An Investigation into Teachers' State of Formulation and Utilization of Instructional Objectives

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Abstract: This study was designed to assess Bahir Dar Preparatory School teachers' state of formulating and utilizing of instructional objectives. In an attempt to realize this research objective, 54 teachers of Bahir Dar Preparation School were taken as a target population. Out of these, 13 teachers were selected using random sampling technique from the list available in the school. To gather data from the selected teachers, observation and document analysis were used. Each of the 13 teachers was observed two times by the researcher and curriculum expert. Document analysis was also made on the instructional objectives available from the lesson plans secured by the two data collectors. Data obtained from document analysis and observation were analyzed using percentages and one sampled t-test, respectively. The findings indicate that instructional objectives were clear, measurable, and observable. They indicate the content in which the learner operates his/her learned behavior. They are also appropriate to learners' potential and are constructed using concrete terminologies. They are achievable (doable) within the available time, and stated in terms of the learner's behavior. However, most objectives were formulated from the cognitive domain, mainly from lower order behavioral changes; some from the psychomotor domain but none from the affective domain. On the other hand, the consideration of instructional objectives in case of revising previous lesson contents and asking questions that bring high students' performance, the intended learning outcomes and employing appropriate methods, materials, modalities that foster student achievement of the formulated learning outcomes were above the expected value. The performance levels of teachers at communicating the instructional objectives to students and at assessing students' attainment of the intended learning outcomes were below the expected value. In light of these findings, there seems to be a need to provid orientations to the teachers on the benefits of communicating lesson objectives at the onset of a session/lesson delivery. In addition, training with emphasis on the ways and means of assessing students' attainment of the intended learning outcomes and maintaining a reasonable balance between and among instructional objectives from the three domains and their respective levels seem in order.

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Background of the Study

Recent writers state that the development of education as a field of study started before 200 years (Wolf, 1995). Probably, this long aged field of study required the efforts of different scholars, educators and psychologists to develop various theories and principles in the area of education. For instance, the development of instructional objectives by Tyler during the 1930s (Lindual, 1969:4), the applications of cognitive and behavioral theory of learning during the 1960s and the development of taxonomy of learning outcomes by Bloom and his colleagues during the 1960s (Cruickshank et al, 1995) are a few to mention.

These theories and principles of education need not be used only on the spot of their first development, rather like any cultural assets of the society; their importance is transmitted from generation to generation specially by means of formal education. In support of this, Plass (1998) in Tilahun et al (2004) contends that education is used as medium of transmission for the already preserved cultural assets to its youth by keeping the unique nature of the society. Hence, to be fruitful at transmitting these preserved cultural assets to the society and to bring a desirable behavioral change in the individual's life, education is required to be framed around certain purposes or expectations which could be refined and outlined at various levels of specificity, like aims, goals and objectives (Derebsa et. al, 1999).

Actually, educational aims are prepared to indicate the overall directions and purposes of educational activities at a philosophical level (Taba, 1962). Whereas goals of education are prepared at a condensed level of generality from the successive refinements of aims to provide a direction for teachers and curriculum decision makers of what they should accomplish in terms of students' learning as a result of particular educational programs (Derebsa et. al, 1999).

The existing curriculum literature shows that goals and aims of education have both strengths and weaknesses. Borich (1988, p. 81), for instance, notes that

goals and aims of education share the following strengths and weaknesses in achieving certain educational purposes:

> The strength of goals and aims is that they provide a general direction for curriculum reform, state and national mandates, and local school district policies. Their weakness, however, is that they are not necessarily tied to specific curriculum and do not provide either the strategies for attaining a particular end result or the means of knowing when the end is successfully achieved.

The above idea summarizes that aims and goals of education have a functional role in guiding education by proposing certain expectations or end points. However, they do not precisely define how and with what result these end points are achieved. As a result, it is mandatory to derive specific instructional objectives in line with aims and goals that indicate practical and precise outcomes of a particular "project" or "curriculum" (Derebsa et. al, 1999). The task of converting these broad and general expectations of education to a more specific and practical instructional objectives lays on the shoulder of classroom teachers (Borich, 1988).

In line with this, McNeil (1996) contends that teachers who bother to formulate and employ appropriate instructional activities to realize the intended learning outcomes are more effective than reckless teachers. In addition, Sosniak (1995) argues that lack of attention to instructional objectives by teachers influences the effectiveness of instruction. McNeil and Sosniak remind us that to be effective and efficient in the process of actual teaching-learning situation, teachers are required to be concerned about the formulation and utilization of instructional objectives. Hence, this study has been designed to assess Bahir Dar Preparatory School teachers' practice in formulating and utilizing the instructional objectives.

Statement of the Problem

It is important to know where one wants to go before one charts the course of the journey (Sosniak, 1995). Teachers are required to plan the subject matter before the actual instructional time begins. Certainly, planning begins with the formulation of instructional objectives (Eggan and Kanchank, 1994). However, the specification of instructional objectives seems controversial between the proponents of behavioral and non-behavioral psychologists (Oliva, 1995).

Instructional objectives, according to behaviorists, show the learner's behavior in measurable, observable, and specific terms such as; "list….", "solve ....' etc. Whereas, adherents of non behavioral psychology contend that much learning can occur when statement of learning outcomes are stated in the form of covert, less specific and open ended terms such as to: "introduce....", "further....", etc., (Cohen et al,1996, p. 60).

