The Effect of Teaching Experience on Attitude To and On Utilization of Educational Radio:

The Case of Tigrai Region

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Gebre-Egziabher Debeb Berhe

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By

Gebre-Egziabher Debeb

Approval of Board of Examination

Marew Zewdie (Ph.D)

Chairman, Department Graduate Committee

Amare Asgedom

Advisor

Thomas O Eboi — 01/6/98

External Examiner

01/6/98

Internal Examiner

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Abstract

The major objective of the study was to identify the effect of teaching experience on attitude and utilization of educational radio lessons.

For the study, a-28 item Likert type attitude questionnaire was administered to 82 teachers selected from 15 schools (6 urban and 9 rural). Besides, each teacher who filled the attitude questionnaire was observed and rated on how he/she utilizes radio lessons. for the purpose of comparison, teachers were classified into five experience levels (1-5, 6-10, 11-15, 16-20 and 21-25). The collected data were analysed using statistical tools such as mean, one way analysis of variance (ANOVA) Tukey post hoc comparison, t-test and pearson product moment correlation.

The results of the study revealed statistically significant differences in attitude and utilization of radio lesson between more experienced and less experienced teachers. This demonstrates that service years and attitude towards radio lesson have been observed to have a negative relationship. As experience of teachers increased, favourableness to and utilization of radio lessons decreased. The study also revealed that teaching experience as mediated by sex of the teacher and school location (rural or urban school) has little impact on the attitude and utilization of radio lesson. It is, therefore, recommended that the existing system of teacher education should incorporate a system of followup, and reinforcement.

CHAPTER I

INTRODUCTION

1.1 Background of the Problem

Teaching experience is conventionally regarded as an asset presumably positively related to better performance. That is, as one stays for a long time on the profession, he/she gets much experience and consequently performs better. Moreover, some attempts were made by researchers to prove this and no clear picture of the effect of experience has emerged. Dunkin (1988) has remarked on this issue. He remarked that teaching experience is frequently included as a variable in educational research but no clear picture of its effect has emerged. In support of this Biddle and Ellena (1964) reported that findings about the relationship between teaching experience and performance are inconclusive and piecemeal; and little is presently known for certain about the effect of experience on performance.

With reference to indigenous studies, no detailed research is done on the effect of experience on attitude and performance in Ethiopia. However, some have treated it as a single variable. To mention a few, Abraham (1993) concluded that there is low positive correlation between teaching experience and efficiency results of teachers as rated by their bosses (directors). Abera (1995) in his study at Gonder schools also reported that there is some positive effect of length of teaching experience upon the English achievement of upper primary school pupils. On the other hand, Getachew (1992) came up with the conclusion that teaching experience has little influence on the instructors skill of teaching.

Many researchers from overseas who had studied the impact of experience frequently found that teachers get better during the first few years of their career but gradually their effectiveness levels off and decline (Ryans, 1963; Blackburn and Lawrence, 1986; Husen 1985; Dunkin, 1988; Biddle and Ellena, 1964). Zeichner and Tabachnick (1981) reported that British and American studies had provided ample evidence of washed out impact of colleges by prolonged experience.

Likewise, Katz (1972) studied the developmental stages of teachers and reported that teachers at the third stage (he called it renewal stage) begin to get tired of doing the same thing and recommended renewal. As reported by Tyler (1985), professional development of physicians and engineers also revealed similar results. The majority of physicians and engineers reach their peak of performance by the end of seven years of experience. Then after, their performance begins to decline. This is because professional activities become routinized and habituated, hence, professionals (physicians and engineers) become bored with their work. As a result of this, they start to see more challenging activities in other areas of life such as golf, politics, or social affairs.

According to Dent (1944), Richey (1952), Nias (1981), as teachers stay long on teaching, they fall into rut and grow out of tune. They further elaborated that, their professional enthusiasm wanes and they get bored. Gehrke (1979) suggested professional inservice training to refresh up with enthusiasm and new ideas; with new excitement, a new perspective and new ideas of teaching. In line with this, Dunkin (1988) advised the need for recyclage and rejuvenating of teachers through inservice

training to keep them intellectually alive and alert so that they can continue to increase in effectiveness or at least maintain the highest level they reached.

1.2 Conceptual Framework

Any open system interacts with its environment and in such an interaction the open system should be able to employ control through feedback mechanism that permits information about its outputs that is necessary to the system's survival (Lin, 1977; Smith and Smith, 1966). Control through feedback helps the system to recorrect its output according to feedback signals. Feedback of indication of error helps the source to be informed of the deficiencies, hence, it is an important mechanism to arrest the tendency towards disorganization an,d therefore, to survive (George, 1977).

Equally important for the survival of an open system is dissemination. The system should utilize the information received through control (feedback) to adjust its effort to achieve more efficient output. Thus, dissemination is beneficial to an open system because it helps to renew, refresh and orient deteriorating system in a new direction and enhance its survival (Lin, 1977; Rogers, 1986; Beer, 1967).

Of course a system is defined as identifiable assemblage of organized elements or subsystems which are independent and united by a common information network which are characterized by a regular (i.e. orderly or lawful) form of interaction, and which function as an organized whole to attain some objective uniquely characteristic of the system operating as a unit (George, 1977).

In line of this definition of a system, the selection, preparation and assignment of teachers can be taken as a system with an assemblage of: selection (entry) - training - assignment.

As the preparation of teachers is a system composed of the indicated elements, control and adaptation through dissemination could be beneficial to the normal functioning of the system. Thus, how teachers are going on in their teaching, followup information (control through feedback) is important to detect the effect of training and what teachers have happened after employed as full time teachers. That is, teachers can not stay at a point of fixed attitude and performance all the time so that continuous control through follow up and adaptation through the arrangement of dissemination (training) could help to awaken teachers and develop and refine their potentialities.

After teacher preparation (communication), research must be made to assess the system (effectiveness and efficiency overtime) to get feedback about the conditions of the teacher. Based on the finding reinforcements in the form of refresher courses, short-term trainings- on the job training, etc. can be given for the control of the system.

