

**ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES**

**AVAILABILITY, PREPARATION AND UTILIZATION OF
INSTRUCTIONAL MATERIALS IN PRIMARY SCHOOLS
OF MAIN TRAINING CENTERS OF NATIONAL ARMY**

ABEBE KEBEDE

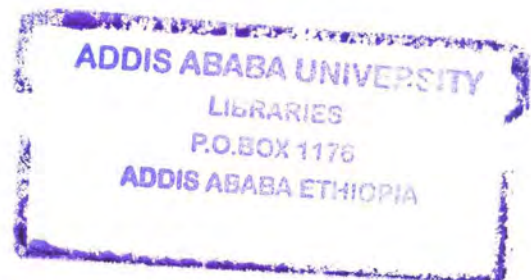


**JULY 2008
ADDIS ABABA**

**AVAILABILITY, PREPARATION AND UTILIZATION OF
INSTRUCTIONAL MATERIALS IN PRIMARY SCHOOLS
OF MAIN TRAINING CENTERS OF NATIONAL ARMY**

ABEBE KEBEDE

**A Thesis Submitted to the School of Graduate
Studies of Addis Ababa University in Partial
Fulfillment of the Requirements for the Degree of
Master of Arts in Curriculum and Instruction**



**JULY 2008
ADDIS ABABA**

**ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES
COLLEGE OF EDUCATION**

**AVAILABILITY, PREPARATION AND UTILIZATION OF
INSTRUCTIONAL MATERIALS IN PRIMARY SCHOOLS
OF MAIN TRAINING CENTERS OF NATIONAL ARMY**

ABEBE KEBEDE

Approved by Board of Examiners

<u>Abdulaziz Hussien</u>	<u>[Signature]</u>	<u>15-7-08</u>
Chairman, Department's Graduate Committee	Signature	Date
<u>Amaré Asgedom</u>	<u>[Signature]</u>	<u>15/07/08</u>
Advisor	Signature	Date
<u>K. E. Abayawale</u>	<u>[Signature]</u>	<u>16/07/08</u>
Examiner-Internal	Signature	Date
<u>Nuru Mohammed</u>	<u>[Signature]</u>	<u>15/07/08</u>
Examiner-External	Signature	Date

ACKNOWLEDGEMENT

First of all, I would like to express my heart-felt thanks to Dr. Amare Asgedom, my thesis advisor, for his unreserved guidance, relevant advice and critical comments relevant for the improvement of this thesis work.

I would also like to extend my gratitude to the school of graduate studies, Addis Ababa University, for covering all the expenses incurred in the course of the study.

I am also very much indebted to all the school coordinators, teachers and SPC heads in the target schools for their willingness during data collection process. Particularly, school coordinators were very eager to collaborate with the researcher in every aspect relevant for the study. Though it is impossible to acknowledge all of them on individual basis, I wish to express particular appreciation to Major Abrha Leggese, the coordinator of Awasa- Toga Primary School, for his deep interest to help me in every aspect.

Finally, my thanks go to W/t Hiwot Kefelegn for her typing my paper in a neatly manner.

TABLE OF CONTENTS

Acknowledgment	i
List of Tables	iv
List of Appendices	v
Abbreviations	vi
Abstract	vii

CHAPTER ONE

1. INTRODUCTION

1.1. Background of the Study	1
1.2. Statement of the Problem	4
1.3. Significance of the Study	6
1.4. Delimitation of the Study	7
1.5. Limitation of the Study	7
1.6. Definition of Terms	8

CHAPTER TWO

2. REVIEW OF RELATED LITERATURE	9
2.1 Definition of Instructional Materials	9
2.2 Relationship between Instructional Media and Learning	10
2.3 The Availability of School Pedagogical Centers	15
2.4 Sources of Instructional Materials	19
2.5 Preparation of Instructional Materials	20
2.5.1 Preparing Instructional Materials from Local Resources	20
2.5.2 Levels of Preparation of Instructional Materials	21
2.6 Utilization of Instructional Materials	21
2.7 Teachers Commitment and Self-initiation to Prepare and Use Instructional Materials	23
2.8 Incentive and Support from School Coordinators to Teachers in Preparing and Using IMs	24

CHAPTER THREE

3. RESEARCH METHODOLOGY	26
3.1 Method of the Study	26
3.2 Sources of Data.....	26
3.3 Sampling Procedures	27
3.4 Data Collection Procedures.....	27
3.5 Pretest of the Instrument.....	28
3.6 Strategy of data Analysis	29

CHAPTER FOUR

4. PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA.....	30
4.1 Background Characteristics of the Study Groups	30
4.2 Availability of School Pedagogical Centers (SPCs)	31
4.3 Sources of Instructional Materials	32
4.4 Teachers' Commitment and Self- Initiation in Preparing Instructional Materials.....	34
4.5 Teachers Commitment and Self Initiation in Utilizing IMs	37
4.6 Incentive Systems from the School Coordinators to Teachers	40
4.7 The Support from School Directors to Teachers in Preparing and Using IMs	42
4.8 The Distribution of Textbooks to the Army Learners	44
4.9 The Support from Training Main Department (TMD) to Schools In Relation to IMs	46
4.10 Types of Instructional Materials (IMs).....	48

CHAPTER FIVE

5. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS.....	51
5.1 Summary	51
5.2 Conclusions	53
5.3 Recommendations.....	55
REFERENCES	58
APPENDICES	61

LIST OF TABLES

	Page
Table 1: The sources that teachers use to get IMs.	33
Table 2: Commitment and Self- initiation of the army teachers in Preparing IMs from local resources	35
Table 3: Teachers Commitment and Initiation in using IMs in Classrooms	38
Table 4: Types of Incentive Systems Given by the School Coordinators to Teachers	40
Table 5: The kinds of Support given by school Directors to teachers in preparing and using IMs	43
Table 6: Student-book Ratio in Different Subjects and Grade Levels	45
Table 7: The type of support from TMD to Schools in relation to IMs	47
Table 8: Types of IMs that teachers were using in schools.	49

LIST OF APPENDICES

	Page
APPENDIX – A	61
APPENDIX – B	65
APPENDIX – C	67
APPENDIX- D	68
APPENDIX – E	69
APPENDIX – F	74
APPENDIX – G	76
APPENDIX – H	78
APPENDIX – I	80
APPENDIX _J.....	81

Abbreviations

IMs-Instructional Materials

MOND-Ministry of National Defense

SPC(s)-School Pedagogical Center(s)

TC(s)-Training Center(s)

TMD-Training Main Department

MOE-Ministry of Education

ABSTRACT

The main purpose of this study was to investigate the availability, preparation and utilization of instructional materials in primary schools of main training centers of national army. To this end, a survey method was employed to conduct the research in six primary schools. The sources of data, then, were teachers, school coordinators, and SPc heads. Simple random sampling technique was employed to select the sample teachers. On the other hand, an available sampling method was employed for school and SPc coordinators. In this case questionnaire, interview and observation were used to gather data from the above sources. The data were analyzed using percentages and descriptive statements.

The result of the study indicates that each sample school had a SPC. Teachers use only SPCs as a source of IMs and their commitment and self- initiation in preparing and using IMs was low. Most of the school coordinators used only verbal praise to motivate teachers and no any support of them to teachers. Regarding the types of IMs, there were only visual IMs in schools. The student-book ratio was one to three, and no IM was provided by TMD to the schools.

In light of these findings, some recommendations were forwarded. These are the school in general and teachers in particular should use alternative sources of IMs. It is important to minimize different military activities of the army teachers so that they can have free time to collect, prepare and use IMs .In addition, due attention should be given by the school coordinators to support and provide the appropriate incentive systems to teachers in preparing and using IMs and the concerned body should pay much attention to equip the schools with different and adequate IMs.

CHAPTER ONE

Introduction

1.1 Background of the Study

There is no doubt that the availability and a systematic utilization of instructional materials in class rooms improves the teaching-learning process and helps the teachers and students achieve the intended educational objectives. In line with this, Amare (1999:53) states that “no one disputes the role and function of instructional materials in enhancing the quality of education”.

Because of this great importance of instructional materials (IMs), their utilization and the methods in education has a long history in the world. Regarding this issue, Kemp (1968:3) indicated that audiovisual materials have been among the resources for teaching and learning in educational programs for many years. Similarly, Saettler (1968:11) pointed out that early forerunners of instructional technology (the first makers and users of tools), living more than a million years ago, systematically taught their children many kinds of skills, attitudes, and concepts by unsupervised imitation.

This idea indicates that the concept and use of instructional technology is not new issue. That is, people used it to teach and shape their children in ancient times. It seems that their teaching method was imitation and they used different tools as instructional technology.

In terminology, different scholars used different names for instructional materials. For example, instructional technology (Saettler, 1968), audiovisual materials (Kemp, 1968) instructional media (Heinich and others, 1996), and instructional materials (Amare, 1999).

Although these educators give different names for IMs, all of them have similar concepts of the materials. That is, the contents they wrote under these different titles are similar. For instance, Kemp has listed different types of IMs under the title, "audio-visual materials". That is, visual and audio materials are included under audio-visual materials. But in this study, the name IM is used like that of Amare's definition.

Despite their long history, instructional materials were not integrated fully in to the teaching- learning process for several years. This was because the lecture method (mere memorization and verbalism) was the most dominant method of teaching.

However, criticizing this method, Saettler (1968:121) indicated that some teachers had always looked for effective method of making their subject matter clear and meaningful to their students. For this case, models, pictures, objects, diagrams, printed or written materials, etc. were prepared and used by those teachers as instructional materials in 1886.

According to Kemp (1968:3) audiovisual materials came in to prominence with the development of 16mm motion picture films in 1920s and 1930s. He added that there was an increase in learning when a motion picture was added to a lecture, as compared with the lecture by itself. Following this activity, audiovisual materials played a great role in training and educating soldiers around the end of 1930s. In line with this, Kemp (1968:4) stated that these materials proved their value in serving military training needs during World War II.

Despite their advantages, there was a shortage of instructional materials during that time to educate and train the armed forces as well. Regarding this issue, Saettler (1968:171) stated that since there was a scarcity of adequate equipment and instructional materials in the early days of World War II,

military schools and instructors improvised a number of instructional devices for use in their training programs.

When we come to our country, after 1991, the beginning of formal primary and secondary education in Ministry of National Defense (MOND) can be traced back to 1992. The purpose of providing this education for the army was to enable them to achieve basic knowledge and skills, to be flexible, creative and adaptable to environmental changes and fast technological development; and to help them use arms and better communication with others. (Training Main Department, 2002:5).

To achieve these and other educational objectives, Training Main Department (TMD) in MOND has designed a system of increasing the number of qualified teachers for primary education of national army. By recruiting some members of the army teachers, TMD provides short-term in-service training which includes the preparation and utilization of instructional materials in each year. For this purpose, TMD has designed a well organized training book entitled "Knowledge of Pedagogies". Most of the whole pages of this book are covered by the contents (like, meaning, importance, classification, selection, preparation and utilization) of instructional materials.

However, because of lack of any research conducted in these primary schools, there is no any information whether those teachers prepare and use those instructional materials in classrooms to make students' learning more concrete and meaningful.

It is with this information that the researcher was initiated to conduct a research on the availability, preparation and utilization of instructional materials in primary schools of main training centers (TCs) of the national army.

1.2 Statement of the Problem

According to the New Education and Training Policy of Ethiopia (1994:27) in order to promote the quality, relevance and expansion of education, due attention will be given to the supply, distribution and utilization of educational materials, educational technology and facilities.

This statement indicates that it is believed that IMs play a great role in improving the quality of education in the country. In this regard, Teshome (1998:75) states that in principle, the most central purpose of media use for formal education is the one that concerns the improvement of educational effectiveness in terms of student learning.

This improvement in students' learning can be achieved by employing IMs in the teaching-learning process. However concerning IMs, different research works indicate that there are some constraints in preparing and using IMs in the teaching-learning process on the implementation stage of the policy at school level. These research works were conducted in Addis Ababa, SNNR and Tigray regions. Accordingly, Amare and Tassew (1996), Amare (1999), Berhane (1999) Tadesse (2001), Akalu (2001) and Abrham (2001) have carried out research on some of the constraints that affect the availability, preparation and utilization of IMs in the teaching-learning process.

However, except Amare, whose study is mainly dependent on the findings of earlier studies and policy documents, the other researchers indicated that the quality of primary education in different regions of the country was affected by the following problems. These are: teachers' attitude towards IMs, the inadequate training of teachers and SPC heads, shortage of budget and financial capacities of the schools for SPCs, the lack of support of NGOs to schools, the absence of guide materials for SPCs and the inadequate provision of IMs from Zonal and Woreda Education Support Sections. All these research works are done by considering the above listed common issues. That is, similar

issues are repeatedly raised and studied in each research work. In addition; all of them were conducted in primary schools of Ministry of Education.