The basic point that indicates the difference between behavioral objectives and non-behavioral objectives seems to be the degree of restricting learning opportunities by outlining more specific, overt and quantifiable students' behavior. However, McNeil (1996, p. 52) pointed out that, "The focus upon specific objectives for a particular learner doesn't appear to restrict pupils' advancement only to the objectives stated, but leads to increased achievement in a range of desirable directions". Derebssa et al. (1999, p. 110) on their part asserted that behavioral objectives are more advantageous in determining educational intentions because of their specificity and concreteness.

Different scholars such as Tyler (1949), Mager (1962) and Gronlund (1965), in Eggan and Kanchek (1994), suggest different mechanisms of formulating instructional objectives. In terms of its popularity and relevance to the curriculum materials, however, Gronlund's principles of formulating instructional objectives are more supported by teachers (Derebssa et. al., 1999). Instructional objectives should be formulated from general objectives stated using general terms such as "understand", "know", etc., followed by

specific learning outcomes that operationally define what is meant by "understand", "know", etc., (Eggan and Kanchek,1994). In addition, Cruickshank et al. (1996) state that well formulated instructional objectives are relevant to the curriculum and written in terms of the learner's behavior. They are prepared in line with the readiness and ability levels of the learner. In addition, such objectives balance higher and lower level outcomes outlined across the cognitive, affective and psychomotor domains of learning.

However, formulating instructional objectives cautiously doesn't lead to quality instruction on its own. It needs to be supported by consistent and relevant instruction that focuses on the realization of the formulated objectives (Cole and Chan, 1994). Hence, teachers in the introduction, presentation, consolidation and assessment parts of their instruction are expected to apply activities that directly foster the utilization of the intended learning outcomes. In this regard, Cole and Chan (1994) assert that teachers in the introduction phase of their instructional period can challenge learners by questions, presentations or using advance organizers based on the intended learning outcomes. Furthermore, in the presentation stage of their instructional time they can also employ methods and materials that have direct contribution to the realization of the instructional objectives. In the last instructional phase, teachers are required to assess the attainment of the day's instructional objectives (Cole and Chan, 1994).

However, this researcher in his practicum observation session at BDU and at many high schools in different places has observed inappropriate formulation and utilization of instructional objectives. It is from this background that the researcher is initiated to assess teachers' state of formulation and utilization of instructional objectives by proposing the following leading questions:

- Are teachers' instructional objectives formulated in accordance with relevant criteria of formulating instructional objectives in advance of the instructional time?
- Do teachers select and use relevant activities that enable them to achieve instructional objectives?

- ▪ Is there any relationship between stating lesson objectives and applying relevant activities that lead to utilization of lesson objectives?

Purpose of the Study

The purposes of the study are to investigate whether:

1. teachers formula instructional objectives following basic criteria used to state objectives, and
2. relevant activities which enable teachers to realize the formulated learning outcomes are applied.

Significance of the Study

This study may have the following significance. It may:

- ▪ suggest information that may provide awareness for teachers regarding their state of formulation and utilization of instructional objectives;
- ▪ inform teacher trainers, supervisors and principals about the profiles of teachers in formulating and utilizing instructional objectives; and
- ▪ serve as a point of reference for other researchers to conduct research in the area of instructional objectives at a higher scope.

Delimitation and Limitation of the Study

The scope of this study is delimited to the state of formulating instructional objectives, and selection and utilization of appropriate instructional activities, which lead to the realization of the formulated objectives. It is concerned only with criteria of formulating and actualizing instructional objectives. The effect of gender, experience, area of specialization, and teacher qualification were not considered.

Moreover, it would have been more conclusive if this study had been conducted at a national level, but economic shortage and preference of

obtaining manageable data limited the study to Bahir Dar Preparatory School teachers. Thus, the results obtained from this study may not be generalized.

Definition of Important Terms

- **State:** competency of teachers in formulating and utilizing instructional objectives.
- **Formulation of instructional objectives:** preparation of specific learning outcomes (Lindval, 1969). Therefore, in this study formulation of instructional objectives refers to preparing instructional objectives as part of lesson plans prepared by Bahir Dar Preparatory School teachers.
- **Utilization of instructional objectives:** An attempt to achieve the formulated instructional objectives using appropriate selection and application of relevant instructional activities.

Literature Review

This part of the research report reviews current literature on the state of teachers' formulation and practicing of the different instructional activities along the following subtopics: concept of instructional objectives, procedures of formulating instructional objectives, principles of formulating instructional objectives, common characteristics of well formulated instructional objectives, and utilization of instructional objectives.

Concept of Instructional Objectives

Different educators conceptualize instructional objectives in various ways. Airasian(1997, p. 78), for instance, defines it as "statements that describe the things pupils are expected to be able to do after instruction." In addition to this, Cruickshank et al. (1995, p. 153) define it as "statement of concepts, skills, and attitudes that the student is expected to accomplish by the end of instruction."

As emphasized in the excerpts, instructional objectives are expectations which the practitioner accomplishes at the end of instructional delivery. To explain it further, instructional objectives are the intended learning outcomes of instruction. For example, learner is expected to master certain skills, feelings, and thinking abilities as a result of instruction.

Procedures of Formulating Instructional Objectives

Cruickshank et al. (1995) suggest teachers consider the following steps while they formulating instructional objectives: deciding the kind of learning outcome/s, determining the general or specific objectives, and determining information to be included in writing instructional objectives.

▪ **Deciding the Kind of Learning Outcomes**

Bloom et al. (1956) in Cruickshank et al. (1995) classify learning outcomes into three domains: cognitive, affective, and psychomotor. Krathwohl (1969, p. 20) summarizes the three domains as follows.