1.3 Objectives of the Study

The overall purpose of the study is to test the effect of teaching experience on attitude to and on utilization of educational radio with a view of providing a basis for developing appropriate intervention. More specifically the objectives of the study are to:

1. Examine the effects of experience on attitude to and on utilization of educational radio.
2. Find out the relationship between attitude to and utilization of educational radio.
3. Assess the effect of long year of service in the profession.
4. Explore deficiencies in the system for system overhaul.
5. Findout if experience as mediated by sex makes difference in attitude to and utlization of educational radio lesson.
6. Findout if experience mediated by school location makes significant difference in attitude to and utilization of educational radio lesson between teachers working in ruraland urban schools.

1.4 Hypotheses

The study was focused on the following hypotheses:

1. Teachers who have more years of service have less positive attitude towards educational radio lesson than teachers with less years of service.
2. Male and female teachers with similar teaching experience do not have a significant difference in attitude towards educational radio lesson.
3. There is no significant difference in attitude towards radio program between teachers having similar year of service but working in rural and urban schools.
4. Teachers who have less teaching experience utilize educational radio broadcasting better than teachers with more years of service.

5. Male and female teachers with similar teaching experience do not have significant difference in utilizing the radio program.
6. There is no significant difference between teachers working in rural and urban schools having similar experience in utilizing the radio program.
7. There is a strong correlation between attitude towards and utilization of the radio program at each level of experience.

1.5 Significance of the Study

It is anticipated that this study could contribute in the following ways.

1. Since the effect of experience on attitude to and on utilization of radio lesson has not been studied, this study may help in the compilation of information on the relationship between experience, attitude and utilization.
2. By indicating the direction of relationship between experience, attitude and utilization, the study may draw the attention of policy makers.
3. The study may give suggestions to concerned authorities and principals to take into account the effect of teaching experience while assigning teachers.
4. The study may provide data on the study of the effect of experience on attitude to and on utilization of educational radio and can serve as a source of information for further and comprehensive nationwide study.
5. Stimulate further research in the area.

1.6 Delimitation of the Study

The concern of the study was to see whether teaching experience has influence on the attitude of teachers and what really happens in the classroom of teachers with different levels of teaching experience especially in utilizing radio lesson. The scope of the study was limited to Makalle and Southern Zones in Tigrai region and the findings and conclusions reflect the state of teachers' attitude and utilization in government schools in the two zones. The subjects of the study were Grade five and Grade six teachers whose subjects were supported by radio lesson (Tigrina, Amharic, English, Science and Social Science).

1.7 Limitation of the Study

The study is limited in some aspects. The absence of developed instruments to measure attitude and utilization of educational radio program was a major problem. Besides, the absence of previous indigenous research related to the topic was a problem. The delay in the approval of thesis proposal and release of the research fund compelled the researcher to make only one classroom observation while teachers were utilizing radio lessons. However, it would have been good if more observation had been made. Lack of background in computer skill was also a major constraint.

1.8 Definition of Important Terms

Attitude: feeling of likes or dislikes teachers have towards educational radio lesson.

Utilization: the extent to which the radio program is actually used in a classroom situation.

Experience: service expressed in terms of time spent (in years) on teaching since employment as a fulltime teacher.

Urban: refers to all localities that have 2000 or more inhabitants and urban (municipal) administration is formed. Capitals of woredas are identified as urban.

Rural: refers to all localities that have below 2000 inhabitants and urban administration is not formed.

CHAPTER II

REVIEW OF RELATED LITERATURE

2.1 Introduction

This part of the study deals with review of research findings and other works pertinent to the topic under investigation. As to the organization of the chapter, it deals with the definition and nature of attitude, the relationship between attitude and performance, the effect of teaching experience on attitude and performance; attitude and performance related to sex and school setting. Furthermore, the use of radio in classroom teaching including factors that affect teachers' attitude towards radio lesson, and important steps in the utilization of radio lesson are also briefly dealt with.

2.2 Definitions and Nature of Attitude

Attitude is defined by different authorities slightly differently. For instance, Fedlman (1994) has defined it as a learned predisposition to respond in a favourable or unfavourable manner to a particular person or object. Similarly, Child (1993) defined attitude as learned overall inclination towards an object, idea or institution. According to Edwards (1957), attitude is the degree of positive or negative feeling associated with some object or idea. Bem (1970) also provided a definition of attitude. He stated that attitude is our affinities for or aversion to specific group of people, objects, ideas or situations. They are our likes and dislikes, our feelings for and against. Furthermore, Fishbein and Ajzen (1975) defined it as a learned, relatively enduring predisposition to respond to certain things in consistently favourable or unfavourable ways.

Despite the many ways in which attitude is defined, there are certain aspects which are shared by all. All agree that attitude is acquired; it persists relatively for a along time and is either negative (unfavourable) or positive (favourable).

Attitude in the context of this study is taken as the evaluative judgement, that is, labelling of the radio lesson as useful - not useful, necessary - unnecessary, helpful - unhelpful.

2.3 The Relationship between Attitude and Performance

To explore the relationship between attitude and performance various studies have been carried out. To mention a few, Smith (1971) asserted that teacher's attitude is a significant factor in his/her performance. Juppen (1966) also reported that teacher's level of performance depends on his/her attitude.

On the other hand, some studies have revealed that attitude may not predict performance of the teacher. Turner (1964) reported that teaching task performance in arithematic and reading is independent of teachers' attitude. Similarly in another research it was reported that performance of teachers is independent of their attitude (Fox and Peck, 1978; Levis, 1987 all cited in Cangolosi, 1991). Smith (1971) studied the relationship between Minnesota Teacher Attitude Inventory (MTAI) scores and teacher performance, and found that MTAI and actual classroom performance have a non significant relationship. In the Ethiopian reality, Erkyhun and others (1991) also reported that there was no significant correlation between the teachers' self reported attitude towards their profession and their performance level in the observed practical

teaching. Likewise, Walberg (1986) and Jackson (1968) in their research showed that the correspondence between attitude and teacher performance in the classroom is low and non significant.

