condition of the classrooms is one of the important non-human factors, which facilitate or hinder the instructional program in general and the implementation of active-learning in particular. Mutassa and Wills (1994:42), for instance, explained that the condition of the classrooms should be conducive for the teacher and the students so as to implement the learner-centered classroom. But, some of the classrooms might not be conducive to implement active learning instructional strategies, because it may require enough space for active involvement of the learner. For instance, Role-play or group experimentation necessitates a large amount of space. This is to mean that the condition of the classroom (amount of space, arrangement of chairs and tables etc.) could dictate the teacher to use or not to use active instructional strategies. In this regard, teachers were asked so as to evaluate the condition of their classroom in implementing active instructional strategies. Thus, the findings of the study showed that the condition of the classrooms to implement active learning was found to be poor.

4.2.7.Reasons for Poor Classroom Condition in the Implementation of Active Learning

As mentioned above (4.2.6) the vast majority of the teachers reported that their classroom condition is not conducive to implement active learning instructional strategies. In line with this, so as to identify the major reasons for poor classroom condition, teachers were asked to rank order the major reasons that could be accountable for it. The findings of this study demonstrated that majority of the teachers ranked "Large class size" as the first basic reason for unconduciveness of the classroom condition to utilize active learning. And this finding seems to be consistent with that of Sguazzin and Graan (1998) survey study. They revealed that primary school classes in many parts of Africa are composed of large number of children in a class. Thus, giving pupils enough attention and meeting the need of various and very different children so as to engage actively in the learning process is difficult. For this reason, teachers attempt to retain control and teach all the children at the same time by lecturing them. However, since young children have short attention spans, and all children learn by doing, this is neither appropriate nor effective.

Similarly, Lue (2000:17) and SNNP, REB (1997:19) explained that teachers who have many students in over-crowded classroom often say: it is certainly not suitable

to provide practical activities and group works, problem-solving investigations or to use other learner-centered approaches. Moreover, the finding of this study is found to be inconsistent with the promise of the New Education and Training policy with regard to class size. Pertaining this issue, the New Education and Training Policy (1994) noted that the number of students in a class should be fifty. But, according to the data majority of the teachers reported that the average number of students in a class was in between 81-90.

A number of scholars have confirmed that the physical environment- arrangement of furniture, classroom appearance and layout, climate etc contribute a lot to promote effective learning in general and the implementation of active learning in particular. In this regard, GDE (1998) argued that " in open classroom" characterized by more active learning instructional strategies including frequent use of group work, movement of learners between areas, the use of resource-centers and independent work e.t.c the seating arrangement will almost certainly require desk to be grouped together and the use of activities in specific areas. On the other hand, in a ' traditional classroom', which emphasizes didactic (teacher-centered) teaching, formal rows or desks are more appropriate.

Similarly, SNNP, REB (1997:64) supplemented that the traditional formal arrangement in which students are seated in rows and the teacher behind a desk at the front of the classroom encourages teacher-centered instruction and more passive roles for students. In connection with this, the findings in this study demonstrated that a great majority of the teachers ranked "Traditional arrangement of furniture (Chairs, tables etc)" as the second main reason for the poor classroom condition that affect the real implementation of active learning. As a whole, the result of this study seems to comply with the findings of Sguazzin and Graan (1998). That is, the traditional arrangement of furniture and its lay out play a crucial impact in the implementation of active learning. The fact that learners are doing learning also means that it is necessary for them to move around the classroom, read the walls or even go out side to part of an activity.

4.2.8. An Evaluation of School Principals Pertaining to Some Expected Activities

First and for most, school principals can be considered as a prominent figure in the school system as far as he/she is the one who is assigned to lead all activities that go on in the school environment. Pertaining to this issue, Ornestein and Hunkins (1988:228-40) have perceived the school principals as key guarantor of the successful implementation of school programmes. This implies that school principals

are expected to accomplish various activities in order to provide vital support for the teacher. Hence, six expected activities of the school principals were presented to teachers and principals to find out whether or not they were fulfilling their tasks.