> The cognitive domain includes those objectives having to do with thinking, knowing, and problem solving; the affective domain includes those objectives dealing with attitudes, values, interest etc. whereas the psychomotor domain covers objectives having to do with manual and motor skills and has yet be developed.

The idea implies that each domain involves different kinds of learning behaviors. That is, the cognitive connotes remembering or reproducing of something that has been learnt to solve various kinds of problems; the affective incorporates interests, feelings, attitudes, and the psychomotor domain involves certain skills that are optimistically developed.

Instructional objectives are   also classified within domain by level or complexity of learning outcomes.   The levels of each of the domains are arranged hierarchically in the taxonomy of instructional objectives (Krathwohl

1969). This implies that the levels of the three domains are arranged in hierarchical order in which each category is assumed to involve behavior which is more complex and abstract than the previous category.

a) Levels of cognitive domain

The major levels of the cognitive domain include: knowledge (ability to recall), comprehension (the ability to restate knowledge in new words), application (understanding well enough to apply it), analysis (understanding well enough to break the whole into its constituent parts), synthesis (the ability to produce meaningful wholes out of parts), and evaluation (the ability to judge the value of materials for a given purpose) (Bloom et al. 1956 in Cruickshank et al, 1995).

Hence from the levels of the cognitive domain, one can understand that the complexity of abilities that the learner is required to signify increases from simple to complex. In support of this, Bloom et al. (1956) in Cruickshank et al. (1995) suggest that the six levels of the cognitive domain are arranged hierarchically from concrete to abstract or from the most simple and most common knowledge level to the most complex or less common, i.e., evaluation level. In contrast to the above classification by Bloom et al. (1956), Quellmaz classifies the cognitive domain into five levels: recall, analysis, comprehension, inference, and evaluation (Airassian, 1997).

Whatever their classification scheme is, the most important thing about this domain is how teachers construct their instructional objectives from the given levels. Teachers are highly required to select their instructional objectives from both lower level of the cognitive domain that involves rote memorization and recall of facts and higher levels of thinking that enhance student performance to evaluate, compile, analyze and apply (Airassian, 1997).

b) Levels of affective domains

Based on the quality of internalization, Krathwohl (1969) identified five levels of the affective domain which include: receiving level (willingness to receive or attend to a stimulus situation), responding level (responding to information), valuing (expressing an attitude or belief), organization (comparing or integrating the acquired value with the existing belief/value), and characterization (acting as value).

Levels of the affective domain, in Krathwohl opinion (1969), are hierarchical in which level two-responding level includes level one- receiving level and level two is included in level three and the like. Airasian(1997) contends that levels of affective domain lack a persuasive hierarchical scheme or taxonomy like that of the cognitive domain objectives. Hence it would probably be difficult to put a final delineation between the levels since it deals with individual's internal attitudes or beliefs of an event.

Most teachers are inclined to use more cognitive domain objectives than affective domain (Krathwohl, 1969). However, Stone (1983) contends that teachers should also formulate instructional objectives from the affective domain as well.

c) Levels of psychomotor domain

Based on students' proficiency in neuro-muscular coordination, Dave (1969) in Diribsa et al.(1999), identified five hierarchical levels such as imitation (inner push or impulse), manipulation (following directions to do accordingly), precision (doing actions by keeping the sequence and rhythm), and naturalization (perfect habituation). In Dave's opinion (1969), if we go up from the imitation to naturalization level, the action becomes more refined, speedy, and automatic.

Besides Dave's classification of psychomotor domains, Symptom (1972) classified it into six hierarchical levels such as perception (being aware), set a

preparatory (adjustment for a particular act), mechanism (achievement of certain confidence), complex overt response (arranging out complex major act), adaptation (altering motor activities for perfectness) and organization (creating new motor act) (Cruickshank, et al. 1995).

Direbsa et al. (1999) pointed out that the application of psychomotor domains in all subject areas is difficult except in writing, speaking, driving, etc. Similarly, Airassian(1997) contends that the application of psychomotor domains is easier by teachers in elementary grades and with students of special needs.

In sum one can understand that the application of psychomotor domain is perhaps determined by the situation in which the teacher and the learner find themselves. That is, the application of psychomotor domain is not easy in areas of contents that deal with certain conceptual issues or skills that can't be mastered in a short period of time. This may be true because mastering certain skills in a short period of time is difficult. But even if attaining the final stage needs some additional devotion, skills that are found at the lower level such as imitation, manipulation, and precision can be achieved in one instructional time. Hence, these attained skills in turn lead to higher proficiency.

Generally, in formulating instructional objectives deciding the kind of learning outcomes that learners are expected to be able to do is the first task. Moreover, teachers are required to note the proficiency of the learner at a certain level determined by the previously acquired competency (Stone, 1983).

▪ Determination of General Vs Specific Objective

The second decision made by teachers while they formulate instructional objectives, in Cruickshank et al.'s (1995:137) opinion is deciding whether specific or general objective is appropriate for the content they teach.

General objectives are more skeletal in nature and are written using verbs like understand, know, appreciate, etc. that are open to interpretation. Hence general objectives indicate what the learner will be able to do but they do not specifically and explicitly show the exact outcome that a learner is going to achieve. Direbsa et.al. (1999) and Cruickshank et al. (1995), state that general objectives are applicable in making a long range plan of a specific course of a semester or a year or a month. Whereas specific objectives are by-products of general objectives in which their intention of outlining is to ensure learners' attainment in a short period of time, usually one period.