2.4 The Effect of Teaching Experience on Attitude and Performance

2.4.1 The Effect of Teaching Experience on Attitude

Studies on the effect of teaching experience on attitude have mixed conclusions. Bame (1991) studied the attitude of Ghanaian elementary school teachers and concluded that length of teaching and positive attitude are positively correlated; when a teacher remains in teaching for a long time, he/she grows to like teaching. Likewise, Rempel and Bentley (1970) studied the attitude of 3,075 secondary school teachers in 60 Indiana and 16 Oregon schools. Rempel and Bentley classified the sample teachers into five experience groups and compared their mean scores. Results obtained indicated that teacher attitude was significantly related to total years of experience. That is, as teaching experience increases attitude increases. Akpan (1984) studied teacher effectiveness in mathematics teaching in junior secondary schools in the Cross River State of Nigeria. In his study Akpan identified the relationship between teaching experience and attitude and reported that there exists positive relationship between teaching experience and attitude.

On the contrary, the effect of teaching on the attitude of teachers was found to be neutral. For instance, Derese (1987) who conducted a survey study on the attitude of Addis Ababa senior secondary school teachers towards teaching concluded that there was no significant difference in attitude towards teaching in general among the group

of teachers compared along years of service in teaching. Similarly Smith (1982) assessed attitudes and practices of K-12, grade 299 science teachers who were members of the National Science Teachers Association (USA). Smith for comparison classified the sample teachers into five teaching experience groups (<5, 6-10, 11-15, 16-20, >20) and reported that there was no significant difference in attitude among the groups. In conformity with this, Wandt (1952) reported that there was no significant difference for various experience groups in their attitude towards teaching. In another study Kelsall and Kelsall (1969) comparing teachers with different length of teaching experience contended that length of teaching experience did not appear to be closely associated with attitudes. Guskey (1988) at the University of Kentucky conducted study on the attitude of teachers towards the introduction of instructional innovation (mastery learning) on 120 elementary and secondary school teachers. From the data gathered through questionnaire, Guskey reported that years of teaching experience has no relationship to the rate of rejection or acceptance of the instructional innovation. Westley and Jacobson (1962) cited in Travers (1973) reported teaching experience did not make significant difference in the attitude of teachers towards television.

In some other studies, the relationship between attitude and length of teaching was found to be negative. For instance, Huetting and Newell (1966) studied the attitude of 115 elementary school teachers in Boston (USA) with large and small number of years of teaching experience towards the introduction of modern mathematics. Huetting and Newell classified the sample teachers into four experience groups (1-2, 3-9, 10-20, 21-48 years). Huetting and Newell (1966) reported significant difference in attitude among the four experience groups towards the new mathematics. That is, as the

experience of the teachers increases, their attitude towards the new mathematics decreases. Furthermore, Huetting and Newell grouping the sample teachers into two (those with less than ten years teaching experience and those with teaching experience above ten years) studied their attitude towards the introduction of modern mathematics and concluded that about 75 percent of those with less than 10 years of experience reacted positively. But 75 percent of those with more than ten years teaching experience reacted negatively to the introduction of modern mathematics. In short, Huetting and Newell concluded that teachers with less than ten years experience are more positive in their attitude than those with more than 10 years experience. Similarly, Husen (1985) compared the attitude of teachers with varying experience towards innovation and alteration of educational policy and reported significant difference between the more experienced and less experienced teachers. More experienced teachers reject innovations and alterations in educational policy. Richey (1952) also reported a negative relationship between attitude and length of teaching experience. He reported that as teachers stay long they regress rather than progress.

Rabinowitz and Rosenbaum (1960) from the Municipal College of New York studied the relationship between teaching experience and attitude of teachers and reported significant decline in the attitude of teachers as their teaching experience increases. Chapman and Malcolm (1982) also pointed out that teachers who taught for more years, without exception, admitted that they no longer experienced their work with enthusiasm, excitement, and sense of mission and challenge they once had. Peterson (1964) in his study of the attitude of teachers, asked teachers themselves about the best teaching period either for themselves or for teachers in general; they recognized a short

early period "a best teaching period" probably after one has had a year or two years of experience. They reported they had the most fun with kids, then gradually it became more burdensome after they get up in years. Zeigler (1986) cited in Wittrock (1986) after examining the relationship between attitude and prolonged service in teaching reported that positive attitude of both men and women deteriorate with longevity in classroom teaching. As teachers stay on the job, they become dulled as a result of their routinized work with children and much of their teaching becomes routinized, habitual and unsystematic (Lanier and Little, 1986). In order to overcome the routinized work with children, teachers acquire a second job or other side interests that give them something other than kids and school to think about (Cusick, 1981 cited in Lanier and Little, 1986).

Lanier and Little (1986) noted that prolonged service in teaching results in lack of interest. They concluded by saying that while they cannot escape teaching in body, they leave in mind and spirit. In view of the above findings, the relationship between teaching experience and attitude seems inconclusive.

2.4.2 The Effect of Teaching Experience on Performance

Various studies have been carried out to explore the effect of teaching experience on performance. The results of the studies are mixed. Some studies have revealed positive relationship between length of teaching experience and teaching performance (student achievement). For instance Cooke (1939) came up with the conclusion that all other considerations being equal, an experienced teacher is more efficient than a less experienced one. Likewise, Patelmo (1975) and Juppen (1966) have reported that one

of the variables that distinguish more effective and less effective teachers is teaching experience. Lawrenz (1975) conducted a study on randomly selected sample of 236 secondary school science teachers from 14 states in the USA to find out if any relationship exists between selected teacher characteristics and student outcome. He concluded that there exists positively significant relationship between teaching experience and science students outcomes. That is, those students taught by more experienced teachers performed (achieved) better than those students taught by less experienced teachers. Similarly, Cynthia and Anderson (1983) made meta analysis research on science teachers' characteristics and student achievement and concluded that, teaching experience is positively related to student outcome. Akpan (1984) also reported that, there is significantly positive relationship between teaching experience and student outcome in a study conducted in Nigeria.

Furthermore, Attiyeh and Lumsden (1969) studied the effect of faculty characteristics such as teaching experience and academic rank of lecturers on the achievement of students on Economics course and concluded that they are significant factors in the achievement of students. That is, students taught by experienced instructors with higher rank performed better than students taught by instructors with less experience and lower academic rank. Similarly, Biddle and Ellena (1964) compared the teaching performance of nuns classifying them into two: those with 1-15 and 16-30 years of service. They reported that nuns with 16-30 years of experience significantly out performed those with 1-15 years of teaching experience. Thus, more experienced nuns performed better than less experienced nuns.