Regarding the education of national army, TMD has formulated the academic education policy for the army in 2002. Some of the educational objectives set in this policy include: to enable army learners to apply problem solving method in their life, to enable them to acquire scientific knowledge and skills and to improve their academic knowledge that helps them to cope up with the ever developing technology and accomplish their military missions successfully (TMD, 2002:5). In this regard the role of instructional materials is very high for the realization of these educational objectives and to make students' learning more meaningful, concrete and problem solving.

Hence, the army teachers are expected to prepare and use instructional materials to achieve those educational objectives. However, up to the researcher's knowledge, in this study, it is hypothesized that there are some other constraints which were not raised by the previous researchers that might affect the preparation and use of IMs by the army teachers. These include: unavailability, types and sources of IMs, teachers' self-initiation and commitment in preparing and using IMs, lack of support and incentives from primary school coordinators to increase teachers' participation in preparing and using IMs and the function of SPCs.

Therefore, the objective of this study is to investigate the availability, preparation and utilization of IMs in primary schools of main TCs of the national army. To achieve this objective, the following research questions were raised to be answered in the course of the study.

Research Questions

1. What are the sources of IMs used in the teaching-learning process?
2. To what extent do the army teachers show self-initiation and commitment in preparing and using IMs?
3. Do the school coordinators provide support and incentive systems to teachers to participate in preparing and using IMs?
4. Which types of IMs do the army teachers use in the teaching- learning process?
5. Does Training Main Department involve in provision of IMs to these primary schools?

1.3 Significance of the Study

As it was indicated in statement of the problem, the inadequacy of research on the availability, preparation and utilization of IMs in the primary schools of the national army is observed after the implementation of the new curriculum of MOND. It will therefore be assumed that the result of this study will provide some information on the availability, preparation and utilization of IMS in those primary schools. The recommendations which are forwarded at the end of the study are expected to have some contributions to teachers, school coordinators, TMD and other concerned bodies to improve the teaching-learning process by enhancing the preparation and utilization of IMS. Moreover, this study may motivate those who are interested to conduct research on this issue.

1.4 Delimitation of the Study

The scope of this study was taken to be all primary schools of main TCs of national army. The primary schools in new training centers of different commands were not included in the study to make it manageable.

As it is stated in statement of the problem, the study was also focused on the availability, sources and types of IMS, teachers' commitment and self-initiation and the support from the primary school coordinators to teachers to prepare and use IMs. Furthermore, it was confined to deal with these issues in those primary Schools up to 2007/2008 academic year.

1.5 Limitation of the Study

The researcher believes that the inclusion of a large population size from different commands could have enhanced gaining more information for the study. However, since the main TCs are very scattered in different regions of the country, it was very difficult and time consuming for the researcher to collect data from these scattered places. This has taken much of the research time which could have otherwise been used for more valuable purposes of the study. This condition limited the researcher from collecting more data (that might make the result of the study more independent) from other commands. In addition, some of the teachers were not volunteer to be observed in classrooms. That is, some of them were absent from the normal class time after they have arranged the time of observation for the researcher. Because of this, no sufficient class room observation was made as expected. However, the researcher tried to discuss with those teachers to solve the problem.

1.6 Definition of Terms

1. **Primary school coordinators**- are military officers who are assigned to facilitate the teaching-learning process in primary schools as principals.
2. **Instructional Materials**-refer to any kind of material (visual, audio or audio-visual) used to make students' learning more concrete, meaningful, and clear and problem solving.
3. **Main Training Centers (TCs)** - refer to the training centers which were set up before the current government, and are constant. They don't include the new TCs set up in near time in some commands.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Definition of Instructional Materials

Different educators have tried to define the term instructional materials (IMs) in more or less different ways. However, some of the definitions have similarities in many respects. That is IMs include all the materials that are used by the teachers and students to make the teaching-learning process more concrete, realistic and meaningful as described by the following educators.

According to Kinder (1961:11), IMs are any device which can be used to make the learning experience more dynamic, concrete and realistic. Similarly Haney and Ulmer (1971:10) defined IMs as excellent vehicles for providing experiences that are concrete and realistic. These two educators viewed IMs to be part of the teaching-learning process and to make learning more concrete and realistic. Strengthening this idea, Sharma (2005:275) and Brown and others (1983:3) defined IMs as materials or devices which present a body of information and largely self-supporting rather than supplementary in teaching-learning process, they are not in support of instruction, but are the instructional input itself. In short, this definition indicates that IMs should be incorporated to the design or plan of an educational program to present practical information for learners.

However, Aggarwal (1996:153), Hass and Packer (1996:2) and Dale (1969:45) tried to define IMs in more or less different ways. As them, IMs are devices that assist an instructor to clarify, establish and co-relate concepts, to transmit to a learner facts, skills, attitudes, knowledge and appreciation, and enable him(her) to make learning more concrete, effective, interesting and vivid.

In this study, the concept of IMs is directly related to the following definition of an Ethiopian scholar. That is, Amare (1999:53) defined IMs as all forms of

materials with which students and teachers interact for the purpose of learning-teaching. He added that they are the instruments with which a teacher teaches and from which students learn.

In general, the above definitions indicate that IMs are very essential to improve the quality of primary education. The concept of each definition indicates that IMs give life to the teaching-learning process. In other words, concrete, vivid, dynamic, effective and meaningful learning can be achieved or gained by incorporating and using IMs in the teaching-learning process.

2.2 Relationship between Instructional Media and Learning

As we see in this section in detail several educators agreed that instructional media can significantly affect the quality of learning. That is, the presence and systematic use of instructional materials (ImS) in the teaching-learning process is a very important factor for the quality of education.

According to Heinich and others (1996:15), there are dominant learning theories which have implications for instruction in general and the use of media in particular. Some of them are cognitivist, behaviorist and constructivists learning theories.

According to Eggen (2006:27), Allan (1995:234) and Heinich and others (1996:17), assimilation (which is the cognitive development by which a learner integrates new information and experiences in to existing schemata) is one key concept of mental development of cognitivist learning theory. In this theory, rather than waiting for these experiences to happen naturally, instructors can cause experiences to happen through the use of instructional media and methods. This use of IMs can facilitate students' practice as Eggen (2006:28) assures that one of the principles of cognitive learning theory is "learning requires practice".

In behaviorists learning theory, there is a close relation between behavioral objectives and IMs. The materials that are not directly related to those objectives are screened out. That is institutional design and media are highly structured. This approach is very successful in teaching basic skills and knowledge (Heinich and others, 1996:18).

In constructivists learning theory, there is a shift from passive transfer of information to active problem-solving. That is the learners create their own interpretation of the world of information within their own experience and the goal of instruction is to create situations for students (Ibid, 1996:20). In this case, learning occurs most effectively when the student is involved in authentic tasks that relate to meaningful contexts. This involvement can be achieved by incorporating IMs as Amare (1999:53) indicated that concrete materials (models, specimens, simulators, objects) allow physical involvement of learners and the abstract ones allow imaginative involvement of learners (learning with written or spoken words).

In general, all the above learning theories claim that concrete and meaningful learning is gained by using IMs. The achievement of educational objectives, the mental development of students and their creative ability can be related to the careful and wise use of IMs in the teaching-learning process. In addition to these learning theories, the sub topic covered in this section is the different types of IMs.

Types of Instructional Materials

Different scholars have tried to classify IMs in to different types. Among these, Brown (1983), Mcinnes (1980), Heinich and others (1996) and Romiszowski (1974) can be mentioned. However Aggarwal (1996:160) and Training Main Department (TMD) (2002:18) have almost similar classifications of the materials. These are audio, visual and audio-visual materials.

Audio materials include radio, language laboratories, tape and disc recordings. These enable learners to improve their listening skills. In addition, they can develop different experiences, example, the pronunciation of words in language learning. In this case Amare (1999:54) indicated that IMs provide the learner with a wide variety of experiences. For instances, listening, reading and drawing. Among these, the listening skill can be achieved by employing audio materials. Thus, teachers should use these materials in the teaching learning process to improve the listening skill of their students.

As Sharma (2005:101) and Pollard (2002:53) pointed out, using language laboratories can greatly increase both the quality and quantity of students' aural-oral experiences, it reduces outside distraction and hence increases concentration, it enables them to practice individually and to work at their own pace and they can record and play back their own responses. As the tape is played, the instructor can also plug in on the headset of any student, listen to his progress at any time and give assistance as needed.

The other type (visual IMs) provide a concrete referent for ideas: they can motivate students by attracting them and holding their attention and generating emotional responses, simplify ideas that are difficult to understand and give learners a chance to comprehend visually what they might miss verbally (Heinich and others, 1996:64). Visual materials include charts, posters, photographs, pictures, drawings, models, maps, flash cards, cartoons, graphs, diagrams, slides, exhibits, display boards, film strips, real objects, specimens, printed materials, etc.

According to Heinich and others (1996:106) printed materials (textbooks, teacher guides, manuals, worksheets, etc) are other important visual materials in the teaching-learning process. Textbooks have long been the foundation of classroom instruction. They provide ranges of visual stimulation to students because they contain visual symbols such as diagrams, charts and graphs, in addition to the written words. Moreover, Amare (1999:62) remarked that books

are central in the concept of IMs, and Brown and others (1982:169) argued that the greater advantage of text books is that they are the most accessible and easy to use. By using them, students could be able to master the contents of instruction at their own pace.

Thus, since textbooks have all these advantages, they should be distributed to learners in the required time and place to enhance the quality of education.

The other types of visuals are display boards. Among these chalk boards and bulletin boards are the common display materials. According to Kinder (1959:344) and Heinich and others (1996:125) no school is without display boards. As them, none projected visuals such as photographs, drawings, charts, graphs or posters can be displayed using these boards.

Relating visuals to learning, Sharma (2005:271) states that visual materials can increase the active participation of students by copying of notes (which is relevant to lessons in spelling, writing or drawing), by asking questions on the visual content and getting students to explain the function of parts of the materials. Among visuals, concrete real objects (e.g coins, tools, plants, and animals) are helpful for learners who have little direct experiences in their daily lives (Muijs and Reynolds, 2001:173). Thus, to build schemata that have meaning and relevance in their lives, learners need a base in concrete experiences, and bringing real objects in to the classroom can help in this process.

In addition to audio and visual materials, the third types of IMs are audio-visual materials. These include television, video tapes, and demonstration, films and study trips. These are materials which involve both sight and hearing senses.

According to Allan (1995:247) and Sharma (2005:63) by using television in the teaching-learning process, students can learn about current events, scientific

advances, be exposed to dramatic and musical performances, etc. It can also carry instruction to different classrooms.

Similarly, Pollard (2002:53) pointed out that video recording is particularly helpful in providing contextual information in classroom and capturing non-verbal behavior as well as speech. Thus, teachers should use these materials in the teaching-learning process to make student's learning contextual and participatory.

In general, as we observe above, the three types of IMs obviously involve different senses by presenting stimuli that are auditory, visual, or both. Thus, teachers can use the materials which have relation to the educational objectives and contents. This enables them achieve the intended educational objectives.

Research Implications on the Instructional values of Instructional Materials (IMs)

Different research works have been conducted on the value of IMs in the teaching learning process. The studies concern the instructional value of specific materials as compared with traditional teaching methods. For instance, Kemp E. (1968:15-19).has reviewed some of these studies made by different researchers. The main findings are summarized as follows.

First, learning will increase if the viewer practices a skill while it is presented on the screen. Second, IMs, increase the probability that the learner will remember and can reproduce what was presented. Third, IMs cause the learner to pay close attention, to look or listen for relevant clues to put effort to learn, to respond or practice. Forth, IMs help the learner identify the relevant points. Fifth, listening comprehension is likely to be the most effective. Sixth, IMs make

learning concrete, meaningful and practical, and seventh, IMs give freedom for learners.

Similarly, Haney and Ulmer (1971:17-20) had reviewed other studies on the use of media in educational settings. Some of the findings include: IMs have been found to be effective in participation of learners; the use of pictorial material and color seems to have motivational or interest-producing benefits; the amount of information that can be transmitted to learners may easily be exceeded by using more than one instructional material at a time, etc.

To sum up, all the above research findings indicate that IMs play a great role in the teaching-learning process. Thus, these findings can be the base for the preparation and utilization of IMs to increase the quality of students' learning.

2.3 The Availability of School Pedagogical Centers

As it is commonly known the availability of school pedagogical centers (SPCs) is a very important issue to improve the quality of education because they are the main sources of IMs available at school level. In these centers, SPC-coordinators, teachers and even students can produce, collect and preserve IMs for the teaching-learning process. Regarding this issue, Haney and Ulmer (1970:8) argued that if there are extensive media resources available in the schools, greater flexibility can be build in to the teaching-learning process in terms of providing independent learning; of allowing individual pupils to work on special projects. In addition to the above scholars, Heinich et. al. (1996:18) pointed out that SPCs are special units with in an institution (a school) where a wide variety of media are produced, housed, and distributed from.