- **Determination of Information in Writing Instructional Objectives**

Tyler (1956) and Gronuld(1965) argue that instructional objectives should involve information about the kind of behavior to be developed by the learner and the content in which the learner can operate his/her learned behavior. However, Mager (1962) recommends instructional objectives to involve information like audience (the learner or the students), observable behavior (identify, list, etc.), condition (given a list…etc.) under which the behavior will occur and criteria (each, correctly, etc.) for acceptable performance (in Eggan and Kauchank, 1994).

However, Eggan and Kauchank (1994) attest that stating instructional objectives using Mager's mechanism is not sufficiently supported by teachers and curriculum designers. Probably this idea indicates that formulating instructional objectives by incorporating the above four major components is difficult and boring to teachers. Supporting this idea, Ariasian (1997) explained that using extended objectives takes more time to formulate and is difficult to state before the instruction begins.

From the review presented so far one can understand that Tyler's and Gronuld's suggestions are taken more than Mager's suggestion in formulating instructional objectives.

Principles of Formulating Instructional Objectives

Taba (1962, p. 200-206) suggests some relevant principles for formulating instructional objectives. According to her, instructional objectives:

- should describe the kind of behavior and the content at which the behavior is developed,
- should be stated specifically and analytically so as to be understandable by individuals without ambiguity,
- are assumed as a means to an end but not end by themselves,
- are valid when they're formulated in line with the curriculum and classroom experiences,
- should neither be too broad nor too narrow. They should be of an optimum level that encompasses all types of learning outcomes.

Common Characteristics of Well Formulated Instructional Objectives

Appropriately formulated instructional objectives reveal the following characteristics:

They are Constructed by Concrete Terminologies: instructional objectives are formulated using clear, precise, explicit terms such as "compare", "construct," list, etc. rather than terms like 'know', 'appreciate', 'understand', etc. to make the definition of students behavior more concrete(Botts and Reed,1970, p. 115).

Instructional Objectives are Written in Terms of the Learner: Cautiously formulated achievement targets signify what pupils are to learn from the lesson or what they should be able to do following the instruction (Ariasian, 1997:15). Lindval(1969) suggests, statement of instructional objectives be worded in terms of the learner. The idea given by the two scholars signifies that the concern of formulating instructional objectives is not what the teacher is going to do in his/her lecturing, demonstration, etc. The primary aim of constructing these specific outcomes is to specify what the pupil can do after

his/her learning. To this effect, instructional objectives must be prepared in terms of the learner not in terms of the teacher.

Instructional Objectives are Clear, Observable and Measurable: instructional objectives disseminate similar meanings to both the teacher and students (Botts and Reed, 1970). From this, one can understand that appropriately prepared instructional objectives make teachers and students concentrate on a common idea valued from the meaning of the instructional objectives. Appropriate instructional objectives further imply that the behavior of students can be seen when the learners are expected to do something as a result of their learning (Botts and Reed, 1970). The observable change in behavior should be measurable using certain instruments such as class work or oral questions (Diribsa et al 1999).

They are Short Term in Nature: Reeds and Botts (1970) pointed out that instructional objectives are not formulated with the intention of enabling learners to do certain skills, values, and concepts in a too distant future, perhaps a week, a month, etc., though they are builders of long range objectives. Instructional objectives are formulated with the expectation of enabling learners to do the formulated learning outcomes within the limited instructional time. That is why Airasian (1997) recommends teachers to ask themselves the question "can pupils reasonably be expected to master the objectives in the time available for instruction?" Thus, well formulated instructional objectives are doable or achievable in a specified instructional period.

Instructional Objectives are Appropriate to Learners Potential: Airasian(1997) noted that teachers are required to formulate instructional objectives that are not very difficult or very easy to be achieved in students' expected knowledge, age level, and thinking capacity. This shows that instructional objectives should be constructed in line with learners' prerequisite knowledge and ability of thinking.

Instructional Objectives are Prepared from the three Domains of Learning: instructional objectives are constructed with the intention of promoting a range of learning outcomes across the three domains of learning: the cognitive, affective, and psychomotor domains (Cruickshank et al. 1995).

They Include Higher and Lower Levels of Learning Behaviors: instructional objectives guard against stating only from lower level objectives (Airasian1997). Perhaps if objectives are constructed from lower levels of the cognitive, affective and psychomotor domains, students' higher level thinking, valuing, and performing are denied. Moreover, Cruickshank et al., (1995) attest that objectives are required to incorporate higher and lower levels of each domain.

They Include Content: instructional objectives involve content in which the learner's behavior can be operated (Airasian1997).

Utilization of Instructional Objectives

Instruction is delivered for the purpose of bringing behavioral change on the part of the learner by enabling him/her to do things that he/she couldn't do before the instruction (Cruickshank et al. 1995).Hence teachers do not bring a satisfactory behavioral change in learners by formulating good instructional objectives only.

At the beginning of instruction, curriculum experts recommend teachers to communicate their preplanned instructional objectives to learners. The findings of Kale (1970) and Aker (1980), in White et al. (1986), reveal that though communicating instructional objectives to learners before instruction enhances students' achievement, the difference in achievement was not statistically significant from that of the learners who were denied to get the opportunity. This finding may mean that learners who get the instructional objectives in advance of the actual instruction enhanced their achievement though it isn't a significant improvement.

Concerning the mechanisms of communicating instructional objectives to students, Cruickshank et al. (1995) pointed out that those teachers who give highlights of the important aspects of the lesson (e.g. writing on the black board) are effective. Therefore, increase students' attention and retention through communicating the intended outcomes to students.