A study conducted by Heyneman and Loxley (1983) in Elsalvador showed that the science achievement of primary school students is dependent on the experience of the teacher. That is, students taught by more experienced science teachers scored higher than students taught by less experienced. Similarly, a study by Heyneman and Loxley (1983) on the achievement of primary school students in Iran also indicated the same result.

Contrary to what was indicated, the effect of teaching experience on the performance of teachers was found to be non significant. For instance, Borich (1988) studied the relationship between years of teaching experience and classroom teaching performance and found that such a variable has no significant bearing on the actual performance of the teacher in the classroom. Hanushek (1970) analysed the effect of teacher experience on the achievement of third grade students in California and concluded that teaching experience has no effect. Similarly, Yager, Hidayat and Penick (1988) from the University of Iwa, Science Education Center, conducted study on 321 (6-12 grade) teachers. The researchers grouped the sample teachers into experience groups (1-5, 6-10, 11-15, 16-20, over 20) and chi-square analysis of the data revealed that teaching experience has no effect on the achievement of students. Furthermore, study by Heyneman (1976) in Uganda indicated that teaching experience of teachers brought no effect on the result of national examination of primary school students. Besides, Schiefelbein and Farrell (1973) studied the effect of teaching experience of teachers on the achievement of language and maths of secondary school students in Chile, and reported that, teaching experience has no effect. Studies in other countries also showed similar results.

However, some researchers who conducted studies on the effect of teaching experience on the performance of teachers have indicated that the relationship is negative. Nelson and White (1975) for instance, conducted a study on 880 science teachers in 1970-1971 by the Faculty of Science and Mathematics Education at the Ohio State University. In their study, they compared the effort made by science teachers with different length of teaching experience in course improvement when funds for supplies and equipment were available. They reported that teachers with more teaching experience made little effort compared to teachers with less experience. That is, the effort made by more experienced teachers was less than the effort made by less experienced ones. Likewise, a study to find out the effect of teaching experience on the perception of indiscipline in Nigeria by Okline (1983) has shown that more experienced teachers perceive the act of indiscipline less adequately than less experienced teachers. Furthermore, McCurdy (1974) cited in McNiel (1974) studied the effect of teaching experience on the achievement of young preschool children in 329 classes in California and reported that highest achievement in preschool children occurred when teachers had fewer credentials and less experience. This finding reveals negative relationship between teaching experience and the children's achievement. A study carried out in Tunsia by Carnoy and Thias (1974) revealed that grade point average of secondary school students was inversely related to the teaching experience of their teachers. That is, as the teaching experience of the teachers increases, the grade point average of students decreases. Similarly, another study conducted in Mexico by Klees (1975) revealed that the language and maths achievements of secondary school students were inversely related to the teaching experience of their teachers. Kelsall and Kelsall (1969) also reported that regardless of their academic qualification and type of training, the

effect of teaching would produce a pattern: as experience increases, performance declines. Similarly, Anderson and Burns (1989), Ryans (1963), Dunkin (1988), Turner (1964) reported that as a group, teacher's performance after five or six years service decline, (showing negative relationship between teaching experience and performance).

As the above findings reveal, the relationship between teaching experience and performance is equivocal and inconclusive.

2.5 Differences Related to Attitude and Performance as a Result of Sex Differences

Research that explores sex difference in attitude and performance of teachers is little. Especially research on how teaching experience affects the attitude and performance of male and female teachers is scanty. However, a few research findings on the issue are reported below.

Rempel and Bentley (1970) in their study of the attitude of teachers towards teaching conducted on a sample of 3,075 secondary school teachers (in Indiana 60 schools and Oregon 16 sample schools), found that the mean attitude score of female teachers higher than the mean score of male teachers. And the mean difference was found to be significant. Similarly, Getzels and Jackson (1963) reported significant mean attitude difference between male and female teachers in their study of the attitude of teachers towards teaching.

Contrary to this, Derese (1987) who conducted a survey study on the attitude of Addis Ababa senior secondary school teachers towards teaching concluded that there was no significant difference between male and female teachers in their attitude towards teaching. Smith (1982) studied Kindergarten to 12th grade science teachers attitude and reported that there was no significant difference between the attitude of male and female teachers. Similarly, Olaogun (1984) studied the attitude of post primary school teachers towards the introduction of new social studies syllabus in Oyo state (Nigeria). Olaogun concluded that there was no significant difference in attitude between male and female teachers.

The findings with regard to teaching performance also show similar trends. Some findings reveal that there is significant difference in teaching performance between male and female teachers. For instance, Westbury and Bellack (1971) reported that sex of the teacher makes significant difference in teaching performance. Furthermore, Yager, Hidayat and Penick (1988) from the university of Iwa, Science Education Center, studied the effect of sex of the teacher on the achievement of students and reported that there was significant difference in achievement between those taught by males and females. Furthermore, Okpilike (1983) studied the effect of sex of the teacher on the perception of selected aspects of indiscipline in class in Nigeria and found that female teachers are significantly better than male teachers in perceiving indiscipline. Hence, he concluded female teachers are better disciplinarians. Furthermore, Ryan (1974) studied the performance of 797 teachers in Iran and found that female teachers were significantly more successful than male teachers. Bennett (1967) also reported that

students taught by female teachers had higher overall achievement than students taught by male teachers.

Some studies, however, have shown that there is no significant difference in performance between male and female teachers. Ryans (1963). For instance, after an intensive research reached at a similar conclusion. And also found no effect of teacher sex on student achievement.

2.6 Difference in Attitude and Performance of Teachers Related to School Location

Research undertakings geared to find out the effect of school location on the attitude and performance of teachers are very rare. However, a few research findings are given here under. Kline (1949) noted that teachers in rural schools reported less favourable attitude than teachers in urban schools. However, Rabinowitz and Rosenbaum (1960) in their study of the attitude of teachers, classified teachers according to the geographical area in which the teachers work and found that attitude score of teachers (of the same experience) working in New York was lower than the attitude score of teachers working outside New York (where there is small community). Durojaiye (1974) also conducted a study to find out whether there was significant difference in attitude between teachers working in rural and urban schools and reported that there was no significant difference.