The findings of this study showed that school principals were found to be poor in accomplishing most of the activities, which were expected of them. According to the same data, school principals were better in making necessary effort in giving relevant advice and feed back after classroom observation with regard to student-centered approach and in allocating sufficient budget for the teaching learning process though they failed to offer incentives to those teachers who were superior in implementing active learning instructional strategies. The data generally indicate that school principals failed to accomplish most of the activities, which were expected of them. This seems that the school principals in the surveyed schools, either they were less oriented on the advantages of active learning or less devoted to accomplish these activities which were expected of them. In light of this idea, research findings on educational innovation and school effectiveness revealed that the principal strongly influences the likelihood of change. For instance, in Ethiopia, the introduction of the new curriculum at primary school is now underway and calls

for emphasis on intellectual stimulation, practical application and learner-centered learning, and therefore will place new demands on teachers and school principals for its effective implementation (Lue, 2000). These new demands on the part of the principal are part and parcel of the six expected activities.

Generally, it seems logical to argue that school principals didn't play their instructional leadership roles effectively with particular reference to academic issues. The findings in relation to this issue seems to be consistent with the research result of Berhane (1998:77) and Caillods and Postlethwaite (1989:172), which showed that most of the principals in the primary schools of Mekelle zone and India respectively did not play their role (instructional leadership) effectively.

4.2.9. An Evaluation of Teachers and Curriculum Developers on the Conduciveness of Curricular Materials to Implement Active Learning

Educators, based upon their research findings, have noted that the organization of the curricular materials while their development could play a vital role in the course of implementing active learning during the teaching-learning process. Thus, the curricular materials (syllabus, teacher's guide and text books) should be organized in such away that the learner could actively involve in the lessons (that is, to

discuss, to ask and respond, to report, to role-play, to solve problems etc). And therefore, if these materials could fulfill the above-mentioned points, it could be conducive to realize active learning (Squazzin and Graan, 1998). The findings of this study revealed that majority of the teachers and curriculum developers of Tigray Region Education Bureau reported that the organization of the curricular materials were found to be not conducive to carry out active learning instructional strategies.

4.2.10 Major Reasons for Poor Organization of Curricular Materials to Implement Active Learning.

Haile and Kifle (2000:24) stated that some of the obstacles in implementing the learning to learn approach (active learning) or the most basic reasons as to why teachers tend to use the direct (teacher-centered) method is the organization of the syllabus i.e. the content coverage, the selected exercises and activities, availability of materials, etc. In this regard, teachers and curriculum developers were asked to rank some of the main reasons that could attribute for poor organization of the curricular materials. Thus, the findings of the study demonstrated that the first basic reason accountable for the problem was found to be " The presence of too much contents" in the curricular materials, which were ranked by the majority of both respondents.

The result of this study seems to be consistent with that of GDE (1999) and Mutassa and Wills (1994:42) survey study. In this study teachers reported that it is difficult to cover the contents in the prescribed syllabus if we employ active learning. This is because the implementation of active learning requires a lot of time. Hence, one of the acute problems in the course of realizing active learning was found to be having too much content in the curricular materials of a certain grade. In line with this idea, Lue (2000:26) argued that, curricular materials that are organized based on the positivist's epistemology are often 'over-crowded'. They are with too many contents. For instance, the textbooks tend to be long and contain many pages of information. And therefore, teachers are pressed to "get through" the book, to 'cover' or present all the information contained in the book instead of helping the learner to interact with the world around him/her, to understand, think critically, interpret, analyze and communicate about what he/she is learning.

Moreover, Macharia and Wario (1994:42) explained that active learning instructional strategies do not look like the traditional lecture-method lessons. Instead, group of students may be found working together on projects to develop or study something, having discussions, carrying out investigations, solving problems,

and practicing skills, reading or writing in groups or individually. Thus, to achieve this purpose the organization of the curricular materials should promote the notion that learners learn through active involvement in the learning process. For this reason, it is mandatory to include sufficient activities, exercises, projects and assignments that enable the learner to participate actively in the lesson. Nevertheless, the result of this research undertaking appears not to be in accordance with this idea. To say it explicitly, the data in this study revealed that majority of the teachers and curriculum experts ranked "Insufficiency of activities, exercises and/or projects etc " as the second main reason for the poor and uncondusive organization of curricular materials to employ active learning.