In addition to communicating instructional objectives to learners, teacher's activities in revising concepts of prior lesson should also be aligned with utilizing the current or the day's lesson objectives. Lucten, Amens and Aerson(1986) found that effective activities used to revise prior lesson concepts are important when they are wider in scope to utilize the specific concepts of the lesson directly related to students' previous knowledge. This enhances student learning (in Cruickshank et al. 1995).

Following communicating learning outcomes and revision of prior concepts, teachers are required to employ appropriate activities in their questioning techniques, methods, teaching material and modalities that have instrumental effect on the intended learning outcomes (Borich, 1988). The realization of the intended learning outcomes is dependent on the effectiveness of the revising and actual delivery of lessons.

Airasian (1997) suggests teachers check the attainment of the intended learning outcomes through using appropriate activities such as oral questions, tests, etc. which can cover representative sample of the instruction.

Methodology and Design of the Study

As stated earlier, the purpose of this descriptive study was to assess the state of teachers' formulation and utilization of instructional objectives during their instruction.

Subjects of the Study

The subjects of the study were the teachers who taught grades 11 and 12 students in Bahir Dar preparatory school in the 2005/6 academic year. Teachers who were assigned to facilitate activities of the school other than teaching (the director, vice-director and the counselor of the school) were excluded from the study. In other words, out of 57 teachers of the school, 54 of them were used as the subjects of the study. All the teachers had first degree, except two IT teachers who were diploma holders.

Sampling Technique

Out of 54 teachers found in Bahir Dar Preparatory School, 13 of them were selected using random sampling technique (lottery method) from their list available in the school. This sampling technique was used because the researcher found it more impartial and appropriate to take a representative sample from the total population of the study.

Methods of Data Gathering

To gather reliable and valid data from the sample teachers, the researcher has used observation and document analysis techniques. The document analysis technique was applied to assess the appropriateness of instructional objectives formulated by teachers. To apply this technique, the researcher developed certain criteria from- Lindval (1969), Airasian (1997), Cole and Chan (1994) and Cruickshank et al (1995). To this end, six of the criteria were employed to assess each instructional objective prepared by teachers. Two criteria were used to assess the configuration of the overall instructional objectives in the three domains, namely, cognitive, affective and psychomotor domains.

The other data gathering instrument used was observation, which was conducted using observation checklist that has five items. Each item has five performance level designated by 0, 1,2,3,4 for *not observed*, *poorly observed,*

fairly observed, good observation and very good observation, respectively. This observation checklist was used to assess teachers' state of utilizing the formulated instructional objectives. The items of the checklist were taken from Borich (1998) and Cruickshank et al. (1995) with some modifications to fit the purpose of this research.

Data Gathering Procedures

Observation of teachers' instructional delivery and content analysis of the respective lesson plans were made by the researcher and one curriculum expert who was pursuing his education at PhD level. Before conducting content analysis and observation, the data collectors agreed upon points included in the observation checklist and content analysis criteria. Then, as part of the pilot study, they observed three teachers' instructional delivery using observation checklist for one session each. The lesson plans were collected from the three teachers, and content analysis was made by the two data collectors. The analysis was made using the criteria developed to assess the appropriateness of each instructional objective prepared by the three teachers who were part of the pilot study.

An inter coder reliability index of 89 percent agreement for classroom observation and 92 percent agreement for content analysis checklists were achieved between the two coders. The reliability figure obtained in this study seems in the acceptable region. The researcher said this because, as indicated in Amare (1998), many researchers recommend 90 percent agreement when the contents are coded by two individuals.

To conduct the actual observation of teachers' instructional delivery, lesson plans of the teachers were photocopied and then using the lesson plan as a guide line, the relevance of teacher's activities used during instruction vis-à-vis the respective instructional objectives were rated. Using this procedure, each teacher was observed twice. All together 26 classroom observations were made. Following this, document analysis was conducted on the instructional objectives available in each teacher's lesson plans collected at the time of

observation. This was done to check how far the objectives were formulated in accordance with the suggested criteria for writing a good lesson objective. Fifty-one instructional objectives were formulated by teachers in their 26 lesson plans collected during the observation weeks. The content analysis was made based on these 51 objectives.

Data Analysis Technique

Data obtained from document analysis and classroom observations were analyzed using percentages and one sampled t-test, respectively. The t-test analysis technique was used to check the state of teachers' activities at utilizing their intended learning outcomes.

Presentation and Analysis of Data

This part of the study presents and analyzes the data collected from teachers' state of formulation of instructional objectives that fit with given criteria and their relevant activities to utilize them. To this end, the data collected through document analysis and observation were analyzed using percentages and one sample t-test, respectively.

Statement of Instructional Objectives

Table 1: Appropriateness of Teachers' Instructional Objectives vis-à-vis the Given Criteria

	Criteria: Are the instructional objectives	51 instructional objectives			
		State of the objectives against the criteria used			
		Yes		No	
		Nº	%	Nº	%
A	clear?	42	83	9	17
B	observable and measurable?	44	86.28	7	13.72
C	indicating the content, on which the pupil will performs the behavior?	40	78.44	11	21.56
D	"doable" (achievable) within the available time?	47	92.16	4	7.84
E	stated in terms of the learner?	51	100	-	-
F	appropriate to learners?	51	100	-	-
G	constructed by concerted terminologies?	44	86.28	7	13.72

Table 1 indicates that from the total instructional objectives formulated by teachers (51), 42 (83%) of them fulfilled criterion 'A'. That is, the instructional objectives are constructed to imply a vivid and unambiguous message of what the learner is going to do. Nevertheless, some of the objectives 9 (17 percent) are vague. These vague objectives may create an obstacle both for a classroom teacher in using it as a guideline in making decisions about instructional components during instruction and students in creating insight about what is expected of them from the specific session. Concerning this, Tyler in Lindval (1969, p.3) suggest that "many instructional objectives formulated by teachers are vague and nebulous, that they may sound well, they prove to be glittering generalities which have little value as guides in teaching".