With regard to teaching performance, Carnoy (1971) conducted a study to see whether there is significant difference in performance between teachers working in rural

and urban schools and concluded that there was significant difference in teaching performance: rural school teachers performed better than urban school teachers. Contrary to this, Turner (1964) studied the teaching performance of teachers working in cities, villages, and rural schools and found no significant difference in the teaching performance of the teachers. The same finding was also reported by Getzeles and Jackson (1963).

2.7 Radio in Classroom Teaching

This part is not devoted to present the importance of radio in detail. But in this study, as the effect of teaching experience on attitude and performance was to be measured with reference to attitude towards and utilization of radio lesson, brief review of the importance of radio, factors affecting the attitude and utilization of radio lessons, and important steps in utilizing radio lessons are presented.

2.7.1 Importance of Radio

Because of its versatile advantages, radio is one of the important educational media. It has the potential to break the traditional learning model which is entirely dependent on the teacher, textbook and chalkboard (Paine and McAra, 1993 cited in Hallack and Miokosaito, 1994). In fact, radio plays an important role by enriching instruction in different ways. Topics which are not sufficiently and explicitly presented on textbooks can be enriched well through radio. This is especially helpful for teachers as well as students where there is no additional reference other than the textbook. Thus, radio enriches the syllabus based approach by the teacher by expanding the Syllabus (textbook). Besides, radio plays a significant role in updating the curriculum and

making it more relevant. This is because in the everchanging world, what is included in the curriculum as knowledge today may become obsolete tomorrow. Practically, we cannot change the curriculum to cope with the everchanging world every year or so. Curriculum change takes time. In such a situation, educational radio can play an important role in updating the curriculum. It brings fresh knowledge before it could be made available by the print media to the learner. With regard to this, Dale (1969) has argued:

> What we read or understand from textbooks is an event that has taken place long ago. Furthermore, because textbooks or other instructional materials are not revised or modified each year many often become out of date. But what ever thing or event is broadcast through radio can be as up-to-date as the day.

No teacher is an expert in all areas. Hence, radio leaping barriers of time and space, allows few prominent teachers to reach far away and otherwise many unreachable students and share their skills and knowledge (Bate, 1984). Particularly, radio helps in curriculum areas deemed important, but in which existing teachers are untrained (Jamison and McAnany, 1978).

Besides, radio brings resources ordinarily beyond those available to local classrooms. For instance, schools may lack musical instrument. In this case, radio can be a useful substitute in teaching music. Thus, radio allows scarce learning resources to be made available to all schools.

The other special quality of radio, different and advantageous over the print media, is that it creates a sense of participation and realism. It brings the world to the classroom. Without leaving the classroom, students can hear the details of important

ceremonies, conferences, history makings. They can learn the personalities and thoughts of famous and important people. The hearing of actual participants conveys meanings that are lost in a written document. This creates a sense of participation which serves as a stimulus for learning (Tickton, 1970).

Furthermore, the range of situations it can create by the use of sound effects gives radio a peculiar quality of creating emotional impact which consequently increases the desire to learn. In addition, radio could provide drama, songs, dialogue and a variety of presentations that few teachers could create. Thus, with the combination of its aural qualities of music, voice and sound effects, it stirs emotional experiences that may not be present in reading. The emotional and dramatic quality of the actor, his feelings and attitudes can create the mood and disposition to listen which will magically lead to more significant and imaginative learning. Dale (1969), Goodwin (1969), Brown, Lewis, and Harcleroad (1959) have noted on the peculiar quality of radio in increasing motivation to learn. They stressed that with proper equipment and materials, its sounds are impressive and realistic, capable of transporting students in imagination to other times and places into harrowing, pleasing or exiting situations. It has sound which involves students emotionally adding desirable affective tone to learn.

Radio calls on students to contribute, to use their imagination, to visualize the action. That is, radio encourages students to do more inferences, more work filling in between the lines. Tickton (1970), in fact, reported that radio demands more of the listener than its television counterpart and in return gives more. Cable (1965) has also

pointed that radio's appeal only to the sense of hearing is not a disadvantage. On the contrary, there are distinct advantages in a medium which does not observe the child's full range of concentration but leaves him/her free to exercise his/her imagination and visual perception in images of his own creation.

Furthermore, radio provides teachers with appropriate techniques and methods to follow (Brown, 1986; Kinder, 1959). Besides, radio is important to develop skills in listening and evaluating what is heard and provide models of speech. In addition, it stimulates the interests of students by setting the stage for discussion or debate by presenting opinion of outside experts from remote sources (Brown, 1986). Besides, radio plays a significant role in standardization of instruction. That is, it helps to narrow differences created by the qualification of teachers and supply of materials (Jamison and McAnany, 1978). In fact, Kent (1969) reported that there is hardly a subject that cannot be dealt with radio broadcast. In line with this, Clark and Starr (1986) noted that any subject can be taught by radio.

2.7.2 Factors Associated with Teacher's Attitude towards Educational Radio

Classroom teachers' attitude towards instructional radio can be affected by many factors. Thomas and Kobayashi (1987) identified the following as major factors which could influence the attitude of classroom teachers towards instructional radio:

1) extra effect required to utilize the broadcast,
2) dislike for outside interference,
3) yielding center stage,
4) degree of satisfaction with the existing teaching technique, and

5) conceptions of complexity.

Armesy and Dahl (1973) also noted some factors associated with teachers' attitude towards Educational radio:

1) fear of the effect of the medium on their role and responsibility,
2) satisfaction with the current teaching techniques,
3) special effort required to utilize it,
4) attitude towards the profession. Similarly, George (1970) listed some factors which could affect the attitude of teachers towards educational radio:

1) the value they describe to instructional radio,
2) the difficulties they imagine are involved in the utilization of educational radio,
3) their attitude towards teaching, and
4) their degree of conservatism.