The phrase "a wide variety of media" indicates that the availability of enough IMs for all subjects and grade levels is an important issue for the quality of education. Thus, it is possible to infer that SPCs should contain all types of IMs to facilitate students' learning and to achieve educational objectives.

Strengthening this issue, Clark and Starr (1996:422) pointed out that to initiate teachers and students, boundless IMs should be available to even the poorest schools. Moreover, the availability of IMs is a very important issue to improve the quality education.

From these educators, it is possible to understand that the only presence of SPCs in schools does not contribute a lot to initiate both teachers and students, and to improve the quality of students' learning but SPCs should be equipped with adequate IMs.

On the other hand, the scarcity of IMs in SPCs affects the teaching-learning process negatively. Particularly the modern method of teaching, active learning may not be practical in primary schools. In this case, Amare (1999:62) argued that with out student interaction with IMs, active learning will not be achieved. Similarly, Kinder (1995:37) indicted that "Indeed, the audio-visual approach to education is one of the most effective methods of combating the evils of verbalism."

To perform their functions properly, SPCs require committed and qualified SPC-coordinators. Thus the SPC- coordinators can be seen as the catalyst that activates instructional development in the school (Sampath et al, 1990:94). As them, the roles of SPC-coordinators include: preparing and preserving IMs; helping teachers in previewing, selecting, preparing and using IMs; providing facilities and materials; organizing all IMs; collecting IMs by borrowing from different sources; providing professional service throughout the day; developing awareness of new and up-to-date IMs, etc.

The school library is also the source of print materials. That is text books, teacher guides, hand outs, manuals and other reference books should be available in the libraries to support students' learning.

However, some research undertakings in Ethiopia indicated that most of the SPCs had not sufficient IMs. For instance, Amare and Tassew (1996:34) reported that most of the SPCs in Addis Ababa primary schools were poorly equipped and Berhane (1999) found out that SPCs lack enough IMs and he confirmed that there were some schools with out SPCs. Thus, it is very essential to construct SPCs in schools and to equip them with sufficient and appropriate IMs to improve the quality of primary education.

Status of Instructional Materials in Ethiopian Schools

In relation to the availability of IMs in Ethiopian schools, some research undertakings have been conducted in different times and places. For instance, Amare (1998:289-298) carried out a research on Teachers' Perceptions of Educational Problems in Ethiopia. In this study, he found out that the most critical educational problem in Ethiopian schools was unavailability of IMs followed by crowdedness of classrooms. In his another study, Amare (1999:60) revealed similar shortage of IMs in Tigray primary schools. In addition, he observed that different findings of similar surveys on the issue showed a serious problem in the availability, provision and production of IMs.

In the same region, Berhane (1999) carried out a research on IMs. He reported that most of the school pedagogical centers did not have adequate IMs and they didn't give the expected services to the teaching-learning process. On the other hand, Amare and Tasew (1996:37) conducted a research in Addis Ababa and they reported that primary school teachers were making little use of IMs in their classrooms. In addition, they found out that shortage of materials and equipments was one reason for the failure of school pedagogical centers (SPCs) to achieve their objectives.

In SNNR, Abrham (2001) conducted a research work based on IMs. In his study, he reported that the contribution of SPCs in facilitating the teaching-

learning process was below the expected level because they were poorly organized and were constructed with out separate rooms as SPCs.

In conclusion, all the above research findings indicate that there were not adequate IMs in those schools where the research works were conducted, and this shortage of IMs affected the quality of Ethiopian education negatively.

Regarding the issue of IMs and the training of teachers in primary schools of national army, Training Main Department (TMD) in Ministry of National Defense (MOND) has been given the responsibility of providing IMs including textbooks, syllabus, teacher guides and other materials to those primary schools, recruiting teachers from the army members who have completed grade ten, and giving them short-term in-service training in each year to enable them to master both knowledge of the subject matter and method of teaching including how to prepare and use IMs (TMD, 2002:13). Moreover, it states that these army teachers will be free from other military duties to prepare themselves for the teaching-learning activities (including preparing and using IMs) to make learning more concrete and meaningful.

For this purpose, TMD has formulated a training book by which primary school teachers are trained in each year. In this book, IMs are given more coverage (almost $\frac{1}{3}$ of the whole pages of the book is covered by the contents of IMs). This shows that TMD has given more attention on the preparation and use of IMs to make the teaching-learning process more practical, concrete, active and problem- solving.

However, since there is no any research conducted on the issue of IMs, in those schools, it is not possible to know the status of IMs in those primary schools. This is why this study was planned to be conducted in primary schools of main TCs of national army.

2.4 Sources of Instructional Materials

As different educators pointed out, IMs can be found in different sources. "In the first place, materials for learning can be found almost everywhere." (Clark and Starr, 1996:420). According to them, curriculum guides, resource units, teachers' resource centers maintained by college, university schools of education, the state and county educational departments are also good sources of information about available materials.

As Heinich et. al. (1999:107) indicated, public libraries sometimes make video tapes, filmstrips and prints available. Different agencies of state and federal governments make IMs available in schools for the improvement of quality of education. In addition, the federal government is the main source of free and inexpensive materials. According to these scholars, the majority of IMs used by teachers and trainers are ready-made and available from different sources—schools, districts, company collections and other easily accessible sources.

According to Brown and others (1983:40), there can also be other sources of IMs. These are: agencies, companies, organizations willing to cooperate in providing educational resource services to schools, government agencies, municipal service units (fire stations, police stations, post offices), museums, transportation facilities, selected industrial and business organizations, including bakeries, lumber mills, furniture factories and water filtration plants.

When we look carefully at the above views of writers the sources of IMs can be summarized as schools (school resource centers and libraries), the community, public libraries, museums, government and non-government agencies, etc. Thus, primary schools in general and teachers in particular should pay attention to all these possible sources to find and collect the required IMs.

2.5 Preparation of Instructional Materials

Preparing IMs is one of the alternatives that enable a teacher to use the materials in the teaching-learning activities. This can be practical when there are not proper IMS for the defined educational objectives, when a teacher wants to prepare the materials from inexpensive local resources and when it is important to involve students in the preparation process. Accordingly, IMs can be prepared by media specialists, teachers and students themselves for immediate use in their schools.

2.5.1 Preparing Instructional Materials from Local Resources

As Aggarwal (1996:158) indicated preparing IMs from easily available local resources is one of the principles of the preparation of IMs. This helps teachers overcome the problem of lack of expensive materials in schools. For this purpose, TMD (2002:23) has listed the following examples as alternatives.

It is possible to produce models from worn out hard papers; different structures from the horn of animals; soaps and candles from the meat of animals; an ink from different flowers or leaves and roots of some plants; different materials from a piece of wire, wood, old cloth and nail; a sticky fluid from the milk of cactus and the flour of 'teff', barely and wheat; chair and basket from bamboo; the symbols of letters and geometry from cereal crops. All these points are good examples of locally available inexpensive raw materials in our context. Thus, teachers should use them as alternatives to prepare IMs. Instead of waiting for prepared materials to be purchased.

2.5.2 Levels of Preparation of Instructional Materials

According to TMD (2002:80), Heinich et al (1996:45) and Brown et al (1977:80), there are three levels to prepare the appropriate IMs for the teaching-learning process. The first level is preparing the material by coping or cutting it from the original material. The second and the third levels are producing IMs by modifying the available materials and designing new materials respectively.

In general, from the three levels of preparation of IMs mentioned above, the first level has a negative side on the original material. That is, when we cut out letters and small maps from large maps, there will be damage on the original materials. However, the above mentioned educators did not indicate this negative effect. Hence, teachers should copy the materials rather than cutting them out from the original materials.

2.6 Utilization of Instructional Materials

In addition to selection and preparation, a systematic utilization of IMs helps teachers and students achieve educational objectives by enhancing active learning method. In this case, TMD (2002:26) and Dale (1969:12) pointed out that the critical and systematic utilization of IMs in the teaching-learning process play a great role, and enables teachers to attain the ultimate goal of liberal education-the development of the independent learner who needs less and less assistance from the teacher. This indicates that the proper use of IMs gives freedom to learners in their learning and helps them not to expect everything from their teachers.

According to Kinder (1989:59), the effective utilization of IMs increases the quality of education and enables teachers and students to achieve educational goals. For instance, pictures must be suited to grade level to be most effective. That is in the lower grades, cutting, pasting and coloring may provide creative

experiences. In other grades, pupils may use pictures to correct misinformation, provide further study and build factual enrichment. He added that it is well known fact that pictures lose their effectiveness if too many are used at one time; small number of appropriate ones provides maximum benefits.

The proper use of IMs gives great values in the teaching-learning process (Aggarwal, 1996:154). As him, clear images are formed when we see, hear, touch, taste and smell as our experiences are direct, concrete and more or less permanent. Learning through the senses becomes the most natural and consequently the easiest. There is great scope for learners to move about, talk, laugh and comment up on. This gives freedom in their learning. In this case, students work because they want to work.

However, on the contrary inappropriate utilization of IMs can do more harms than good to the teaching-learning activities (Betsate, 2000:36). He added that inappropriate utilization could take any of these forms: under use, abuse or misuse of media. These will eventually restrict students' learning.

To sum up, the concept of the utilization of IMs can be summarized on these two ideas: the proper and inappropriate utilization of IMs. The proper use of IMs provides several advantages in the teaching-learning process: it improves the quality of primary education by enhancing active learning approach, decreases the dependency of learners on their teachers and provides learners freedom in their learning, provides concrete and meaningful learning experiences by involving all senses of the learners, and enables both teachers and learners achieve educational goals and objectives. On the other hand, the reverse may be true if IMs are not used properly by teachers and students.

2.7 Teachers' Commitment and Self-initiation in Preparing and Using Instructional Materials

Some of the responsibilities of teachers are using a wide and appropriate range of materials effectively and efficiently to work with large groups, small groups and one-to-one, and exhibiting a personality model of professional commitment, hard work, love for others, etc. In this case, the effective behavior of teachers is that a teacher stimulates students through interesting and original materials and techniques (Amare, 2000:79).

This idea indicates that professional commitment and hard work include the preparation and use of IMs that enhance an active learning method. In addition, a committed teacher is responsible to prepare and use IMs to improve the quality of the teaching –learning process.

In the same way, Training Main Department/TMD/ (2002:13) indicated that teaching in primary schools of national army requires high interest, commitment, motivation, effort and ability of the army teachers. This commitment and effort of teachers might enable them to prepare and use IMs.

The other educators, Eggen and Kauchak (2006:13) stated that effective teachers are committed to students and their learning. They capture and sustain the interest of their students and use their time effectively by using IMs. In this case, they are able to use a variety of effective instructional techniques including how to use IMs.

Some times, teachers can tolerate the problems of lack of IMs by preparing the intended IMs from locally available resources and using them. (Heinich et al., 1996:50). In this case, teachers' self-initiation and commitment are accounted for the extra effort devoted for the purposes such as time and skill invested for the selection, preparation and utilization of the required IMs.

However, there are certain identified problems in preparing and using IMs by teachers. In this case, Amare (1999:64) reported that no commitment to provide needed personnel dedicated to the job (preparing and using IMs). This shows that unless teachers are motivated, committed or dedicated to their job, they can not prepare and use IMs in primary schools. Similarly, Aggarwal (1996:459) indicated that lack of commitment, self initiation and ability of teachers, and indifference of students are among the human factors that affect the preparation and proper use of IMs by teachers.

To sum up, preparing, collecting and using IMs in the teaching-learning process may be difficult, time consuming and hard work for primary school teachers. This is why lack of commitment, self-initiation, ability of teachers, etc are mentioned to be among the human factors that affect the preparation and proper use of IMs negatively. However, those primary school teachers are expected to be devoted, committed, self-initiated, etc to overcome all the difficulties in the teaching-learning process in general and in preparing, collecting and using IMs in classrooms in particular. In this case, the quality of primary education can be improved and the educational objectives can be achieved.

2.8 Incentive and Support from School Coordinators to Teachers in Preparing and Using IMs

One of the mechanisms of improving the quality of learning and achieving the educational objectives is the support or incentive system given by the school administration to teachers; particularly in preparing and using IMs. This activity motivates teachers and enables them to do more in the teaching-learning process.