In addition, majority of the teachers reported that "due emphasis was given to teacher's explanation". Thus, they considered this problem as the third main reason for unfavorable organization to use learner- focused methods. And therefore, the curricular materials were organized in favour of the positivist epistemology, by which the task of the curriculum developer is to design and develop curricular materials that just present bits of information for pupil to learn (Lue, 2000:26) and the task of the teacher will be telling, describing, demonstrating and explaining the information contained in the book. And, this

finding seems to be inconsistent with the New Education and Training Policy, which is guided by a new view of education, one which promote active learning. Hence, so as to implement active learning in the classroom the curricular materials should be organized based on constructivist epistemology (ICDR, 1999:63). On the other hand, this reason " due emphasis was given to teacher's explanation" was found to be the least for the curriculum developers. This is to mean that majority of the curriculum developers ranked the third item as fifth reason for poor organization (see table 11). This being the fact, there is a great variation in ranking the main reasons, which were accountable for the problem. Though, this needs a detail study through content analysis, this variation, to the researcher, might emanate from the views of curriculum developers and teachers with out having close and detailed evaluation on the curricular materials.

In general, the result of this study revealed that, (a) the presence of too much contents, (b) insufficient activities and/or exercises, (c) emphasizing on teacher's explanation (lecture), (d) lack of assessing the learners needs, abilities and cognitive development while the design and development stages and (e) the curricular materials do not fit with the real class room situation were found to be

some of the main reasons that attribute for the un conducive of curricular materials in the course of implementing active-learning.

4.2.11. Teachers' Participation on the Development and Improvement of Curricular Materials.

Teachers can be considered as prominent figures in the development and improvement of the curriculum. In line with this, SNNP, REB (1997:45) contended that although teachers are subject specialists, as generalists, they are extremely knowledgeable about the learning environment and their pupils. For this reason, it is common to employ a curriculum development team, which include the teacher. Hence, bringing primary school teachers to such a team of experts is very crucial to assess a practical, experience based perspective of what works and what does not work. Their roles may vary from describing and explaining the development level and abilities of the pupils they teach, to suggesting activities and resources that are feasible and available in their classroom and communities, or reviewing and critique the draft materials based on their experiences. Nevertheless, the result of this research undertaking appears to reveal the reverse of what has been stated above. This is to mean that a great majority of teachers and curriculum experts reported that teachers had never been invited to participate in the course of curriculum development and/or curriculum improvement. Hence, it seems that the

Department of Curriculum Development and Research of the Tigray Region Education Bureau was not well aware of the paramount contribution of teachers' participation in the course of developing and/or improving the curriculum. It is therefore, advisable that the DCDR should create the opportunity for teachers to participate in the course of curriculum development and improvement.

CHAPTER - V

5.SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 SUMMARY

The purpose of the study was to investigate the factors that can hamper the implementation of active learning. In order to achieve this purpose, the following research questions were raised:

- a. Do teachers and school principals have favorable attitude towards active learning?
- b. Have teachers taken appropriate training during their pre-service and in-service training concerning active-learning methodologies?
- c. Do teachers and curriculum developers believe that the curricular materials (syllabus, teacher's guide and text books) for the second cycle primary education are conducive to implement active learning?
- d. Do teachers prepare and utilize instructional materials that facilitate the implementation of active learning instructional strategies?
- e. Do classroom conditions permit effective implementation of active learning?

- f. Do school principals make the necessary support for the implementation of active learning?

The study was carried out in 10 second cycle Government primary schools of central zone in Tigray region. The sources of data in this study were teachers, school principals and curriculum developers in the DCDR of Tigray region. The study employed questionnaires as data collection instrument. The information obtained through this data-gathering tool was analyzed using percentages.

According to the analysis made, the following major findings were obtained:

1. As to teacher's and school principal's attitude, generally the result of the analysis revealed that the majority of the teachers and school principals had positive attitude towards almost all the items concerning active learning. In other words, the majority of the teachers and school principals expressed favorable attitude toward active learning. This being the fact, teachers seem to disclose unfavorable opinion on a specific item. They agreed that the implementation of active learning creates a problem in classroom management (see, table-2, item 6).

2. Many educators suggest that the effectiveness of an instructional strategy partly depends on the adequacy of teachers' training. However, 51 percent of the teachers reported that the training they took at the Teacher Training Institutes/Colleges was poor. Therefore, it appears that majority (more than half) of the teachers at the second cycle of the Government primary schools of Central zone were found to be without adequate training in the implementation of active learning.