2.7.3 Factors that Influence Utilization of Educational Radio

Thomas and Kobayashi (1987) stressed that attitude, training, quality of the reception and support given by the school are factors that could influence utilization of educational radio. Likewise, Wells (1967) also reported that attitude, training, and supply of materials influence utilization efforts. Erikson (1968) and Bates (1984) noted that the attitude of the teacher, the training of the teacher, the quality of reception, support given by the school and educational personnel, time table and supply of material and equipment are important elements that can influence utilization. Particularly Dale (1969) stressed that the attitude of the teacher is the gate way in the utilization of educational radio. Dale noted that no script writer and no dramatic cast,

however, skilful can overcome the obstacles of an indifferent teacher at the point of reception; in a true learning atmosphere the teacher must be enthusiastic. He must react to the program as he/she would like the students to react. Hancok (1976) pointed that the classroom teacher is the key person upon whom the success of radio instruction depends. Hancok stressed that the classroom teacher's attitude is more important than specific abilities he/she may or may not have. Gyima (1967), Kinder (1959) and Mohantry (1984) also asserted that attitude of the classroom teacher is an important factor in the utilization of instructional radio.

2.7.4 Important Steps in the Utilization of Radio

The effectiveness of broadcast largely depends on the effort of the classroom teacher. Kent (1969) and Romiswski (1968) stressed that the teacher should not leave class or do his own work, because the success of the radio broadcast depends on his/her conscious preparation and skilful handling. According to Kent (1969), radio can carry a major instructional burden, but the greater the teacher's contribution, the more the child benefits. Utilization of radio program involves three steps: preparation, presentation and follow up activities. In other words, readiness, reception and reinforcement are the three steps.

2.7.4.1 Before Broadcast

Before broadcast the classroom teacher has to know the program and prepare physical facilities and equipment such as radio and seating facilities. Besides, the classroom teacher needs to prepare visual materials, revise lesson of previous class, and explain briefly the oncoming program's structure. Furthermore, she/he needs to

elaborate why students are to listen, how it relates to work underway, what they are expected to do during or after the lesson, how they are expected to profit from it. The teacher has to encourage students to expect key questions the program will answer. In short, during the prelistening time, the classroom teacher has to ignite the curiosity of the students to the level that they can listen with full concentration.

2.7.4.2 During Broadcast

Throughout the broadcast, the classroom teacher is required to act as visible human link between his/her students and the disembodied voice of the radio (Cable, 1965). The teacher is expected to extend the radio lesson beyond the medium's limits. He/she is required to show, to write, demonstrate. Besides, the classroom teacher should control and encourage with additional prompts and explanations. She/he should encourage good listening by having students listen quietly with courtesy and concern for others in the class. Besides, the classroom teacher has to help students to concentrate on the radio, what is said, how it is said and what it really means. Furthermore, the classroom teacher has to list important words, phrases, expressions that are to be revised after the radio lesson. The other important role the teacher should take is being a good model for the students to follow. He/she should show interest and give attention to the radio lesson. The teacher should show the right movement to music and sing the song with the students. Indeed he/she has to be a keen observer of students' reaction and help students answer the radio teachers' questions.

2.7.4.3 After Broadcast

The classroom teacher has to integrate the learning experience, and consolidate big ideas taught to make sure that they are well fixed in the students' minds. In addition, the teacher has to make his students evaluate the results, what they get from the radio lesson, what new problems for further investigation were presented. The other important task of the classroom teacher is he/she has to provide follow up activities to students to do more concerning the lesson of the day.

CHAPTER III

DESIGN OF THE STUDY

This part of the study deals with the description of the data sources and methods of sampling, instruments employed and the procedures of instrument development and methods of data analysis.

3.1 Data Sources and Methods of Sampling

3.1.1 Data Sources

For this study data sources were teachers (Grade five and six). The teachers were those who did not take training after graduation. This was purposely done to control the influence of inservice or any other additional training that can affect the attitude and performance of teachers. Kline (1949) has noted that recency of training has an impact on attitude.

3.1.2 Sampling

The study was conducted in Tigrai Region, (Southern and Makale zones). The writer selected the two zones because he has familiarity with the area. Besides, teachers with different service years were available in the two zones.

According to the zonal education offices, a total of 189 primary government schools were functioning in the two zones. In these schools a total of 110,514 students were enrolled. Besides, 2217 primary school (1-8) teachers were serving in the two zones. There are 10 woredas in the two zones out of which four woredas, were randomly selected (Alaje, Hintalo Wojerat, Samre-Saharti, Semen). After selecting the four woredas, a list of schools of each woreda was secured. Then 41 schools which have Grades five and six were identified. Based on the list of schools a total of 15 schools were randomly selected (six urban and nine rural). The number of rural schools was purposely made higher, because, in rural areas the schools are small (in terms of staff) compared to urban schools. So in order to have fair balance in the number of teachers in rural and urban schools, the number of rural schools was made a bit higher.

A list of the teachers of the selected schools was secured and each teacher was asked whether or not he/she had any training after graduation. Based on their responses, ninety five teachers were identified who had no training after graduation. Out of the ninety five teachers only seven teachers had training (qualification) above TTI and three teacher above 25 years of service. Hence, due to lack of reasonable representative sample size, those who had qualification above TTI and above 25 years of service were excluded. Hence,85 teachers were made to fill questionnaire. Out of these, one questionnaire was filled incorrectly and discarded. Besides, two teachers declined to return the questionnaire. Thus, 82 teachers were taken as data sources for the study.

For comparison teachers were classified along five experience groups (1-5, 6-10, 11-15, 16-20, 21-25). In fact, in studying the effect of teaching experience there is no established way of classifying teachers. Different researchers used different classification. For instance, Turner (1964) in his study of the effect of years of teaching experience on performance classified teachers into three groups (one to three, four to ten years, and eleven years and above). In another study Turner (1964) classified teachers into four groups (zero service, one to three, four to ten and eleven to twenty five). Similarly, Kyreacou and Suticliffe (1979) classified teachers into three (0-4, 5-10 and over 10). Other researchers such as Huetting and Newell (1960), Smith (1982), Yager and Hidayat and Penick (1988) used different classifications.