In this case, Egger and Kauchack (2006:20) and TMD (2002:13) pointed out that since teaching profession requires personal interest, commitment and

ability, those primary school coordinators should pay attention, give support to teachers and use different incentives to motivate those army teachers in their duties including preparing and using IMs. In this respect, the incentive systems can be given in words, in written forms, promoting to higher education, etc and the support might include identifying the problems of teachers in preparing and using IMs and giving solutions, providing advice on the same issue, giving time for teachers and encouraging them to discuss each other on preparation of creative IMs and to share experiences.

Moreover, the school director should create an environment in which teachers willingly give of their best (including the preparation and use of IMs) to increase the quality of education (Farrant, 1980:256). This indicates that unless the directors support teachers in the teaching-learning activities, teachers may not always be successful in their duties.

At primary school level, much is dependent up on the effectiveness of the school directors. As a facilitator, they must support teachers to prepare and use IMs. Moreover, they should acquire the desired knowledge and skill competencies (Pollard, 2002:38).

However, as some researchers reported, certain problems were observed in giving incentives or support to teachers in primary schools. For instance, in his study, Amare (1999:64) reported that there were not student or teacher incentive systems for preparing IMs in Tigray primary schools. This indicates that school principals or coordinators do not pay attention to support or initiate primary school teachers in preparing and using IMs.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Method of the Study

The main purpose of this study is to assess the availability, preparation and utilization of instructional materials in primary schools of main TCs of national army.

To this end, a survey design was employed to conduct the research. This is because as Best and Kahn [1999:25] indicated, in quantitative method, the survey design enables a researcher to gather data from a relatively large number of cases using sampling to draw conclusions on many cases [the population]. Hence the researcher planned to use this method to study different cases and to generate information on the whole primary schools of main TCs of national army rather than studying only a single case which can not be concluded to other primary schools.

3.2 Sources of Data

The sources of data for this study were primary sources (i.e. primary school teachers, the school coordinators, the heads of SPCs and the head of the academic department in MOND). Another important source of data was observation. In the inventory of the SPCs, the types of the available materials were recorded.

3.3 Sampling Procedures

These schools are found in the following training centers located in different regions of the country. These are Hurso (in Somalia Region), Belate and Awasa-Toga (in SNNR), Tollay and Debre Zeyt Air force (in Oromia Region) and Birsheleko (in Amhara Region).

In each training center (TC), there is one primary school of national army. All these schools were taken as sources of data. From these schools, four grade levels (grade 3, 4, 5, and 6) were selected purposively. The reason why grade 7 and 8 were not included was that all the courses in these grade levels were given in distance education program. Similarly, grade 1 and grade 2 were not included in the sample grade levels. This was because, in most of the schools, there were not grade one students. Thus, the researcher believes that complete and reliable data may not be gained from these grade levels.

From each grade level, five teachers (each from one subject area) were selected using lottery system from the list of teachers. Accordingly, a sample size of 120 teachers was selected from the population of 260 teachers in those primary schools. This sample consisted of 46% of the total population of teachers. On the other hand, the school and SPC coordinators were selected using an available sampling technique.

3.4 Data Collection Procedures

In order to obtain adequate information for this study, questionnaire, interview and observation were used in the process of gathering data.

3.4.1 Questionnaire

A questionnaire is comparatively less expensive and it offers greater anonymity to obtain accurate information [Kumar, 1999:110]. Thus close-ended and open-ended questions were prepared for teacher respondents. The questionnaire was prepared in Amharic in order to make the respondents feel more comfortable in responding to the items genuinely.

3.4.2 Interview

Apart from the data obtained from the questionnaire, an interview was employed as an instrument for collecting pertinent information for the study. Thus, In this study, interview was held with primary school coordinators, the heads of SPCs and the head of the academic department in MOND.

3.4.3 Observation

In addition to the questionnaire and interview, SPC and classroom observation were conducted to gather data based on the availability of IMs and class room activities of teachers. In this case, observation check list was prepared to be filled during the observation. In the observation of the teaching-learning activities, 15 teachers were observed in the sample schools.

3.5 Pretest of the Instrument

A pilot study was carried out in Bete-Mengist primary school before the main study. This helped the researcher check up the applicability of the instruments and to know the existing state of potential respondents with respect to the problem under study. Then, some of the items were revised to find out sentences and phrases that may lack clarity. The researcher believes that this step helped him to modify and improve his data collection instruments as well.

3.6 Method of Data Analysis

According to Fraenkel and Wallen (1993:157), some sort of information that enable a researcher draw some meaningful conclusions about the sample he/she is studying can be collected in several ways, but it can be reported in only two ways, through numbers or words.

Thus, all the data that were gathered using questionnaires were tallied, tabulate, analyzed and interpreted using percentage. On the other hand the information obtained from interview and observation was qualitatively described in words.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

materials (IMs) in primary schools of the main training centers (TCs) of national army of Ethiopia. Based on this objective, data were gathered through questionnaires, observation and interview. The data gathered through questionnaires are organized in tabular forms and analyzed and interpreted using percentages. In this case, the numerical values which are presented in percentages are calculated to the nearest whole numbers.

On the other hand, the information gathered through interview and observation are qualitatively described in words to be supplemented to the data gathered through questionnaires. Hence, this chapter deals with the analysis and interpretation of data gathered for the study.

4.1 Background Characteristics of the Respondents

By describing the characteristics of the respondents, it is possible to know some background information about the sample population participated in the study. Thus, in this sub topic, the sex, age, qualification and years of experience of the respondents are summarized as follows. For further information, see appendix "J".

Regarding the sex of the respondents, it was found that all the participants (100 percent) were males. Here it may be surprising to those who can read this paper because there was not a single female teacher in primary schools of main training centers (TCs) of the national army.

Regarding the age of the respondents, 57 percent of them were between 26 and 30. Moreover, 31 percent of teachers were between 31 and 35. The rest 13 percent were between 20 and 25; 36 and 40.

Pertaining to the educational background, 37 percent of the respondents were teachers who completed grade twelve. In addition, 33 and 24 percent of them were teachers who had TTI certificate and diploma respectively. Out of the total number of teachers, 62(57%) had the required qualification (12 +TTI and diploma) for the grade levels.

With regard to the years of experiences of the respondents, 80 percent of the teachers had served between 6 and 15 years. On the other hand, 19 percent of them had served between 1 and 5 years.

Thus, these data seem to reveal that the majority of the respondents were more experienced in teaching and they can be expected to give relevant information for the study.

4.2 Availability of School Pedagogical Centers

As several literatures and research findings indicated, the availability of media resources in schools is a very important factor for the quality of education in general and to initiate teachers, SPC coordinators and students in collecting, preparing and using IMs in the teaching-learning process in particular. This is because SPCs are the main sources of IMs at school level.

Based on this fact, the researcher conducted an observation in the schools to know the availability or absence of school pedagogical centers.

During the observation of the sample schools, it was found that all the observed primary schools have school pedagogical centers.

From this, it is possible to understand that SPCs have been given much attention by the school administration in the primary schools of main training centers (TCs) of the national army.

This finding seems different from the finding of Berhane (1999) which indicates that 30% of the sample schools did not have their own SPCs as reported by him. On the other hand, this finding seems consistent with the argument of Haney and Ulmer (1971: 422) which indicates that to build greater flexibility in the teaching-learning process, to initiate teachers and students in preparing and using IMs and to help the practice of active learning, SPCs must be available in schools. The teaching-learning process with the absence of school pedagogical centers and instructional materials may be influenced by the traditional method of teaching, lecture method.

4.3 Sources of Instructional Materials

As it was already indicated in chapter two, the sources of IMs can be SPCs, libraries, the community, public libraries, museums, government and non-government organizations, publishing houses, etc. Thus, the school in general and teachers and SPC coordinators in particular are expected to pay attention to different sources to collect IMs and use them in the teaching-learning process.

In line with this issue, teachers were asked to respond on the sources of IMs that they were using in the teaching-learning process. And the data collected from those teachers are organized in Table 1.

Table 1: The sources that teachers use to get IMs.

Item	Teacher Respondents (N = 108)
Where do you get the IMs required in the teaching learning process?	
a. from SPC	37(34%)
b. from the school library	8(7%)
c. from other local schools	10(9%)
d. by preparing from local materials	50 (46%)
e. from local organizations	—
f. from Training Main Department	3 (3%)
g. others, specify_____.	—

As it is observed in Table 1, out of 108 teachers, 46 percent of them responded that they used IMs in the teaching-learning process by preparing the materials from local resources rather than collecting them from different sources. On the other hand, 34 percent of them said that they used the SPC as a source, and 9 and 7 percent of the teachers said local schools and library respectively. As it can be seen in the same table, there was not a single teacher who has used different local organizations to collect the needed IMs except some local schools.

Apart from the data gathered through questionnaires, an interview was conducted with the SPC coordinators on the sources of IMs. Thus, one of these interviewees responded as:

Sometimes, teachers borrow the available IMs form the SPC. In most cases, they prepare the IMs by themselves. However, they don't try to collect IMs from other sources. In this case not only teachers but I can not also collect IMs from different sources since I haven't time because of my additional duties and responsibilities in the military activities.

08/03/2008

The view of the above SPC coordinator indicates that both teachers and the coordinators of school pedagogical centers were not able to use different alternative sources to collect IMs for the teaching-learning process. As him, he has already been assigned to perform other military activities and he couldn't prepare and collect the needed IMs. And most of other coordinators of school pedagogical centers shared the view of this interviewee.

From the above data, one can clearly understand that the sources that teachers use to collect IMs seem limited only in schools (in school pedagogical centers and to some extent libraries). And this finding seems consistent with the argument of Heinich and others (1996:18) which states that SPCs are the main sources of IMs in schools where a wide variety of IMs are produced, housed and distributed from. Moreover, the finding appears to be consistent with Akalu (2001) which indicates that most of the teachers used only SPCs as a source to obtain IMs.

However several educators advised that teachers and the school pedagogical center coordinators should use other alternative sources to collect the needed IMs when there is shortage of IMs in schools (in SPCs and libraries). Unfortunately, the finding of this study indicates that teachers and the SPC coordinators did not use other alternative sources (eg. Public libraries, museums, government and non-government agencies) to obtain the needed IMs except some local schools.

4.4 Teachers' Commitment and Self- Initiation in Preparing Instructional Materials

As different literatures stated, one of the responsibilities of teachers is preparing a wide and appropriate materials from local resources. As it was deeply discussed in chapter two, teaching in primary schools of main training centers (TCs) of the national army requires high interest, commitment and self-

initiation of the army teachers. In relation to this point, data were gathered from those teachers and presented in the following table.

Table 2: Commitment and self- initiation of the army teachers in preparing IMs from local resources

Item	Teacher respondents (N = 108)
1. To what extent do you show commitment and self-initiation in preparing IMs in the teaching-learning process?	
a. high	6(5%)
b. medium	54 (50%)
c. low	40(37%)
d. no any commitment and self-initiation of teachers	8(7%)
2. If your answer for the above question is "c", what are the reasons?	(N=48)
a lack of time because of teachers' additional military duties and responsibilities	31 (65%)
b. lack of local materials or resources	14 (29%)
c. lack of skill to prepare IMs	3(8%)

Table 2 indicates that teachers were asked to evaluate their self- initiation and commitment in preparing IMs. Thus out of 108 respondents, the 50 percent informed that their commitment and initiation was medium, where as 37 percent of them said that their commitment and initiation in preparing IMs was low. The remaining 7 percent responded that no any commitment and initiation of teachers was observed.

As it can be seen clearly from the table, those teachers who said low and no any commitment were asked to reason out why they said low or no commitment and initiation. Out of them, the majority (65%) responded that they had shortage of time because of different additional military duties and responsibilities. On the other hand, 29 percent of them said that they faced scarcity of local materials in preparing IMs.

In addition to the data gathered through questionnaires from teachers, an

interview was conducted with SPC coordinators regarding the commitment and self-initiation of teachers in preparing IMs. And one of them informed as:

Since teachers are loaded with other military duties and responsibilities, their commitment and initiation in preparing IMs for the teaching-learning process is low. Although they try to prepare some visual materials, it is not enough for the teaching-learning process as expected.

02/03/2008

This view of the SPC coordinator seems different from the data gathered through questionnaires. That is, it indicates that teacher's commitment and self-initiation in preparing IMs was low.

On the other hand, an interview was held with the school coordinators to enrich the above data from different sources. In this interview, one of the participants informed as:

Most teachers are not interested in their profession since they have not any particular advantage. Because of this, they do not prepare instructional materials in most cases to make students learning more concrete, meaningful and problem solving. They use only student's text book and the back board.

03/03/2008

This view of school coordinator indicates that teachers' commitment and self-initiation in preparing IMs was low and it was one of the factors that affect the preparation of IMs in schools negatively. In most cases, the other school coordinators have similar views for the same question. They added that some teachers give different reasons (shortage of time and materials) for their low commitment and initiation in preparing IMs.