3. Teacher educators, as stated by Ambaye (1999) lack both analytical and practical experience with the kind of teaching they advocate. In theory, an instructor may advocate a two-way communication, in practice; he/she may limit it (Amare, 2000). In line with these ideas, the findings of the study confirmed that, the practical implementations of active learning instructional strategies by teacher trainers were found to be poor.

4. The involvement of teachers in refreshment courses like workshops and/or seminars plays a crucial role in updating teacher's knowledge and skill since knowledge is dynamic. In this case, initial training (pre-service training) of teachers doesn't seem to guarantee teachers to cope up with the new innovations. The result of the analysis showed that more than half of the teachers participated in a two and three day workshops. On the other hand, the results revealed that 30 percent of the teachers had never participated in workshops. Hence, the data of the study appeared to show the fact that the emphasis given to initial training, regardless of the contribution of in-service training through refreshment courses.

5. A great number of scholars have stressed that the conduciveness of the organization of curricular materials play a crucial role for effective implementation of active learning. However, the two groups of respondents (teachers and curriculum developers) reported that the curricular materials were not organized in such a way the learner can actively involve in the learning task and thus, conducive to implement active learning. Rather, they found to be poorly organized.

6. As to the major reasons which are accountable for poor/ un conducive organization of curricular materials in the implementation of active learning, a vast majority of the teachers and Curriculum developers ranked "the presence of too much content" and "In sufficiency of activities and / or exercises that give an opportunity for the learner to participate/learn actively" as the first and second major reasons. Moreover, a variation among the respondents (teachers and curriculum developers) in ranking the reasons were observed. For instance, teachers and curriculum developers ranked the third item," due emphasis was given to teacher explanation" as the third and fifth (last) reasons, respectively (see table, 12). The same is true for the rest items.

7. Many educators suggest that teachers play a crucial role in the development or improvement of curriculum. Thus, it is mandatory to give them the opportunity to participate in the course of curriculum development or improvement. However, a great majority of the teachers (95.2%) and curriculum developers (63.6%) reported that

teachers hadn't got any chance of participation at the time of curricular materials development and improvement.

8. Regarding the frequency of preparation and utilization of instructional materials by teachers, a vast majority of teachers reported that the extent of preparation and utilization of instructional materials that facilitate the implementation of active learning instructional strategies was rare.

9. With regard to the major perceived problems in preparing and using instructional materials that enhance the implementation of active learning, the vast majority of the teachers ranked "inadequacy of training" as the first acute problem. Similarly the results of the study revealed that "Lack of time", "Lack of finance" and "Lack of materials" were the second, third and fourth major problems, respectively, ranked by teachers. Moreover, almost all of the respondents considered "Lack of interest" as the least problem.

10. Many educators suggest that the condition of the classroom is one of the crucial factors that facilitate or hinder the implementation of the instructional program in general and the implementation of active learning in particular. In this regard, the majority of the respondents reported that the conduciveness of the classroom so as to implement active learning instructional strategies is found to be low.

11. Pertaining to the major reasons for poor classroom conditions in the implementation of active learning, the result of the study demonstrated that a great majority of the teachers (78.9%) ranked "Large class size" as the first basic reason, which is accountable for low/poor classroom conduciveness in their respective schools. Moreover, "traditional arrangement of furniture and classroom layout" and "Absence of relevant services" were also ranked by most of the teachers as the second and third main reasons that impute for unconduciveness of the classrooms in the course of implementing active learning.

12. School principals, as stated by Ornestein and Hunkins (1988:228), are key personnel in the successful implementation of educational programme. The finding of this study revealed that the school principals were found to be less competent in accomplishing most of the activities, which had been expected of them. They, however, seem to be better in providing relevant advice and feed back after classroom observation vis-à-vis the implementation of active learning and in making necessary efforts to allocate sufficient budget for the implementation of active learning. But, they failed to offer incentives to those teachers who were superior in implementing active learning instructional strategies, in arranging and planning discussions, seminars and workshops concerning active learning for the teaching staff. Besides, they weren't also competent enough in assessing the constraints that teachers face in the course of implementing active learning instructional strategies and providing immediate solutions.