Criterion B also revealed that 44 (86.28 percent) of the teachers instructional objectives were measurable and observable. That is, the expected behaviors that the learner should achieve are observable when the learner strives to do something about the content. Moreover, the instructional objectives can be measured easily. However, few of the instructional objectives 7(13.72 percent) are immeasurable and less observable. These immeasurable and less observable objectives may detract classroom teachers from identifying the exact status of each and every learner with regard to mastering session objectives.

In the case of criterion 'C', 40 (78.44 percent) of the formulated instructional objectives involve contents in which the learner can operate his/her learning. For example, in grade 11 Economics subject, one of the lesson objectives reads *"At the end of the lesson, students will be able to define the three systems of economic organization in the continent."* Here the content is disclosed, which is *"systems of economic organization".* However, 11 (21.56 percent) of the total instructional objectives failed to indicate the content in which the learner can achieve his/her intended learning outcomes. For example, in grade eleven English subject one of the session objectives reads: "*At the end of the lesson, students will be able to speak with a friend."* Here the specific content is not clearly indicated*. As* regards the effect of missing content in formulating instructional objectives, Airasian (1997) pointed out that if instructional objectives are constructed without any reference to content, the behavior that the learner is expected to demonstrate lacks clarity.

 In the case of criterion 'D', 47(92.16 percent) of the instructional objectives are doable (achievable) in the given forty-two minutes of instructional time. For example, in grade eleven Economics subject, one of the objectives reads "At *the end of the lesson, students will be able to define imperfect markets and pure monopoly."* This objective can be achieved in a session. But, few instructional objectives 4(7.84 percent) can't be accomplished within the available time. They are simply stated without considering the instructional time. Hence, students need extra instructional time to ensure them. For example, in grade eleven IT subject, one of the objectives reads "At *the end of*

the lesson, students will be able to develop basic skills on Ms-Excel application program." The researcher doubts the achievement of this objective in a single session. As a result, the researcher interviewed one of the subject teachers to comment on the achievement of this kind of objectives in a session. The teacher replied that the objective requires more time than the allotted instructional time.

Looking again at criterion 'E', all of the teachers' instructional objectives, i.e., 51(100 Percent) are stated in terms of the learner's behavior or what the learner is expected to do after the lesson. They are stated with the structure of "the student will be able to..." not "the teacher is going to do..."or "I am going to..." This shows that leaving other failures of the instructional objectives, teachers' instructional objectives are formulated in terms of what the learner is expected to do. In grade eleven Economics subject, for example, one of the objectives reads "At *the end of the lesson, students will be able to explain how to drive SR-supply curve."* A similar example in grade eleven English subject reads *"At the end of the lesson, students will be able to investigate average resting pulse rate, prepare a table for collecting data, and discuss the content of composition."* Similar to this, 51(100 percent) of teachers' instructional objectives are appropriate to fulfill criterion 'F', that is, the instructional objectives are prepared in line with the maturity level and prior knowledge of learners. For example, in the rationale part of school annual plans teachers have stated that the annual plan components are in one way or other extensions of earlier grades. As far as the researchers understanding is concerned, this is a good indicator of the considerations given to maturity level of the learner and his/her prior knowledge, though not detail and to the point.

As can be seen again from the results of criterion 'G', 44(86.28percent) of the instructional objectives are constructed using concrete terminologies that can make learners expectation more clear and explicit. This shows that the majority of teachers' instructional objectives are formulated using specific terms or action verbs that indicate learners expected behavior both precisely and explicitly. For example, in grade eleven Economics subject, one of the objectives reads, "At *the end of the lesson, students will be able to explain*

profit maximization under PCM using marginal approach." Similar example can be cited from English subject in the same grade level. This reads, *"At the end of the lesson, students will be able to ask and give information with friends."* Only a few of the instructional objectives (i.e., 13.72 percent) are formulated in general terms. For example, in grade eleven IT subject, one of the objectives reads "At *the end of the lesson, students will be able to develop basic skills on Ms-Excel application program."* Though instructional objectives that failed to meet this criterion are few, they may create a great confusion for teachers and students in identifying similar meanings out of such kinds of statements. That is why Roots and Reed (1970:15) asserted that "teachers should be careful to choose only that terminology which communicates the same thing to both his /her student and him/her."

Generally, table1 reveals that the majority of instructional objectives developed by classroom teachers in their lesson plans are constructed appropriately vis-à-vis given criteria. Only few of instructional objectives are poorly constructed in reference to these criteria. From this finding, one understands that most, teachers' instructional objectives fulfill the criteria available in table1. This finding contradicts the idea of Mehrens (1984) and Lindval (1969) in which they state though writing instructional objectives is difficult but important, it is problematic for teachers to formulate a list of objectives which are reasonably complete as theorists suggest. From this one can inter that recurrent attempts made by the MoE to boost teachers' ability of stating SMART instructional objectives has an acknowledged impact upon their expertise.

Table 2: Configurations of Teachers' Instructional Objectives across the three Domains and their Respective Levels of Learning.