When someone compares the information gained from the above three groups of the respondents, the result seems that teachers' self-initiation and commitment in preparing IMs was low. That is, although the majority (50%) of the teachers said that their commitment and initiation was medium, the result of the interviews held with the heads of SPCs, school coordinators and the data from 44 percent of the teachers themselves indicate that the army teachers in those primary schools show low commitment and self-initiation in preparing IMs for the teaching-learning process. Here it may not be difficult to understand that the majority of the teachers seem reluctant to elicit the real nature of the problem. That is, since they were asked about themselves (about their commitment and initiation), it seems that they give more value for their commitment, but the reality is different from their responses. And the above result seems to be consistent with the argument of Aggarwal (1996:458) which states that lack of commitment, self-initiation and ability of teachers are among the human factors that affect the preparation of IMs by teachers to make students' learning more concrete and meaningful.

4.5 Teachers Commitment and Self- Initiation in Utilizing IMs

Several educators argued that using IMs in class rooms to make students' learning more concrete and meaningful requires teachers' commitment and self- initiation. In line with this issue, data were collected to investigate the status of teachers' utilization of IMs.

Table 3: Teachers Commitment and Initiation in using IMs in Classrooms

Item	Teacher respondents (N =108)
1. To what extent do you show commitment and self-initiation in using IMs to make students' learning more concrete?	
a. high	10(9%)
b. medium	56(52%)
c. low	33(31%)
d. no commitment and self-initiation of teachers	9(8%)
2. If your answer for the above question is "c", what are the reasons?	(N=42)
a .shortage of adequate IMs in the SPC and library	37(88%)
b .the SPC is sometimes closed	5(12%)

As Table 3 depicts, the majority (52 percent) of the respondents said that teachers' commitment and initiation in utilizing IMs was medium. On the other hand, 31 percent of them responded that they had low commitment and initiation in using IMs, and 8 percent of them said that no any commitment and initiation at all.

In addition, those teachers who said low and no commitment and initiation were asked an open ended question to know their reasons. Among them, 88% informed that there was shortage of adequate IMs SPCs and libraries for each subject and grade level.

Apart from the data gathered through questionnaires, interviews were conducted with the heads of SPCs and the school coordinators. And most of their responses show similar views. That is, according to them, teachers' self-

initiation and commitment was low in using IMs in classrooms. On this issue, one of the school coordinators responded that:

Most of the teachers are not initiated and committed to make students' learning more concrete by using IMs in the teaching-learning process. Although there is scarcity of Ims in the SPC, teachers did not use the available materials in most cases. Only some teachers use the available visual materials.

10|02|2008

As one can understand from the response of the above interviewee, teachers' commitment and initiation can be seen as low though there were some attempts in using the available visual materials.

In addition to the data gathered through questionnaires and interviews, classroom observation was made in the sample schools. In this case, the information gained during the observation was more or less similar to the above data. That is, in addition to the black board and pieces of chinks, some of the teachers were using very few visual materials in classrooms. Among these, maps, rulers and charts were used. In addition, some teachers were observed using the available text books to give home work to their students. On the other hand most of the teachers were observed with out IMs in the teaching-learning process. In most cases, they used the traditional way of teaching-learning methodology-chalk and talk in the classrooms. They used the black board and pieces of chinks to write notes and explain what was written on the black board.

✓From the above data gathered from different groups of the respondents and classroom observation, it is possible to understand that most of the teachers show low commitment and self-initiation in using IMs in the teaching-learning process. Although most of the teachers said that their commitment and initiation in using IMs was medium, the information gained from the heads of

SPCs, school coordinators and classroom observation indicate that teachers commitment and initiation appears to be low.

This finding, therefore, seems consistent with Amare (1999:64) who reported that no commitment to provide needed personnel dedicated to the job (preparing and using IMs in the teaching learning process)in Tigray Region.

4.6 Incentive Systems From the School Coordinators to Teachers

As different literatures stated, one of the mechanisms of improving the quality of learning and attaining the educational objectives is the incentive system given by the school directors to teachers. Some of these incentive systems were identified in chapter two. Based on these issues, data were collected to find out whether these incentives were provided or not in the primary schools of national army. Thus, the data are presented as follows.

Table 4: Types of Incentive Systems Given by the School Coordinators to Teachers

Item	Teacher respondents (N = 108)
What types of incentive systems do you get from the school coordinator if you use IMs by preparing and collecting them from different sources?	
a. incentives given in words	65(60%)
b. incentives given in written forms	3(3%)
c. promotion to further education	-
d. no any incentive was given	27(25%)
e. since I have never used IMs, I did not receive any incentive	13(12%)
f. others ,specify_____.	—

As it is clearly observed in Table 4, 60 percent of the teachers responded that they were given incentive in the form of verbal praise. On the other hand, 25 percent of them said that they didn't get any incentive system when they prepare and use IMs. In addition, 12 percent of the teachers responded that they had never used IMs in the teaching-learning process and they didn't get any incentive system. No a single teacher who responded that he has been given a chance for further education.

Thus, from these data, it is possible to understand that most of the primary school coordinators used only verbal praise to initiate teachers who prepare and use IMs, but the other incentive systems which are important to motivate teachers were not given to teachers. For instance, as one can see from table 7, there was not any promotion of teachers for further education to improve their educational level. Moreover, the state of the problem was also indicated by 25 percent of the teachers who informed that any incentive system was not given to them when they prepare and use IMs in the teaching-learning process.

The above result was also approved by the researcher from the interview held with the school directors. That is most of the school directors informed that they didn't give any incentive system to teachers. For instance, during the interview, one of the interviewee reported as:

We didn't give any incentive system to teachers. What we have done is providing the better efficiency results for those teachers who had good personality and were hard workers in general, but not for their participation in preparing and using IMs.

04/07/2000

From this school coordinator's response, it is possible to understand that he did not only give any incentive system to motivate teachers but he did also not identify those committed teachers in preparing and using IMs in the teaching-learning process. This view was commonly reported by most of the school coordinators during the interview.

In this case, it is possible to conclude that the primary school coordinators of the sample schools did not motivate their teachers properly. That is, in relation to using different incentive systems, they didn't discharge their duties and responsibilities as expected to improve the quality of primary education. Unfortunately, this result seems different from the arguments of TMD (2002:13) and Eggen and Kauchack (2006:20) which stated that those primary school coordinators should pay attention and use different incentive systems to motivate teachers in their duties including production and use of IMs. They added that the incentive systems can be given in verbal praise, written form, giving the chance for further education, etc. Among these incentive systems, only verbal praise was found out in the study. Moreover, the result contrasts to the finding of Akalu (2001). He reported that the majority of primary school directors give different incentives to teachers who prepare and use IMs.

4.7 The Support from School Directors to Teachers in Preparing and Using IMs

As several educators stated, at the primary school level, much is dependent up on the effectiveness of the school directors. As a facilitator, the directors must support teachers in preparing and utilizing IMs to improve the quality of education. In relation to this concept, the teacher respondents were asked to indicate the type of support given by the school directors to teachers in preparing and using IMs. And their responses are organized in Table 5.

Table 5: The kinds of Support given by the school coordinators to teachers

Item	Teacher respondents (N = 108)
Choose the item that your school directors performs in your school	
a. He assesses the problems of teachers in preparing and using IMs	6(6%)
b. He gives relevant advice to teachers on how to prepare and use IMs	4(4%)
c. He encourages teachers to discuss on IMs at teachers' meetings	11(10%)
d. no any kind of support is given	87(81%)
e. others ,specify_____.	—

Table 5 depicts that for the majority (81 percent) of the informants, any kind of support was not given by the school coordinators. On the other hand, 10 percent of them responded that the school coordinators encouraged teachers to discuss on IMs on teachers' meetings.

The above data indicate that all the school directors did not give enough support to teachers in preparing and using IMs in schools. This was also confirmed during the interview with the school coordinators. Most of them responded that they didn't give any support to teachers to prepare and use IMs. This lack of support seems because of giving less attention to the quality of primary education by the school coordinators. In addition, some of the directors had additional duties like that of teachers, and still some other directors' low educational level can be accounted for lack of support for teachers in preparing and using IMs in school levels.

4.8 The Distribution of Textbooks to the Army Learners

As it was already stated in chapter two, text books are intended to help learners cover the contents given for the grade levels. Using text books, students can not only covering but they also master the contents of instruction at their own pace. Thus, textbooks can be assumed as the foundation of classroom instruction. Bearing this in mind, data were collected from teacher respondents on the distribution of text books to the army learners. The data are clearly organized in the following table.

Table 6: Student-book Ratio in Different Subjects and Grade Levels

Student -book ratio	Teacher Respondents																				
	Amharic teachers of grade:				English Teachers of grade:				Math Teachers of grade:				S. science Teachers of grade:				Science Teachers of grade:				
	3	4	5	6	3	4	5	6	3	4	5	6	3	4	5	6	3	4	5	6	
1-1	2 (2%)	2 (2%)							1(1%)		2(2%)	2(2%)	1(1%)		1(1%)	2(2%)	1(1%)		1(1%)		15(14%)
1-2	2(2%)	1(1%)	2(2%)	3(3%)	2(2%)	1(1%)	2(2%)	1(1%)	1(1%)	2(2%)	2(2%)	1(1%)	2(2%)	3(3%)	2(2%)		1(1%)	2(2%)	2(2%)	2(2%)	34(31%)
1-3		2(2%)	2(2%)	1(1%)	3(3%)	3(3%)	3(3%)	3(3%)	3(3%)	2(2%)	2(2%)	3(3%)	2(2%)	1(1%)		3(3%)	2(2%)	3(3%)	2(2%)	1(1%)	41(38%)
No textbook for students	2(2%)	1(1%)	2(2%)	2(2%)						2(2%)				2(2%)	1(1%)	1(1%)	2(2%)	1(1%)	1(1%)	2(2%)	18(17%)

Source: Teachers

The evidence in Table 6 reveals that the distribution of text books to students was different in different subjects, grade levels and even schools. In some grade levels and subjects, the ratio was 1-3 and 1-2 or 1-1 in other subjects. In addition some respondents informed that no text books were given to students at all. In general, there was uneven distribution of textbooks to students in the sample schools.

When one observes the total number of the respondents based on each ratio, the ratios (1-3, 1-2 and 1-1) were reported by 38, 31 and 15 percent of teachers respectively. Among these, the majority (38 percent) of teachers informed that text books were given one to three (1-3) students, followed by one to two (1-2) as reported by 31 percent of the teachers.

This indicates that there was shortage of text book distribution in the schools. Moreover, no text book was given to students at all as it was reported by 17 percent of the informants, and this shows that the teaching-learning process was implemented with out text books in some schools.

This result was also confirmed by the researcher during classroom observation and the interview held with the school coordinators. In some classrooms, very few students were observed with textbooks; where as most of the students were with out textbooks. The school coordinators also informed that there was uneven distribution of textbooks to the army learners. As them, in some grade levels and subjects, the ratio was 1-3 or 1-2 and even no text book for students in other subjects and grade levels.

4.9 The Support from Training Main Department (TMD) to Schools in Relation to IMs

Training Main Department (TMD) in Ministry of National Defense is the responsible body in providing facilities, materials, trained manpower, etc for primary schools of national army to improve the quality of primary education

(TMD, 2002:17). Based on this information, the researcher gathered the data which are presented in Table 7.

Table 7: The type of support from TMD to Schools in relation to IMs

Item	Teacher respondents (N =108)
What type of support does TMD provide to your school in relation to IMs?	
a. providing textbooks and teacher guides	30(28%)
b. providing short-term training concerning IMs to teachers	10(9%)
c. providing other IMs	3(3%)
d. no any type of support is given	65(60%)

As Table 7 presents, teachers were asked an open ended question on the types of support from TMD in relation to IMs. And most of the teachers (60%) said that there was not direct support from TMD regarding IMs. On the other hand, 28 percent of them responded that TMD provides text books and teacher guides to those primary schools.

From the above information, it can not be difficult to understand that there was not any kind of support from TMD to those primary schools regarding IMs except distributing inadequate number of text books and teacher guides. On the same issue, the interview held with the school coordinators indicates that the role of TMD concerning IMs was providing text books, teacher guides and training to teachers how to teach, prepare and use IMs.

On the other hand, an interview was held with the head of the Academic Department in TMD. As him, there was not direct support of IMs from TMD to those primary schools because the budget was already provided to the schools, and the school coordinators are responsible to perform almost all the activities

of primary education including preparing, collecting and using IMs. However, the role of TMD was to publish and distribute one textbook to two students; giving short term training to teachers, preparing and giving certificate for those army learners who have completed primary education and giving correction for the final exams prepared for the primary school students. As him, the reason why TMD provides only one textbook to two students was that the budget which was allocated by TMD for text book preparation was intended to distribute only one text book to two students.