5.2. CONCLUSIONS

Based on the findings, the following conclusions were drawn:

1. Several research findings showed that teacher's and school principal's attitude towards active learning could affect the implementation of active learning either negatively or positively. The result of this research undertaking revealed that the majority of the teachers and school principals in the second cycle of the government primary schools of central zone in Tigray region had favorable attitude towards active learning, though teachers forwarded unfavorable opinion in one of the seven items (see, item6, table-2). Thus, it may be concluded that both teacher's and school principal's attitudes were not the major barrier in implementing active learning.
2. The vital contribution of implementing active instructional strategies in improving the quality of learning depends on the role of the teacher who has enough knowledge and skills in handling instructional methodologies in general and active learning/learner centered/ in particular. However, the findings of this study indicated that the majority of teachers in the second cycle of the government primary

schools of central zone were with out adequate pre-service training in implementing active learning instructional strategies. Thus, it can be concluded that teacher training institutes/colleges failed in equipping the trainees with the necessary skills and knowledge in implementing active learning instructional strategies. Moreover, it seems logical to conclude that teacher trainers also failed to employ active-learning instructional strategies practically. Rather, they advocate the importance of active learning theoretically.

3. Refreshment courses in the form of workshops and seminars do have a great input in acquainting teachers with new innovations in the teaching-learning process in general and instructional methodologies like active learning in particular. In this regard, the finding of the study revealed that more than half of the respondents participated in inadequate workshops and seminars. The results of the analysis also indicated that 29.8 percent of the teachers had never participated in workshops and seminars. Hence, it can be deduced that there was a tendency to rely on pre-service training of teachers with out paying attention to the dynamic nature of knowledge.

4. Educators, based up on their research findings, have noted that the organization of the curricular material could dictate the teacher to either implement or not to implement active learning instructional strategies. Thus, they advice curriculum developers to organize and develop their curricular materials in such away that the learner can actively engage in each and every lesson. Nevertheless, 79.8% of the teachers and 63.6% of the curriculum developers responded that the curricular materials/syllabus, teachers guide and text books/ were not conducive to implement active learning. It can, therefore, be concluded that the organizations of the curricular materials while its development do not address the need for active learning and hence, they are not conducive to carry out active learning.

5. With regard to the major reasons for poor organization of curricular materials to implement active leaning, the result of the study confirmed that majority of the teachers and curriculum developers ranked "The presence of too much content and insufficiency of activities and or exercises that invite active

learning" as the first and second main reasons which are accountable for the unconductiveness of the curricular materials. Moreover, teachers ranked the "Due emphasis is given to teachers explanation" as the third reason. But this reason was found to be the last for curriculum developers. On the other hand, the third reason for curriculum developers and the fourth for teachers were "Lack of due consideration to learners interest, ability and development while the design and development". It may therefore, be deduced that the organization of curricular materials/syllabus, teacher's guide and text books/ was one of the major barriers in implementing active learning instructional strategies in the surveyed schools.

6. Many research findings confirmed that teachers play a vital role in the development and improvement of the curriculum. Nevertheless, the result of this study depicted that the vast majority of teachers and curriculum developers in the DCDR reported that teachers hadn't got any chance of participation in the course of curriculum development and/or improvement. Thus, it is possible to conclude that no effort was made by the concerned bodies (Tigray Region

Education Bureau and the Department of Curriculum Development and Research) to participate teachers when the curricular materials for the second cycle of primary education were developed and improved.

7. Concerning the frequency of preparation and utilization of instructional materials that facilitate the implementation of active learning, the result of the study confirmed that teachers rarely prepare and utilize instructional materials that enhance the implementation active learning. Hence, it can be concluded that the efforts made by teachers in preparing and utilizing instructional material that facilitate active learning were very low.

8. As can be seen from review of related literature, scholars stressed that the condition of the classroom should be as conducive as possible so as to achieve the real and practical implementation of active learning. Nevertheless, the result of this study depicted that the vast majority of teachers reported that the conduciveness of the classrooms to implement active learning was found to be poor. Thus, it

can be concluded that the efforts made by the concerned bodies: REB, the community and NGO's to made the classroom condition as conducive as possible to implement active learning were very low.

9. A school principal can be considered as a prominent figure in the school system as far as he/she is the one who is assigned to lead all the activities that go on in the school and successful implementation of educational programme. However, the result of this research undertaking indicated that the principals in the second cycle of the Government primary schools of central zone were poor in accomplishing most of the activities that were expected of them. Therefore, it seems reasonable to conclude that the school principals were either less oriented about educational benefit of active learning or they were less committed to carry out the expected activities.