3.2 Data Collection Instruments

Two types of data collection instruments were used. These were attitude questionnaire (Likert type) and rating scale. These instruments were originally prepared in English and later translated into Tigrinya.

3.2.1 Questionnaire

The questionnaire for teachers was prepared to obtain data such as sex, qualification and experience and school characteristics, and their attitude towards radio lessons.

The items for this questionnaire were developed from literature review and very few were adopted from previous studies. These attitude statements cover possible views ranging from the most positive and favourable to the most negative and

unfavourable (the negative and positive statements are almost equal in number), so that a person favouring radio lesson would agree with positive ones and disagree with negative ones, while a person opposing such a program might do the opposite, disagree with positive items and agree with negative ones.

Demographic data of the attitude questionnaire were purposely presented at the end of the questionnaire to reduce the suspicion of the respondents. Dillman, (1978), Moster and Kalton, (1972) and Oppenheim,(1986) have noted that background data such as sex and age should come at the end of the questionnaire.

The draft questionnaire was distributed to four graduate students. The feedback from them was used to shorten unnecessarily long items, eliminate those with double meaning and clarify ambiguity. Thus, based on the comments secured, five statements were modified and three completely discarded because they were commented very weak. Furthermore, the questionnaire was reviewed by corps of judges. The judges were two senior experts in the Educational Media Agency and three Senior Graduate Students. The judges were instructed to rate the degree of relevance of each item for the stated purpose according to the following scale (5 = very high, 4 = high, 3 = moderate, 2 = low, 1 = very low). On the basis of the rating of the five judges, items which received a mean rating score of three and above were retained as good and taken for the purpose and items which received a mean rating score below three were discarded. Thus, six items were discarded. In order to check the degree of agreement among raters (judges) the inter rater reliability was calculated and was found to be 0.86 which was just high enough for the intended purpose.

In addition to the above attempts, a pilot study was conducted to see the strength of the instrument and further strengthen it. Hence, the questionnaire was administered to twenty teachers that are as similar as possible to those to be included in the main study, to find out how clear and comprehensible the introduction (cover letter), instructions and wordings of the statements. Based on the pilot work, four statements were discarded because they were found to have some pitfalls. Besides, three statements were shortened and reworded. Furthermore, the Pearson Product Moment Correlation was calculated for the odd and even numbered items resulting a coefficient of 0-9. To find the internal consistency of the items (even and odd combined) a reliability estimate was calculated using the Spearman-Brown formula resulting in internal consistency coefficient of 0-93.

3.2.2 Observation Scale

The observation rating scale was prepared to rate the effort made by teachers in utilizing radio lessons. The instrument was developed by examining the Radio Teacher's Guide and identifying activities which are important in utilizing radio lessons. All the procedures used in the development of attitude questionnaire were also employed here. The observation scale was reviewed by Senior Graduate Students and senior experts from the Educational Media Agency. The instrument was tried out and based on the pilot testing, items found to be too general were refined and prepared for final use.

3.3 Data Collection and Scoring Procedures

Before arranging the program of data collection, directors were briefed about the purpose of the study and the assistance needed from them. In the administration of the attitude questionnaire, the specific purpose of the questionnaire was purposely concealed because such knowledge might bias their responses. Oppenheim (1986) and Tuckman (1978) also advised this approach. Teachers were specifically informed the confidentiality of the information they were to give. They were instructed not to write their names in an attempt to encourage honest and frank reaction to the statements. Instead, each attitude questionnaire was given invisible (secret) identification(code) number so that it was possible to correspond the attitude score and utilization score of each teacher as rated by observers. Tuckman (1978) advised this. The observation on how teachers utilize classroom radio lessons was done with the help of research assistants. The research assistants were given training to secure clear understanding of the purpose of the study and to familiarize them with the instrument and the types of judgement expected of them, that is, activities to be observed and assessed. At this time effort was made to motivate the observers to do honest job. After training, practice on how to use the rating instrument was carried. During the practice sessions, observers were made to rate the utilization of radio lessons by teachers. Discussions were made following the observation practice to see problems and furnish further clarification. This was repeated until the observers fully mastered the task. After the orientation, each teacher was observed once while utilizing radio lesson.

3.4 Methods of Data Analysis

Different statistical techniques were employed in the analysis of data. These include, Fisher's one way analysis of variance (ANOVA), t-test and Pearson Product Moment Correlation. ANOVA was employed to check whether there is significant difference or not in attitude as well as utilization among teachers in the five experience groups. Following the calculation of ANOVA, Tukey Honestly significant post hoc pairwise comparison was also employed to identify which group means are statistically significantly different. This method was chosen because it could be applied to means that have equal as well as unequal number of group members, that is, different group size (Pagano, 1981). T-test was also employed to determine whether there is significant difference in attitude as well as utilization between means of two groups: male and female teachers, teachers working in rural and urban schools. In computing t-test to solve the problem of homogeneity of variance, instead of polled variance separate variance estimate using the smaller N_1-1 and N_2-1 as the degree of freedom was employed. Howell, (1995) advised this. Besides, Pearson's Product Moment Correlation (r) was employed to find out the degree of relationship between attitude and utilization at each level of experience. Furthermore, to find out the magnitude and strength of association shared by the two variables (attitude and utilization), Coefficient of Determination (r^2) was calculated.

The significance differences and associations were considered adequate with alpha 0.05 level of significance.

CHAPTER FOUR

DESCRIPTION AND ANALYSIS OF DATA

4.1 Description of Data

This part of the paper deals with the presentation and analysis of the collected data. A total of 85 copies of attitude questionnaire were distributed to Grades Five and Six teachers whose subjects were supported by radio lessons. Out of the distributed copies of the questionnaire, 83 were filled and returned. However, one copy was discarded, for it was found inappropriately filled. Furthermore, each teacher whose questionnaire was properly filled was observed once while running a radio lesson. Thus a total of 82 teachers were observed and rated on how they utilized a radio lesson. The collected data are summarized in the form of tables so as to give a clear picture of the results. Besides, different statistical tools such as mean, one way analysis of variance (ANOVA),t-test and Tukey's Honestly significant difference (HSD) post hoc test were employed to analyse the gathered data.