From the above information, it is possible to conclude that regarding IMs there was not direct relation between the primary schools and TMD which is responsible for the activities of primary and distance education of the national army. In this case, TMD did not give direct support of IMs to schools, it did not visit and strengthen the SPCs to be equipped with enough IMs. However, its relation with the schools can be expressed in training of teachers and distributing one textbook to two students although this ratio is inadequate for the proper teaching-learning process.

4.10 Types of Instructional Materials (IMs)

Preparing and using different types of IMs in the teaching-learning process can help teachers and students to achieve the intended educational objectives. That is students can get the required knowledge, skill and attitude by using their different senses if teachers use different types of IMs to make students learning concrete, meaningful and problem- solving. All these and other facts were reviewed in detail in chapter two.

Now, it is time to see whether the data of this study are similar to the above theory or not. Thus, the following table indicates the data which were collected based on the types of IMs.

Table 8: Types of IMs that teachers were using in schools.

Item	Teacher Respondents (N = 108)
What types of IMs do you prepare and use to make students' learning more concrete and meaningful?	
a. pictures	38 (35%)
b. map	30(28%)
c. chart	27 (25%)
d. glob	6(6%)
e. all	—
f. I never use IMs	7(6%)

As Table 8 depicts, the majority (35%) of the respondents informed that they used pictures, and 28 and 25 percent of them said maps and charts respectively. On the other hand, 6 percent of the teachers replied that they have never used IMs in the teaching- learning process. And even among the visual materials, only pictures, maps and charts were prepared and used by the majority (88%) of the respondents.

On the other hand, the researcher conducted an observation of SPCs to identify the types of IMs available in the SPCs. During the observation, charts, maps, pictures, and very few globs and models were identified and recorded by the researcher. However, there was lack of other types of visual materials (for instance concrete real objects, posters, flash cards, graphs, etc) which can provide concrete referent for ideas, motivate the army learners by attracting and holding their attention, increase the active participation of the learners, make concrete students' learning and simplify ideas that are difficult to understand and give learners a chance to comprehend visually what they might miss verbally.

In addition to the data gathered through the questionnaires and SPC observation, the researcher conducted interview with the SPC and school coordinators. Almost all their responses were similar to the data gathered through questionnaires from the teachers. They said that most of the teachers were preparing and using maps, charts, and pictures. Sometimes, very few teachers use glob and models of geometric figures.

During the classroom observation, some of the teachers were using the map of Ethiopia and the picture of human reproductive system in addition to the black board and pieces of chalks.

From the above data, it is possible to understand that teachers have tried to prepare and use only visual IMs, but the other types of IMs (audio and audio-visual materials) were not completely used by those teachers. This indicates that the army learners might miss the necessary knowledge, skill and attitude which can be gained from audio and audio-visual materials. For instance, improving their listening skills and pronunciation of words in language learning may not be achieved by those learners. In addition, although there were some visual materials in the SPCs, these were not adequate in the teaching learning process for all subjects and grade levels.

The finding of this study contrasts with the findings of Animaw (2000) which indicates that the electronic devices (radio and tape recorder) were some of the IMs available in the SPCs. On the other hand, this finding appears to be consistent with Bernane (1999) which shows that there were not adequate IMs in SPCs and the available materials were only visual materials.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

As it was mentioned in the previous chapters, the study was intended to investigate the availability, preparation and use of IMs in primary schools of main training centers (TCs) of the national army of Ethiopia. To this end a survey method was employed to conduct the research. Thus, the study was carried out in six primary schools of main training centers of the army. The sources of data in this study were teachers, school and SPC coordinators, and the head of the academic department in TMD. In this case, questionnaire, interview and observation were used to collect the data. The collected data were, then analyzed using percentages and interpreted based on the already specified research questions.

Therefore, based on the analysis of the data, the following major findings of the study are summarized as:

As 100 percent of the teacher respondents informed, there was a school pedagogical center in each sample school. This was also confirmed by the researcher during the observation of the school pedagogical centers.

This study has revealed that teachers used only SPCs as sources of IMs for the teaching-learning process. They did not use other alternative sources when there was shortage of IMs in SPCs.

Though the majority (50%) of the teachers said that they were committed and self-initiated in preparing and using IMs, the data gathered through questionnaires from 44 percent of teachers, the results of the interviews held with the school and SPC coordinators and classroom observation indicate

that teachers' commitment and self-initiation in preparing and using IMs in the teaching-learning process was found to be low.

The main reason for the low commitment and self- initiation of teachers in preparing IMs from local resources was shortage of time because of teachers additional military duties and responsibilities

Similarly, the reason why teachers lacked commitment and initiation in using IMs in the teaching- learning process was unavailability of sufficient IMs in the SPCs and libraries.

It was found that the school coordinators did not use different incentive systems to motivate teachers; they used only verbal praise for teachers who were preparing and using IMs. But the other incentive systems (eg. incentives given in written forms and giving chance for further education) were not provided to teachers.

With regard to the support provided to teachers from the school management, the majority (81%) of teachers indicated that no any kind of support was provided to teachers in preparing and using IMs. This result was also supported by the school coordinators themselves during the interview held with them.

Pertaining to student-book ratio most of the teachers responded that one textbook was provided to three students. Similarly, the head of the academic department in TMD confirmed that TMD provides one text book to two students.

The result of the study revealed that there was not provision of IMs from TMD to those primary schools except inadequate number of text books and teacher guides

Regarding the types of IMs, teachers were using only some visual materials like maps, charts, pictures and globes. They didn't completely use audio and audio-visual materials. In addition, they didn't use other important visual materials, eg. Concrete real objects, models and posters.

5.2 Conclusions

As it was stated in chapter two, that availability of SPCs in schools is a very important factor for the quality of education in general and to initiate teachers, SPC coordinators and students in collecting, producing and using IMs in particular since SPCs are the main sources of IMs at school level. Regarding this issue, this study revealed that all the sample schools had SPCs. Therefore, it is possible to conclude that the advantages of the SPCs were well understood and much attention was given by the school management in constructing SPCs.

To overcome the problem of lack of IMs in schools, teachers and SPC coordinators should collect IMs from different alternative sources. However, it was found that although there were some attempts to collect IMs from some local schools, the majority of the teachers used only SPCs as sources of IMs for the teaching learning process. Hence, it seems reasonable to conclude that the primary schools in general and teachers in particular failed to collect the needed IMs (eg. By borrowing) from other alternative sources to make students learning more concrete and meaningful.

As the finding of the study indicates, teachers' commitment and self-initiation in preparing and using IMs was found to be low. Thus, it seems convincing to say that either teachers were uninterested in the teaching profession or they did not pay much attention to the value of IMs in the teaching-learning process.

As the data showed, the major reasons of teachers' low commitment and self-initiation in preparing and using IMs seem:

- The army teachers were loaded with different military activities and responsibilities in addition to teaching.
- Unavailability of enough IMs in SPCs and libraries

The use of different incentive systems to motivate teachers in preparing and using IMs is very important to improve the quality of students' learning. However, it was found that only verbal praise was used by the school coordinators in motivating teachers. Consequently, it can be concluded that the school coordinators did not pay much attention to motivate teachers who were preparing and using IMs in the teaching- learning process.

Several literatures stated that at the primary school level, much is dependent up on the effectiveness of the school directors. As a facilitator, they must support teachers in preparing and using IMs. However, as the vast majority of teachers indicated, no any support was provided by the school coordinators to teachers in preparing and using IMs. Therefore, it seems logical to conclude that either the educational level of the school coordinators was below expectation or they didn't discharge their duties and responsibilities in supporting teachers in collecting, preparing and using IMs in the teaching-learning process.

Training main department (TMD) in the ministry of National Defense (MOND) is the responsible body in educating the army members, providing facilitates and materials to schools, training teachers how to prepare and use IMs, etc. However, the result of this study revealed that there was not provision of IMs from TMD to those primary schools except inadequate number of textbooks and teacher guides. Thus, it is possible to conclude that no effort was made by TMD to provide the primary schools of main training centers (TCs) of national army with adequate IMs to facilitate students' learning and improve

the quality of primary education. In addition, it did not also pay much attention in the provision of adequate text books for the army learners.

Regarding the types of IMs, the study indicates that teachers used only visual materials in the teaching-learning process, they did not completely use audio and audio-visual materials. Therefore, it seems reasonable to say that the army learners may lack the necessary knowledge, skills and attitude that can be gained by using audio and audio-visual materials in their learning. For instance, they may not improve their listening skill and pronunciation of words in language learning.

5.3 Recommendations

Based on the findings of the study, the following suggestions are forwarded by the researcher.

The result of the study indicates that the army teachers used only SPCs as a source of IMs. No any attempt was made to collect IMs from other sources. Therefore, to alleviate the problem of unavailability of adequate IMs in schools, the schools in general and teachers in particular should use different alternative sources of IMs to make students' learning more concrete and meaningful.

As the findings of the study revealed, teachers' commitment and self-initiation in preparing and using IMs was found to be low. Hence, it is useful to minimize the constraints that contribute to the low commitment and initiations of teachers so that they can collect, prepare and use IMs in the teaching-learning process.

The academic policy of TMD (2002:19) states that the primary school army teachers will be free form different military activities and responsibilities to help them prepare themselves for the teaching-learning process, select the appropriate teaching methods, prepare and use IMs in classrooms. However

the major factors that hinder teachers to show high commitment and self-initiation in preparing and using IMs was found to be teachers' additional military duties and responsibilities. Thus, the concerned body should be devoted to apply what was written in the academic policy. That is, as much as possible, the army teachers should have free time for the purpose of teaching-learning process in general and preparing and using IMs in particular.

Similarly, the main reason for teachers not to show high commitment and self-initiation in using IMs was unavailability of adequate IMs in schools for each subject area and grade level. Thus, to help teachers to use different IMs from SPCs, it is important to equip the SPCs with adequate IMs.

Among the different incentive systems, the school coordinators used only verbal praise for teachers who were preparing and using IMs in the teaching-learning process. It would, therefore, be recommended that the school coordinators should pay much attention to motivate those teachers who prepare and use IMs by using different incentive systems. This can also motivate those teachers who were not observed in preparing and using IMs to participate in collecting, preparing and using IMs.

The study reveals that no any kind of support was provided by the school coordinators to teachers in preparing and using IMs. Thus, as a facilitator, it is imperative that the school coordinators should help teachers in collecting, preparing and using IMs. In addition they should discharge their duties and responsibilities in supporting teachers and improving the quality of primary education.

The findings of this study indicate that no provision of IMs was made by TMD to those primary schools. In addition, it provides inadequate number of textbooks to the army learners. Hence, as a responsible body, TMD should make effort to provide the schools with enough IMs and pay much attention in the provision of adequate textbooks for the army learners.

As it was found in the course of the study, teachers were using only visual IMs in the teaching-learning process because of lack of other types of IMs in schools. Therefore, as much as possible, the concerned body ought to equip the schools with other types of IMs (audio and audio-visual materials) to enable the army learners to use their different senses in their learning and to acquire the necessary knowledge, skill and attitude that can be gained using audio and audiovisual materials in the teaching-learning process.

Finally, it seems reasonable to recommend that the concerned bodies should pay much attention to make students' learning more concrete, meaningful, dynamic, creative and problem-solving by integrating adequate IMs in the teaching-learning process. This is because the army learners will be assigned to different higher positions after they will have completed their primary education and they are expected to contribute a lot in different activities of MOND in particular and in bringing peace and development for the country in general.

REFERENCES

- Abrham Asaro (2001). *Preparation and Use of Instructional Materials in Primary Schools of Wollayta Zone*. Unpublished. M.A. Thesis. Addis Ababa University.
- Aggarwal, J. C, (1996). *Principles, Methods and Techniques of Teaching*. New Delhi: Vikas Publishing House Pvt. Ltd.
- Allan C. Ornstein (1995). *Strategies for Effective Teaching*. (2nd ed.) U.S.A: Brown Communication Inc.
- Amare Asgedom (1998). Communication Theories and Instructional Practice: A Limited Effects, *IER Flambeau* 5 (2): 39-49.
- _____ (1999). Availability and use of Instructional Materials in Tigray Primary Schools, *IER- Flambeau* Vol.7 no. 1 pp. 53-65. Addis Ababa. AAU Printing Press.
- _____ (2000). An Andragogic Approach to Teaching and Learning, *IER Flambeau*, Vol. 8, No. 1, pp. 73-88.
- _____ (and Tasew (1996). *A Survey of Pedagogical Centers in Primary Schools of Addis Ababa*. Addis Ababa: Region 14 Educational Bureau (Unpublished).
- Berhane Girmay (1999). *Hampering Factors to Preparing and Using Instructional Materials: The Case of Mekele Zone*. Unpublished M.A Thesis, Addis Ababa University.
- Best, J.W. and Kahn, J. U. (1999). *Research in Education*. (7th ed). India: Prentice- Hill.
- Betsat Terefe (2000). *Application of Instructional Materials in the Primary Schools of the SNNR*. Unpublished. M.A Thesis, Addis Ababa University.
- Brown,J.et.al.,(1977). *Av Instruction: Technology, Media and Methods*. New York: McGraw- Hill, Inc.