5.3. RECOMMENDATIONS

An attempt was made to collect pertinent information regarding the factors, which can either foster or hinder the effective implementation of active learning. Thus, the following suggestions were forwarded based on the findings of the study.

1. In general sense both teachers and school principals have had positive and favorable attitude towards active learning. But, in one of the seven items (item 6) majority of the teachers tend to forward unfavorable attitude (see, Table, 2). Thus, it is recommended that continuous and extensive orientations should be offered to teachers so as to avoid the impact of this opinion in implementing active learning.
2. The findings of this study revealed that the majority of the teachers did not get adequate pre-service training regarding the implementation of active learning. It is, there fore, recommendable that an evaluation should be carried out to investigate the emphasis given to active learning instructional strategies in the contents of the teacher-training curriculum. Trainees should also be taught by the same methods, which will be expected to use in career. In addition, it is

important that in-service training through workshops and seminars should be offered to teacher trainers so as to implement active learning practically in the course of their training.

3. Teachers should also be given the opportunity to attend workshops and seminars so that they can acquire the necessary knowledge and skill on the implementation of active learning. Nevertheless, the results of this study showed that teachers did not participate in intensive workshops and seminars on the implementation of active learning. Moreover, significant number of teachers were not involved in such refreshment courses. Thus, it is recommended that school-based in-service training in implementing active learning be organized so as to equip the implementers with the necessary knowledge and skill in the field.

4. In relation to the curricular materials, the findings showed that, the organization of the curricular materials were not conducive to implement active learning. Therefore, the Ministry of Education and ICDR in general and the Department of Curriculum Development and

Research /DCDR/ of the region in particular should seek solutions to the major perceived reasons /problems/ which are accountable for the unconductiveness of these materials in the course of implementing active learning while their development and improvement.

5. Teacher's participation while the development and improvement could have considerable contribution in assessing practical experience based perspectives of what works and what does not work. However, the result of the study demonstrated that the vast majority of the respondents had never participated while the curriculum was developed and improved. Thus, it is imperative that the concerned bodies: Region Education Bureau and DCDR should devise mechanisms so as to realize teacher's participation while the curriculum is developed and improved.

6. Instructional materials have a great role in the teaching-learning process in general and in implementing active learning in particular because they can provide concrete experiences and can help the learner to integrate prior experiences. However, the result of the

study demonstrated that the vast majority of the respondents had rarely prepared and utilized instructional materials that facilitate the implementation of active learning. With regard to the major problems accountable for the low performance of teachers are found to be "inadequacy of training, lack of time, lack of finance and lack of materials. It is thus, suggested that the concerned bodies on the top educational leadership should make unreserved efforts to reverse such adverse condition. This is to mean that, teachers should be equipped with the necessary knowledge and skill so as to prepare and utilize instructional materials that enhance the implementation of active learning. Schools should also be strengthened in material and financial recourses. Moreover, teachers should give special attention to the locally prepared instructional materials and their utilization in implementing active learning.

7. The result of this study revealed that the condition of the classroom to implement active learning instructional strategies was found to be low. The major reasons which attribute for the above mentioned problems were "large class size, traditional arrangement of furniture

and classroom layout and absence of relevant services such as: water, electric light etc". It would, therefore, be recommendable that concerned bodies: schools, Region Education Bureau, the community and Non-Government organizations should give significant attention and solutions so as to alleviate the problem. For instance, adequate classrooms should build through joint effort of the government, NGO's and the community. The traditional arrangement of furniture (chairs and tables in rows) should also be changed to the one, which is appropriate to implement active learning (chairs and tables in circles).

8. Regarding the school principals, the information in this study showed that they were not competent enough in accomplishing most of the activities, which were expected of them. Hence, schools principals should be equipped with the necessary knowledge and skill which would enable them to play a crucial role in facilitating the teaching-learning process in general and the implementation of active learning in particular.

9. Further studies should be carried out on the same area to identify other factors that can hinder the implementation of active learning strategies.
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APPINDIX-A

Form - 01

ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES
DEPARTMENT OF CURRICULUM AND INSTRUCTION

A Questionnaire to be filled by teachers

The main purpose of this questionnaire is to assess the views of second cycle /5-8/ primary school teachers on hampering factors in the implementation of active learning methodologies. Through this, feasible recommendations /solutions/ to the identified Problems will be forwarded.