No	Domain	Higher level		Lower level		Total	
		N$^{\underline{o}}$	%	N$^{\underline{o}}$	%	N$^{\underline{o}}$	%
1	Cognitive	5	11.9	37	88.1	42	100
2	Affective	-	-	-	-	-	-
3	Psychomotor	4	44.44	5	55.56	9	100
	Total					51	

Table 2 shows that most teachers' instructional objectives, i.e., 42(82.36 percent) are formulated from the cognitive domain of learning. The data presented in number-1 of table 2 also reveals that 37(88.1 percent) of the total 42 cognitive domain instructional objectives are formulated from the lower level of the domain. And the rest 5(11.9 percent) of them are formulated from the higher level of cognitive domain. This means that the majority of the sampled teachers' instructional objectives are formulated from knowledge, and knowledge and comprehension levels of the cognitive domain. This means that instructional objectives are formulated with the expectation of enabling learners to recall or memorize aspects of the lesson.

As shown in item number 2 (see Table 2) teachers do not formulate instructional objectives from the affective domain of learning. Concerning the issue of failing to prepare instructional objectives from the affective domain, Airasian (1997:84) reviewed that teachers rarely construct affective domain instructional objectives in their lesson plans or overall course objectives due to the following difficulties. First, affective domain treats the interests and attitude of private and individual trait behavior that are not necessarily appropriate to every pupil in the class. Second, affective domain learning outcomes are difficult to assess by paper-pencil tests, oral question, etc. But, nowadays there is a paradigm shift towards assessing not the expected behavioral changes but exit outcomes, which require authentic assessment and portfolio evaluation that goes beyond paper and pencil tests. The researcher hopes that this shift in emphasis lends itself to solving one of the teacher's challenges in formulating affective domain objectives in their lesson plans. Therefore, classroom teachers should also attempt to maintain a reasonable balance between and among the domains and their levels while they formulate the objectives.

In the case of data presented in number-3 of table2, of the total 51 instructional objectives formulated by the sample teachers, 9 (17.64 percent) are stated from the psychomotor domain of learning. And also their configuration across the higher and lower levels of the domain is 5 (55.56 percent), and 4 (44.44 percent), respectively. This reminds us that teachers'

psychomotor domain instructional objectives are formulated from both higher and lower levels of the domain almost proportionally, though relatively little emphasis is given to the domain in general as compared to the cognitive domain objectives.

Generally, from the findings of Table 2 one understands that most teachers' instructional objectives are selected from lower levels of the cognitive domain at the cost of the other domains and higher order objectives. This finding is in line with what is believed to be the reality in schools today both nationally and internationally (Derebsa et. al, 1999).

Relevance of Teachers Instructional Activities to the Formulated Objectives

Table 3: Teachers' State of Communicating Instructional Objectives

Expected	Observed	Standard deviation	t-calculated	t-critical (one tailed)	P
2	0	0	-	1.78	<0.05

To assess the extent to which teachers' classroom activities are directed towards achieving their instructional objectives stated in the lesson plans, one sample t-test was employed. The results in table3 compared the observed value with the expected value and t-critical with t-calculated, and it shows that teachers' attempt to utilize their intended learning outcomes through communicating to learners at the beginning of the instructional period is not observed. In connection with this finding, Davis (1981:61) stated that telling or communicating one's instructional objectives to the learner is missed or overlooked by teachers.

However, being unable to communicate the intended learning outcomes to a student is generally considered as a fault. For instance, Botts and Reed (1970:15) recommend that at the beginning of the instructional time, the student should get a glimpse of his/her learning outcomes so as to have a

sense of direction (i.e. the better the communication the better will be the expectation of learning).

Table 4: Teachers' Performance at Revising Previous Lesson Concepts and Making them Ready to Use

Expected value	Observed value	Standard deviation	t-calculated	t-critical (one tailed)	P
2	2.69	0.81	3.07	1.78	<0.05

The results in Table 4 revealed that the observed value (2.69) is greater than the expected value (2). This implies that the performance of teachers in revising previous concepts and making them ready to integrate with the day's lesson objectives exceeds the expected value. And hence, teachers' activities in revising the previous lesson relies between employing activities that have direct relation to the previous knowledge using lessons higher in scope to encompass the preceding content and activities that are relevant to learners and lesson objectives. This is an excellent change observed among classroom teachers which may geared their role towards realizing the objectives both efficiently and effectively in the respective sessions.

Table 5: Teachers' Questions and High Student Performance

Expected value	Observed value	Standard deviation	t-calculated	t-critical(one tailed)	P
2	2.76	0.97	2.81	1.78	<0.05

Comparing observed value with the expected value and t-calculated with t-critical, table5 indicates that the performance of teachers' questioning can bring high student achievement on the formulated instructional objectives. This is due to the fact that both observed value (2.76) and result of t-calculated (2.81) are beyond the expected value (2) and t-critical (1.78), respectively. Hence, teachers' questions enhance learner's achievement of the preplanned instructional objectives.

To make it clear, questions employed by teachers to increase learner achievement on the planned instructional objectives are of a mid value between using appropriate questions in both direction and level that have direct effect on the achievement of formulated instructional objectives and using clear, unambiguous questions that can challenge students to think and clarify specific concepts of the lesson.

Table 6: Teachers' State of Providing Appropriate Methods, Modalities and Materials that Foster Students' Achievement of the Instructional Objectives

Expected value	Observed value	Standard deviation	t-calculated	t-critical (one tailed)	P
2	2	0.13	0	1.78	<0.05

Table 6 reveals that the observed value of teachers' methods to utilize the intended learning outcomes is actually equal to the expected value. This shows that the observed teachers employ well-paced and well organized method, modalities and materials to realize their intended learning outcomes. To clarify it further, the sample teachers of this study offer methods, modalities and materials that have fair contribution (to the minimum expectation) to the utilization of the intended learning outcomes.