- _____ (1983). *Av Instruction: Technology, Media and Methods* (5th ed) New York: McGraw- Hill, Inc.
- Clark and Star (1996). *Secondary and Middle School Teaching Methods*. (6th ed). New York.
- Dale, E. (1969). *Audiovisual Methods in Teaching*. (3rd ed.) New York: The Dryden Press.
- _____ (1954). *Audio-Visual Methods in Teaching*. New York: Hat, Rinehart and Winston.
- Eggen, P. and Kauchak (2006). *Strategies and Models for Teachers: Teaching Content and Thinking Skills*, (5th ed.) U.S.A
- Ellsworth E and Whatley M. (1990). *The Ideology of Images in Educational Media*. New York: Colombia University.
- Farrant, J. S. (1980). *Principles and Practices of Education*. Singapore: Selector Printing Co. Ltd.
- Frankel J. and Walen, N. (1993). *How to Design and Evaluate Research in Education*. (2nd ed.)New York: McGraw-Hill. Inc.
- Haney and Ulmer (1971). *Educational Media and the Teacher*. U.S.A. : Brown Company Publishers.
- Hass, B. and Packer, Q. (1965). *Preparation and use of Audio-Visual Aids*. (3rd ed.) U.S.A: Prentice- Hall, Inc.
- Heinich et.al.,(1996). *Instructional Media and Technology for Learning*. (5th ed). New Jersey: Prentice- Hall Inc.
- Kemp, E (1968). *Planning and Producing Audio- visual Materials*. (2nd ed.)U.S.A. Chandler Publishing Company
- Kinder, J. (1959). *Audio- Visual Materials and Techniques*. (2nd ed.) New York: Americana Book Company.
- _____ (1989). *Audio- Visual Materials and Techniques*. (3rd ed.) New York: Americana Book Company.

- Kumar, Ranjit (1999). **Research Methodology: A Step-by-Step Guide for Beginners**. London: Sage Publications. Inc.
- McInnes J. (1980). **Video in Education and Training**. New York: Focal Press Inc.
- MOE (2002). **The Education and Training Policy and its Implementation**. Addis Ababa.
- Muijs and Reynolds (2001). **Introduction to Media**. New York: Focal Press Inc.
- Polard (2002). **Reflective Teaching: Effective and Evidence-Informed Professional Practice**. Great Britain: Bookcraft (Bah) Ltd.
- Romisjowski, J. (1974). **The Selection and Use of Instructional Media**. Kogan Page Limited.
- Saettler, P. (1968). **A History of Instructional Technology**. New York: McGraw-Hill Book Company.
- Sampath, K. et. al., (1990). **Introduction to Education Technology**. New Delhi: Sterling Publishing Ltd.
- Sharma, B. (2005). **Media and Education**. New Delhi: Common Wealth Publishers.
- Teshome Mekatibeb (1998). **Media Utilization and School Improvement: A Case Study of Primary Education Radio Support Programs in Ethiopia**. Stockholm: Stockholm University.
- Training Main Department (2002). **Knowledge of Pedagogics**. Addis Ababa. Unpublished.
- _____ (2002). **The Academic Education Policy**. Addis Ababa. Unpublished
- Wittich, W and Schuller, C. (1973). **Audio-Visual Materials: Their Nature and Use**. (2nd ed.)New York: Harper and Brothers.

APPENDIX -A
Addis Ababa University
Faculty of Education

Department of Curriculum and Instruction

Questionnaire for the Army Teachers in Primary Schools of Main Training Centers of the National Army

Title of the study- Preparation and utilization of instructional materials in primary schools of main training centers of national army.

Objective of the questionnaire:- to gather data that enable to investigate the state of preparation and utilization of instructional materials in those primary schools and to suggest solutions for the identified problems.

Dear Research Partners!

First of all, I would like to thank you for being volunteer to fill this questionnaire. The information you provide will be used only for the purpose of the study. Thus, be sure that you will not face any problem in relation to this study. Hence, you are kindly requested to respond honestly, kindly and thoughtfully,. The success of the study depends on your genuine information. Therefore, you are expected to contribute a lot to the study by filling the questionnaire with the sense of responsibility.

NOTICE:

- a. you are not expected to write your name.
- b. you are kindly requested to answer all the questions.
- c. please, indicate your choice by encircling one of the letters of the choices.
- d. If you have any particular answer different from the given choices, write your answer on the space provided. And the same is true for open-ended questions.

Thank you very much for your collaboration!

10. Where do you find the IMs required in the teaching- learning process?
- A. from SPC
 B. from the school library
 C. from other local schools
 D. by preparing from local materials
 e. from local organizations
 f. from Training Main Department
 g. others _____
11. What types of IMs do you prepare and use to make student's learning more concrete and meaningful?
- _____
- _____
12. To what extent do you and other teachers show commitment and self- initiation in preparing IMs in the teaching-learning process?
- A. high B. Medium C. Low
 D. no any commitment and self-initiation of teachers
 E. others _____
13. If your answers for question "12" are "C" or "D", what are the reasons?
- _____
- _____
14. To what extent do you and other teachers show commitment and self- initiation in suing IMs to make students' learning more concrete?
- A. high B. Medium C. Low
 D. no any commitment and self-initiation of teachers
 E. others _____
15. If your answers for question "14" are "C" or "D", what are the reasons?
- _____
- _____
16. What types of incentive systems do you get from the school coordinator if you use IMs by preparing and collecting them from different sources?

- A. incentives given in words
- B. incentives given in written forms
- C. promotion to further education
- D. No any incentive was given
- E. since I have never used IMs, I did not receive any incentive
- F. Others, specify _____

17. Choose the item that your school coordinator performs in your school.

- A. He assesses the problems of teachers in preparing and using IMs and provides immediate solutions.
- B. He gives relevant advice to teachers on how to prepare and use IMs
- C. He encourages teachers and gives time to discuss on IMs at teachers' meetings
- D. No any type of support is given
- E. Others, specify _____

18. What is the student-book ratio for the subject you teach at present?

- A. 1-1
- B. 1-2
- C. No text books for students
- D. 1-3
- E. Others _____

19. What types of support does Training Main Department provide to your school in relation to IMs?

20. In general if you have any other idea and suggestion regarding the preparation and utilization of IMs, please write it on the given space

APPENDIX -B
Interview Items for the School Coordinators

a. Training center _____

b. Name of the school _____

1. What do teachers use as a source to find IMs?

2. What types of IMs do teachers use in the teaching-learning process?

3. How do you evaluate teachers' commitment and self-initiation in preparing and using Ims?

4. What types of incentive systems do you provide for teachers who prepare and use IMs in classrooms?

5. Is there any attempt to improve teachers' knowledge and skill that enable them to prepare and use IMs?

6. Choose the item that you perform in your school to support teachers in preparing and using IMs.

- a. assessing their problems and providing immediate solutions
- b. giving relevant advice for teachers on how to prepare and use IMs
- c. encouraging teachers to discuss on teachers' meetings

d. no any type of support is given

e. others, specify _____

7. What are the constraints that teachers face in preparing and using IMs?

8. What is the student -book ratio in each subject and grade level?

9. Is there any support from TMD to your school regarding Ims?

10. What are the problems that teachers face in using the available IMs in the school?

11. In general, if you have any additional idea and suggestion regarding to collecting, preparing and using IMs and the problems related to this, please specify it

APPENDIX - C

Interview Items for the SPC Coordinators

a. Training center _____

b. Name of the school _____

1. What do teachers use as a source to find IMs?

2. What types of IMs do teachers use in most cases?

3. Do teachers prepare IMs in the SPC?

4. How do you evaluate teachers' commitment and self-initiation in preparing and using IMs?

5. What is your support to teachers in collecting, preparing and using IMs?

6. Did you try to collect IMs from local organizations and make available in the SPC?

7. What are the main problems the teachers face in preparing and using IMs?

8. What is the role of TMD regarding IMs?

9. Is there any support from the school coordinator to teachers in preparing and using IMs?

10. In general if you have any suggestion regarding to the collection, preparation and use of IMs, please specify it _____

APPENDIX- D

Interview Items For the Head of the Academic Department in MOND

1. What kind of information do you have regarding the preparation and use of IMs in the primary schools of main training centers of the national army?

2. Is there any system that TMD provides support to those schools regarding IMs?

3. Is there any mechanism to improve the quality of the teaching-learning process in those schools and to enhance the preparation and use of IMs?

4. What is the student -book ratio? _____

5. In general, how do you evaluate teachers' commitment and self-initiation in preparing IMs from local resources and using them in the teaching-learning process?

APPENDIX - E

አዲስ አበባ ዩኒቨርሲቲ የስነ ትምህርት ኮሌጅ የካሪኩለምና የመምህራን ሙያ ዕድገት ጥናት ት/ክፍል የድህረ ምረቃ ኘርግራም አዲስ አበባ

በሐገር መካከያ ሚኒስቴር ሥር በሚገኙ የማሠልጠኛ ማዕከላት ውስጥ ባሉት አንደኛ ደረጃ ት/ቤቶች በሚያስተምሩ መምህራን የሚሞላ የፅሁፍ መጠይቅ

የጥናቱ ርዕስ:- በብሔራዊ ጦር ማሠልጠኛ ማዕከላት ውስጥ በሚገኙ አንደኛ ደረጃ ት/ቤቶች የት/ መርጃ መሣሪያዎች አዘገጃጀትና አጠቃቀም።

የመጠይቁ አላማ:- ከላይ በተገለፁት አንደኛ ደ/ት/ቤቶች ውስጥ የት/መርጃ መሣሪያዎች አዘገጃጀትና አጠቃቀም ሁኔታን፣ በዚህም፣ ረገድ የሚታዩ ችግሮችን ለማቃለል የማረዱ የመፍትሔ ሀሳቦችን ለመጠቀም የሚያስችል መረጃ መሠብሰብ ነው።

ውድ የዚህ ጥናት ተሳታፊ የሆኑት መምህር ከሁሉ አስቀድሜ ይህን የፅሁፍ መጠይቅ ለመሙላት ፈቃደኛ በመሆንም በጣም አመለካከት ለሆነው ፈቃደኛና ግልፅ ሁነው የሚሰጡት ማንኛውም መረጃ ለጥናቱ አላማ ብቻ የሚውል መሆኑን አስቀድሜ አረጋግጥልዎታለሁ። በመሆኑም ከዚህ ጥናት ጋር ተያይዞ በእርስዎ ላይ የሚመጣ ምንም አይነት ችግር አለመኖሩን በታማኝነት አረጋግጥልዎታለሁ። ስለዚህ እርስዎ በታማኝነት፣ በቅንነት፣ በግልፅነትና ከሁሉም በላይ በፈቃደኝነት የሚሰጡት ትክክለኛ መረጃ ለጥናቱ መሳካት ከፍተኛ አስተዋፅኦ ስለሚኖረው መጠይቁን የሙያ ኃላፊነት በተሞላበት መንፈስና እንዲሁም በጥንቃቄና በተክክል በመሙላት የበኩልዎን አስተዋፅኦ እንዲያበረክቱ በትህትና እጠይቃለሁ።

ማሳሰቢያ:-

ሀ. ስምዎን መጻፍ አያስፈልግዎትም

ለ. ጥያቄዎቹን አንድም ሳያስቀሩ በመመለስ የተሟላ መረጃ እንዲሠጡ አደራ እላለሁ።

ሐ. ለእያንዳንዱ ጥያቄ ከተሠጡት አማራጭ መልሶች መካከል እርስዎ መልስ ይሆናል ብለው ያመነበትን አማራጭ የሚወክለውን ፈደል ይክበቡት።

መ. ለአንዳንድ ጥያቄዎች ከተሠጡት አማራጭ መልሶች የተለየ ሌላ መልስ ከአለዎት እንዲሁም ምርጫ ለሌላቸው ክፍት ጥያቄዎች መልስዎን ለዚህ በተዘጋጁት ክፍት ቦታዎች ላይ ይጻፉ።

ጊዜዎን ሠውተው ላደረጉልኝ ትብብር ሁሉ ልባዊ ምስጋናዬን ከወዲሁ አቀርባለሁ።

ክፍል አንድ:- የግል ሁኔታ መረጃዎች

1. እርስዎ የሚገኙበት የሰልጠና ማዕከል _____

2. አሁን የሚያስተምሩበት ት/ቤት ስም _____

3. ያታ:- ሀ. ሴት ለ. ወንድ

4. እድሜ _____

5. የት/ደረጃ:-

ሀ. 10ኛ ያጠናቀቀ (ች) መ. ዲግሎማ

ለ. 12ኛ ያጠናቀቀ(ች) ሠ. ሌላ ካለ ይገለፅ _____

ሐ. 12-ቲማማህ

6. በመምህርነት ያገለገሉባቸው አመታት ብዛት _____

7. አሁን የሚያስተምሩት የት/አይነት _____

8. የሚያስተምሩበት የክፍል ደረጃ

ሀ. 3ኛ ለ. 4ኛ ሐ. 5ኛ መ. 6ኛ ሠ. ሌላም ካለ ይገለፅ _____

ክፍል ሁለት:- መሠረታዊ መረጃዎች

9. እርስዎ በሚያስተምሩበት ት/ቤት ውስጥ የትምህርት ውስጥ የትምህርት ማበልፀጊያ ማዕከል ይገኛል?