Hence, concerned respondents are kindly requested to respond to every item in the questionnaire. Your correct and complete response to this questionnaire will have a great effect on the success or failure of the study.

Thank you in Advance for your cooperation.

PART-ONE

Direction: please indicate your choice by encircling one of the letters except those, which require answers in each of the following sentence.

1. Sex Male Female

2. Age _____

3. Qualification certificate (12+TTI) Diploma (12+2)
others(specify) _____

4. School Name _____

5. year of service _____

6. Load per week _____

7. Average number of students in your class _____

8. Have you taken any training related to active learning methodologies during your pre- service training?

a) yes

b) no

9. If your answer to question above is "Yes", how do you evaluate the contribution of the training programme?

a) adequate

c) fair

b) moderate

d) poor

10. To what extent your instructors practically implemented Active learning methodologies during your pre service training?

a) high

c) fair

b) moderate

d) low

11. Have you ever participated in work shops or seminars regarding to the implementation of active learning?

a) yes

b) no

12. If your response to question number 11 is 'yes' for how long is it?

a) for two days

b) for three days

c) for a week

d) for two weeks

e) for a month

f) for more than a month

g) Others(specify)_____

13. How do you evaluate the effectiveness of the workshop/seminar in implementing active learning?

a)high

c)fair

b)average

d)low

14. Do you prepare and utilize instructional materials that facilitate active learning(such as: models, science kit, specimen ,realia etc)?

a) yes

b) no

15. If your response above is 'yes' to what extent you prepare and utilize them?

a) always

c) rarely

b) some times

16. If your response to question number 15 is "rarely" list down the major problems below in order of their Severity. **Example** use 1 for the intense problem, 2 for the second etc. (1,2,3,4...)

A. Lack of adequate training

B. Lack of materials

C. Lack of finance

D. Time constraints

E. Lack of Interest

f. Others (specify) _____

17. How do you evaluate the conduciveness of the classroom to implement active learning instructional strategies?

a) high b) moderate c) fair d) low

18. If your response to question above is "low" what do you think the possible reasons are? List them according to their severity. Example put 1 for the most serious problem, 2 for the second problem etc

a) Large class size

b) Traditional arrangement of furniture

c) Absence of relevant services related to electric supply, water supply etc

d) Others (specify) _____

19. Do the school principal supports you to implement active learning?

a) yes b) no

20. If your response to the question above is "yes", how do you evaluate the contribution of the school principal in implementing active learning?

a) High b) moderate c) fair d) low

21. Do you believe that the curricular materials/syllabus, textbook, teachers guide/are conducive to implement active learning methodologies?

a) yes b) No

22. If you answer to question above is 'No' please rank the following possible problems according to their severity.

- a. The presence of too much contents
- b. Insufficient of activities/exercises that enables the learner to participate actively
- c. Emphasis is given to teacher explanation
- d. Lack of due consideration to learners interest and ability
- e. Others (specify) _____

23. Did you get any chance of participation in the course of curriculum development?

a) yes

b) No

24. If your response to question above is 'yes', to what extent did you participate?

a) always

b) sometimes

c) rarely

PART- TWO

DIRECTION: Indicate your degree of agreement to each of the following statements using tick mark (✓).

| R. N | Items | Alternatives | | |
|---------|--|--------------|----------|-----------|
| | | Agree | Disagree | Undecided |
| 1 | Active learning enables learners to understand and solve their Problems. | | | |
| 2 | Active learning Provides a better concrete experience. | | | |
| 3 | Active learning involves a democratic relationship between the teacher and the learner. | | | |
| 4 | Active learning is in appropriate to implement in the Second cycle primary schoolers. | | | |
| 5 | Active learning provides the room for the learner to participate actively and share their experiences. | | | |
| 6 | Active learning creates problem to classroom management. | | | |
| 7 | An active learning instructional strategy creates a heavy load on the part of the teacher. Thus, it is difficult to implement. | | | |

PART -THREE

Direction: please, indicate your agreement using a tick mark (✓) for each of the following statements that are provided in the table.