Table 7: Teachers' State of Assessing Learners' Achievement of Instructional Objectives

Expected value	Observed value	Standard deviation	t-calculated	t-critical (one tailed)	P
2	0.615	1.01	-3.07	1.78	<0.05

By comparing the observed value with the expected value, table7 reveals that teachers' performance in assessing learners on the achievement of intended learning outcomes is found below the expected value. In addition, the results

of t-calculated and t-critical also show that teachers are not in a position to assess learners in the achievement of formulated instructional objectives.

Actually, results shown in table7 stipulate that the average performance of teachers to assess learners was not targeting at increasing the achievement levels of each formulated learning outcomes, though Read and Botts (1970:10) advise teachers to evaluate their students on what they expect from them.

In conclusion, the above tables (3-7) remind us that teachers should seriously consider not only formulating appropriate instructional objectives that lead to increased achievement on the instructional objectives, but they should also align the instructional activities.

However, as indicated in the findings of table 3 and table 7, teachers' employed instructional time is not observed to provide sufficient means for learners to acquire concepts and skills of the intended learning outcomes.

Another significant finding explained in tables 4, 5 and 6 suggests that teachers' instructional activities particularly in revising previous lesson concepts, in asking questions and providing appropriate methods, modalities and materials are generally acceptable to make use of their intended learning outcomes. This is due to the fact that the observed value of teachers' performance at using these mechanisms as a means to ensure learners achievement on the learning outcomes is beyond the expected value. But the difference between these two indicators, observed value and expected value is insignificant.

Based on the results obtained from the analysis, the following major conclusions can be made:

▪ Most teachers' instructional objectives are probably clear, observable and measurable. They indicate the content in which the learner operates his/her learnt behavior. Objectives also need to be appropriate to learners potential,

constructed by concrete terminologies, achievable (doable) in the available time and are stated in terms of the learner. However, their configuration across the three domains of learning seems inclined to one domain, that is, the lower levels of the cognitive domain.

▪ Teachers seem to utilize their formulated instructional objectives by employing appropriate activities at revising, asking, and raising challenging questions and at providing interrelated methods, modalities and materials during the instructional time.

Thus, from the findings of this research the following implications can be inferred:

▪ There seems to be a need to provide orientation to the teachers on the benefits of communicating lesson objectives at the on set of a session/lesson delivery. In addition, training with emphasis on the ways and means of assessing students' attainment of the intended learning outcomes and maintaining a reasonable balance between and among instructional objectives from the three domains and their respective levels seems in order.

References

Airasian, P, W. (1997). **Classroom Assessment** (3rd Ed.). New York: McGraw-Hill com. Inc.

Amare Asgedom. (1998). *Content Analysis Methodology and Application to Curriculum Evaluation.* **IER Flambeau,** 6(1).

Borich, G, D. (1988). **Effective Teaching Methods**. New York: Merril Publishing com. Inc.

Botts, R, E. and Reed, D.R. (1970). **Individual Instruction**. Loss Angeles: Lucas Brothers Publishers.

Cohen, L., et al. (1996). **A Guide to Teaching Practice**. 4th ed. Great Britain: Crystled, Stilues Plc.

Cole, P, G. and Chan, L, K. (1994). **Teaching Principle and Practice**. 2nded. Australia: McPherson's Printed Hall.

CruickShank, D. et al. (1995). **The Act of Teaching**. New York: McGraw-Hill Inc.

Davis,I. (1981). **Instructional Techniques**. New York: McGraw Hill Inc.

Deribssa Dufera, et al (1999). *Principles of Curriculum Inquiry*. Distance Material for In-service Trainees. Addis Ababa University (Unpublished)

Eggan, P. and Kauchank, D. (1994). Educational Psychology: Windows of Teaching. New York: Prentice Hall Inc.

Krathwohl, D, R. (1969). *The Taxonomy of Educational Objectives: Use in Curriculum.* In C.M. Lindval (ed.) **Defining Educational Objectives**. University of Pitts Bulgh Press.

Lindval, C,M. (1969). *Defining Educational Objectives*. University of Pitts Burgh Press.

McNeil, J, D. (1969). **Concomitant of Using Behavioral Objectives in Assessment of Teacher Effectiveness**. In R.C. Anderson, et. al (eds) Current Research on Instruction. New York: Prentice-Hall.

Mehren, W.A.(1984). **Measurement and Evaluation in Educational Psychology.** Florida: Holt, Richechart and Wiston Inc.

Sosniak, L.A. (1995). **Educational Objectives**. In T.Hustinand T.N. Potleth Waite(eds.). International Encyclopedia of Education. Vol.(3) 2nd ed. UK: Elesvier Science Ltd.

Stone, E. (1983). **Psychology of Education: A Pedagogical Approach**. New York: Methue Inc.

Taba, H. (1962). **Curriculum Development: Theory and Practice.** USA, Sanfrancisco: Harcourt Brace and World Inc.

Tilahun Begashaw, et al. (2004). *Assessment of the Performance of Cluster Resource Centers of Primary Schools in Dire Dawa Administrative Council.* Research Bulletin12(2), Bahir Dar University.

White, R.T. et al. (1986). *Research on Educational Science.* In M.C. Whittrocks (ed.). **Handbook of Research on Education**. Vol. 2, 3rd ed. New York: McMillan Inc.

Wulf, C. (1995*). Education as a Field of Study.* In T. Hustin and T.N. Waite (eds.) **International Encyclopedia of Education**. Vol.3 2nd ed. UK: Elesvier Science Ltd.