ሀ. አዎ ለ. አይገኝም

10. እርስዎ ለማያስተምሩት የት/አይነት የማያስፈልጉዎትን የት/መርጃ መሳሪያዎች የሚያገኙት ከየት ነው?

ሀ. ከት/ማበልፀጊያ ማዕከል ለ. ከቤተ መጻሕፍት

ሐ. በአካባቢው ከሚገኝ የሕዝብ ት/ቤት

መ. በአካባቢው ከሚገኙ ሌሎች ድርጅቶች

ሠ. በአካባቢው ከሚገኙ ነገሮች በማዘጋጀት

ረ. ከስልጠና ዋና መምሪያ

ሰ. ሌሎች ካሉ ይግለፁ _____

11. የተማሪዎችን ትምህርት ተጨባጭና ትርጉም ያለው ለማድረግ እርስዎ የማያዘጋጁአቸውና የሚጠቀሙባቸው የት/መርጃ መሣሪያዎች ምን ምን ናቸው? _____

12. እርስዎና ሌሎች መምህራን የት/መርጃ መሣሪያዎችን በአካባቢው ከሚገኙ ነገሮች ለማዘጋጀት የምታደርጉት ተነሳሽነትና ጥረት ምን ያህል ነው?

ሀ. ከፍተኛ

ለ. መካከለኛ

ሐ. ዝቅተኛ

መ. የሚደረግ ጥረት የለም

ሠ. ሌላ ካለ ይገለፅ _____

13. ለጥያቄ ቁጥር 12 መልስዎ «ሐ» እና «መ» ከሆኑ ምክንያቶቹ ምንድን ናቸው? _____

14. እርስዎና ሌሎች መምህራን የት/ መርጃ መሣሪያዎችን በክፍል ውስጥ ለመጠቀም የምታደርጉት ተነሳሽነትና ጥረት ምን ያህል ነው?

15. ለጥያቄ ቁጥር 14 መልስዎ «ሐ» እና «መ» ከሆኑ ምክንያቶቹ ምንድን ናቸው?

16. እርስዎ የት/መርጃ መሳሪያዎችን በማዘጋጀትና ከተለያዩ ቦታዎች በማምጣት የሚጠቀሙ ከሆነ ከት/ቤቱ አስተባባሪዎች የተሠጠዎት ማበረታቻ ምንድን ነው?

ሀ. የቃል ማበረታቻ ሐ. የከፍተኛ ትምህርት ዕድል?

ለ. የዕሁፍ ማበረታቻ መ. ምንም አይነት ማበረታቻ አልተሠጠኝም

ሠ. ሌላ ካለ ይገለፅ

17. ከሚከተሉት ውስጥ በት/ቤትዎ አስተባባሪ/ርዕሠ መምህር የሚከናወኑትን ተግባራት በመምረጥ ያመልክቱ:: ከአንድ በላይ መምረጥ ይቻላል::

ሀ. መምህራን የት/መርጃ መሳሪያዎች ለማዘጋጀትና ለመጠቀም የሚገጥሟቸውን

ችግሮች በመለየት መፍትሔ ይሠጣሉ

ለ. መምህራን መሳሪያዎቹን እንዴት ማዘጋጀትና መጠቀም እንደሚችሉ ጠቃሚ

ምክሮችን ይለግሳሉ

ሐ. በመምህራን ስብሰባ ላይ የት/መርጃ መሳሪያዎችን በተመለከተ ውይይት እንዲደረግ ያበረታታሉ

መ. ምንም አይነት ድጋፍ አይደረግም

ሠ. ሌላ ካለ ይገለፁ

18. እርስዎ ለሚያስተምሩት የት/አይነት የተማሪው መማሪያ መጽሐፍ ለተማሪዎች ምን ያህል ተዳርሷል?

ሀ. አንድ መጽሐፍ ለአንድ ተማሪ

- ሰ. አንድ መጽሐፍ ለሁለት ተማሪ
- ሐ. አንድ መጽሐፍ ለሶስት ተማሪ
- መ. የተማሪ መጽሐፍ አልተሠጠም
- ሠ. ሌላ ካለ ይግለፁ

19. የት/መርጃ መሳሪያዎችን በተመለከተ ስልጠና ዋና መምሪያ ምን አይነት ድጋፍ ያደርጋል?

20. በአጠቃላይ የት/መርጃ መሳሪያዎችን አዘገጃጀትና አጠቃቀም በተመለከተና ከዚህም ጋር ተያይዘው ስለሚነሱት ችግሮች በዚህ መጠይቅ ውስጥ ያልተዳሰሡ ሀሳቦችና አስተያየቶች ካሉዎት ቀጥሎ ባለው ክፍት ቦታ ላይ ይጻፉ

APPENDIX -F

ከት/ቤት አስተባባሪዎች (ርዕሰ መምህራን) ጋር የሚደረግ ቃለ መጠይቅ (Interview)

ሀ. የስልጠና ማዕከል _____

ለ. የት/ቤቱ ስም _____

1. መምህራን የት/ መርጃ መሳሪያዎችን ለማግኘት እንደ ምንጭነት የሚቀሙት ምንድን ነው?

2. መምህራን በብዛት የሚጠቀሙባቸው የት/መርጃ መሳሪያዎች ምን ምን ናቸው? ለምን? _____

3. መምህራን የት/መርጃ መሳሪያዎችን ለማዘጋጀትና ለመጠቀም የሚያደርጉትን ጥረትና የራስ ተነሳሽነት እንዴት ይገመግሙታል?

4. የት/መርጃ መሳሪያዎችን አዘውትረው ለሚያዘጋጁና በክፍል ውስጥ ለሚጠቀሙ መምህራን የሚሠጥ ማበረታቻ አለ? ከአለ ምን ዓይነት ማበረታቻ ነው?

5. መምህራን የት/መርጃ መሳሪያዎችን ለማዘጋጀትና ለመጠቀም የሚያስችል ዕውቀት፣ ችሎታና ክሊል በየጊዜው እንዲያዳብሩ ለማድረግ ምክርና ድጋፍ እንዲያገኙ ተሞክሯል?

APPENDIX -G

ከትምህርት ማበልፀጊያ ማዕከል አስተባባሪዎች ጋር የሚደረግ ቃለ መጠይቅ (Interview)

ሀ. የስልጠና ማዕከል-----

ለ. የት/ቤቱ ስም -----

1. መምህራን የት/መርጃ መሳሪያዎችን ለማግኘት እንደምንጭነት የሚጠቀሙት ምንድን ነው?

2. መምህራን በብዛት የሚያዘጋጁአቸውና የሚጠቀሙባቸው የት/መርጃ መሳሪያዎች ምን ምን

3. መምህራን የት/መርጃ መሳሪያዎችን በት/ማበልፀጊያ ማዕከል ውስጥ ያጋጃሉ?

4. መምህራን የት/መርጃ መሳሪያዎችን ለማዘጋጀትና ለመጠቀም የሚያደርጉትን ጥረትና የራስ ተነሳሽነት እንዴት ይገመግሙታል?

5. መምህራን የት/መርጃ መሳሪያዎችን እንዲያዘጋጁና እንዲጠቀሙ እርስዎ የሚያደርጉት እገዛ ምንድን ነው?

6. እርስዎ የት/መርጃ መሳሪያዎችን ከሌሎች ድርጅቶች በመሰብሰብ በት/ማበልፀጊያ ማዕከል እንዲገኙ አድርገው ያውቃሉ?

7. መምህራን የት/መርጃ መሳሪያዎችን ለማዘጋጀትና ለመጠቀም የሚገጥሙአቸው ዋና ዋና ችግሮች ምንድን ናቸው?

8. የት/መርጃ መሳሪያዎችን በተመለከተ ስልጠና ዋና መምሪያ የሚያደርግላችሁ ድጋፍ ምንድን ነው?

9. መምህራን የት/መርጃ መሳሪያዎችን ለማዘጋጀትና ለመጠቀም የሚገጥሙአቸውን ችግሮች ለማቃለል የት/ቤቱ አስተባባሪ የሚያደርጉላቸው ድጋፍ አለ?

10. በአጠቃላይ የት/መርጃ መሳሪያዎችን አሰባሰብ፣ አዘገጃጀትና አጠቃቀም በተመለከተ የሚሰጡት አስተያየት ካለ

APPENDIX - H

Observation check-list/at school level)

I. Classroom observation

A. General Information

1. Training center _____
2. Name of the school _____
3. Grade and section _____
4. Length of observation time _____
5. Teacher's qualification _____
6. Teaching experience _____
7. Subject _____
8. Number of students having textbook during observation _____
9. Types of IMS presented in the classroom _____

10. List of IMS available in the classroom _____

11. The sources of these IMS _____

B.	Teacher's use of IMS in classroom	Check		
		Yes	No	Others
1	He uses the text book to give class and home work			
2	He uses the blackboard correctly			
3	Lets students practice on the blackboard			
4	Shows effort to make clear the content using IMS			
5	Students are motivated using IMs in their learning			
6	Other observed variables			

II. Observation at School Pedagogical Center and Library

1. Presence of spc- a, Yes b, No

2. Presence of library- a, Yes b, No

3. Type and quantity of Ims available in spc and library for various subjects

No	Types of Ims in Spc	Subject	Quantity
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
	Types of Ims in library		
1			
2			
3			
4			
5			
6			

4. Availability of Ims in the school (spc and library) is

a. adequate b. average c, few d, other _____

5. Most of those Ims are:

A, produced by teachers b, purchased

C, donated d, borrowed

E, others _____

6. Other observed variables _____

APPENDIX - I

በስልጠና ዋና መምሪያ ከአካዳሚ ትምህርት ክፍል

ኃላፊ ጋር የሚደረግ ቃለ መጠይቅ (Interview)

1. በዋና ማሰልጠኛ ማዕከላት ሥር በሚገኙት አንደኛ ደረጃ ት/ቤቶች ውስጥ የሚደረጉትን የት/መርጃ መሳሪያዎች አዘገጃጀትና አጠቃቀም በተመለከተ ያላችሁ መረጃ ምን ይመስላል?

2. ስልጠና ዋና መምሪያ የት/መርጃ መሳሪያዎችን በተመለከተ ለት/ቤቶች ድጋፍ የሚሰጥበት አሠራር አለ?

3. በት/ቤቶች ውስጥ የሚካሄደውን የመማር ማስተማር ክንውንና የት/መርጃ መሳሪያዎችን አዘገጃጀትና አጠቃቀም የተሻለና ጥራቱን የጠበቀ ለማድረግ የሚደረገ ክትትል አለ?

4. አንድ የተማሪው መማሪያ መጽሐፍ ለስንት ተማሪ ይሰጣል?

5. በአጠቃላይ መምህራን የት/መርጃ መሳሪያዎችን በአካባቢ ከሚገኙ ነገሮች ለማዘጋጀትና ለመጠቀም የሚያደርጉትን የራስ ተነሳሽነትና ጥረት እርስዎ እንዴት ያዩታል?

APPENDIX "J"

variables	Characteristic categories	Respondents Teachers(N=108)	
		No	%
Sex	Male	108	100
	Female	0	0
Age	20-25	5	5
	26-30	62	57
	31-35	33	31
	36-40	4	4
	Above 40	4	4
Educational level	10 th grade complete	6	6
	12 th grade complete	40	37
	12+TTI	36	33
	Diploma	26	24
Years of experience in teaching	1-5	20	19
	6-10	56	52
	11-15	30	28
	16-20	2	2

DECLARATION

I, the undersigned, declare that this thesis is my original work and has not been presented for a degree in any other university, and that all sources of materials used for the thesis have been duly acknowledged.

Name: **Abebe Kebede Assegu**

Signature: 

Date: 29/10/2000

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

Name: **Amare Asgedom (Dr.)**

Signature: 

Date: 26/6/2008