- Does the school principal perform the following activities?

| | ITEMS | YES | NO |
|----|---|-----|----|
| a) | He/She plans and arranges workshops or seminars for the teaching staff concerning the implementation of active learning. | | |
| b) | He/She offers incentives to those teachers who are efficient in implementing active learning. | | |
| c) | He/She makes necessary effort to allocate sufficient amount of budget needed in the course of implementing active learning. | | |
| d) | He/She provides relevant advice and feedback after classroom observation (supervision). | | |
| e) | He/She assesses the problem of teachers in implementing active learning and provides immediate solutions. | | |
| f) | He/She encourages discussion on the implementation of active learning among the teaching staff. | | |

APPINDIX-B

Form - 02

ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES

DEPARTMENT OF CURRICULUM AND INSTRUCTION

A Questionnaire to be filled by school Principal

The main purpose of this questionnaire is to assess the condition of school principals in providing necessary support to teachers so as to implement active learning methodologies and to identify factors that can hamper the implementation of active learning. Through it some solutions to the identified problems will be forwarded.

Hence, concerned respondents are kindly requested to respond to every item in the questionnaire. Your correct and complete response to this questionnaire will have a great effect on the success or failure of the study.

Thank you in Advance for your cooperation

PART-ONE

Direction: please indicate your choice by encircling one of the letters except those, which require answers in each of the following sentence.

1. Sex Male Female
2. Your year of service in teaching in administration
total year of service
3. Qualification certificate (12+1) Diploma (12+2)
4. Are you a graduate of Educational administration?
Yes No
5. Did you take training on Educational administration?
Yes NO
6. Load per week _____
7. Average number of students in your class _____
8. Do you provide any support to teachers so as to implement active learning instructional strategies?
a) Yes b) No
9. If your response to the question above is "yes", how do you evaluate your contribution in implementing active learning?
a) High b) moderate c) fair d) low

PART- TWO

DIRECTION: Indicate your degree of agreement to each of the following statements using tick mark (✓).

| R. No | Items | Alternatives | | |
|-------|---|--------------|----------|-----------|
| | | Agree | Disagree | Undecided |
| 1 | Active learning enables learners to understand and solve their Problems | | | |
| 2 | Active learning Provides a better concrete experience. | | | |
| 3 | Active learning involves a democratic relation ship between the teacher and the learner. | | | |
| 4 | Active learning is in appropriate to implement in the Second cycle primary schoolers. | | | |
| 5 | Active learning provides the room for the learner to participate actively and share their experiences. | | | |
| 6 | Active learning creates problem to classroom management. | | | |
| 7 | An active learning instructional strategy creates a heavy load on the part of the teacher. Thus, it is difficult to implement it. | | | |

PART -THREE

Direction: please, indicate your agreement using a tick mark (✓) for each of the following statements that are provided in the table.

- Do you perform the following activities?

| R.N. | ITEMS | YES | NO |
|------|---|-----|----|
| a) | He/She plans and arranges workshops or seminars for the teaching staff concerning the implementation of active learning. | | |
| b) | He/She offers incentives to those teachers who are efficient in implementing active learning. | | |
| c) | He/She makes necessary effort to allocate sufficient amount of budget needed in the course of implementing active learning. | | |
| d) | He/She provides relevant advice and feedback after classroom observation (supervision). | | |
| e) | He/She assesses the problem of teachers in implementing active learning and provides immediate solutions. | | |
| f) | He/She encourages discussion on the implementation of active learning among the teaching staff. | | |

ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES
DEPARTMENT OF CURRICULUM AND INSTRUCTION

A Questionnaire to be filled by curriculum experts

The main purpose of this questionnaire is to assess the view of curriculum developers Vis-à-vis active learning instructional Strategies, there by enabling concerned individuals to be aware of the condition and provide solutions to the identified hampering factors in implementing active learning.

Hence, concerned respondents are kindly requested to respond to every item in the questionnaire. Your genuine and complete response will have a great significance to the success of the study.

Thank you in advance for your cooperation.

d. Lack of due consideration to learners interest and ability

e. Others (specify) _____

8. Do you believe that teachers have got any chance of participation during the course of curriculum development?

a) Yes

b) No

9. If your response above is " yes", to what extent do they participate?

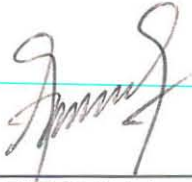
a) always

b) sometimes

c) rarely

DECLARATION

This thesis is my original work and has not been presented for a degree in any other university and that all source of materials used for the thesis have been fully acknowledged.



FISSEHA ABREHA

This thesis has been submitted for examination with my approval as university advisor.

Dr. TEMECHEGN ENGIDA