The data sources were teachers with 1-25 years of teaching service drawn from six urban and nine rural randomly selected rural schools.

Table 1

Profile of Data Sources

Teaching Experience Group	Sex			Location			Grade		
	M	F	Total	Urban	Rural	Total	5	6	Total
1-5	12	7	19	7	12	19	11	8	19
6-10	11	12	23	6	17	23	10	13	23
11-15	10	6	16	5	11	16	9	7	16
16-20	9	5	14	8	6	14	7	7	14
21-25	7	3	10	10	0	10	7	3	10
Total	49	33	82	36	46	82	44	38	82

The sample teachers for the sake of group comparison were classified into five experience groups and as can be seen from Table 1, 19 of the sample teachers have a service of 1-5 years. Similarly, 23 teachers are in the teaching range of 6-10 years. Sixteen of the teachers have teaching experience between 11 and 15 years. Likewise, 14 of the sample teachers lie in the range of teaching experience of 16-20 years. And the remaining 10 teachers have a service of 21-25 years. Teachers who had served more than 25 years were not included in the study due to a problem of representativeness in sampling.

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Thirty three of the sample teachers were women and 49 men. As depicted in Table 1, 46 of the sample teachers teach in rural schools, whereas 36 of the sample teachers are drawn from urban schools. Besides, 44 of the sample teachers teach in

Grade Five, whereas, 38 of the sample teachers teach in Grade Six. Only those teachers whose subject areas were supported by radio lesson were considered in the study.

Table 2

Breakdown of the Sample Teachers Subject Wise

Subjects	Grades		Total
	5	6	
Tigrinya	10	8	18
Amharic	8	6	14
English	7	5	12
Science	11	9	20
S.Science	8	10	18
Total	44	38	82

Teachers of five different subjects (Tigrinya, Amharic, English, Science and Social Science) were included in the study. The respondents were asked whether they had any orientation of how to utilize radio lesson; 97 percent of the teachers indicated they had some orientation of how to use a radio lesson.

4.2 Analysis and Interpretation of Data

4.2.1 Attitude

In assessing the attitude of teachers, an individual's score was obtained by summing up the responses for the 28 attitude items (see Appendix A) and each teacher was assigned to the experience group he/she belongs. The results are depicted in Table 3.

Table 3

Mean Attitude Scores of Teachers with Varying Teaching Experience

Levels of Teaching Experience	N	Mean	SD	SD^2
1-5	19	120.68	7.05	49.70
6-10	23	113.52	11.34	128.59
11-15	16	102.44	8.26	68.23
16-20	14	90.43	9.16	83.91
21-25	10	78.30	9.53	90.9

ANOVA Table

Source	df	SS	MSS	F
Between groups	4	16618.73	5539.58	64.63*
within groups	77	6599.32	85.71	
Total	81	23218.05		

* Statistically significant $p < 0.05$ F - (4,77).

As depicted in Table 3, the mean attitude score for the five experience groups was found to be 120.68 for group 1 (1-5 years of service), 113.52 for group 2 (6-10 years of services), 102.44 for group 3 (11-15 years of service), 90.43 for group 4 (16-20 years of service) and 78.30 for group 5 (21-25 years of service).

Examination of the mean attitude score of the five groups revealed some variations. To test whether or not the mean attitude difference among the five groups was significant, statistical analysis was necessary. To this end a one way analysis of variance was carried out. As indicated in Table 3, the ANOVA test results demonstrate that attitude scores of the five groups are highly statistically different. The computed F-value (F 4,77) = 64.63) is greater than the critical F value (F 4,77) = 2.48) at an alpha level of o.05.

Since it was difficult to identify which groups differ statistically pair wise comparison was necessary. For this purpose, Tukey's Honestly significant difference (HSD) post hoc pair wise was employed to know which pairs of means differ statistically. After computation, the studentized range Q distribution was referred for significance testing.

Data in Table 4 below demonstrates the contrasted means and calculated values of Q for the teachers attitude towards radio lesson.

Table 4

Contrasted Means and Q values for the Teachers Attitude towards Radio Lesson

Compared Groups		N	Mean	SD	SD^2	Q-Calculated	Signifi-cance of the Test
1-5 Vs	1-5	19	120.68	7.05	49.70	3.01	
6-10	6-10	23	113.52	11.34	128.59		
6-10 Vs	6-10	23	113.52	11.34	128.59	4.66	*
11-15	11-15	16	102.44	8.26	68.23		
11-15 Vs	11-15	16	102.44	8.26	68.23	5.05	*
16-20	16-20	14	90.43	9.16	83.91		
16-20 Vs	16-20	14	90.43	9.16	83.91	5.09	*
21-25	21-25	10	78.30	9.53	90.9		

*$P < 0.05$ (Q-critical 3.98 for df w = 77 and r = 5)

As Table 4 reveals, when a group of teachers with different levels of teaching experience were compared, though statistically not significant in one case, the Q distribution has been found significant at Q (r=5 dfw = 77, $P<0.05$).

Thus, there exists a significant attitude difference towards radio lesson among three of the compared pairs (6-10 and 11-15, 11-15 and 16-20, and 16-20 and 21-25). The general trend is, as can be observed from Table 4, as service years increase mean attitude scores decrease.

The present finding shows a trend similar to what was reported by previous researchers (Cook, Hoyt and Eikaas, 1965). Cook and his associates made a longitudinal attitude study on a group of student teachers. They compared attitude scores of student teachers obtained at the end of their training with scores obtained at different times after being employed as full time teachers. The authors reported a significant decline in attitude scores, that is, the attitude scores when they were at college were better than their scores after employed as teachers. Furthermore, Cook and his colleagues compared the attitude of those teachers at different times (with different service years) and reported that teachers had more favourable attitude when they had less service than when they served more years in teaching. Finally, Cook and his associates concluded that favourable attitude built in college was eroded and deteriorated in classroom as service years increase.

The finding of this study is also inconformity with the argument of Chapman and Malcolm (1982). They reported that teachers who had been teaching for five or more years with out exception admitted that they no longer experienced their work with enthusiasm and a sense of mission they once had.

In the present study, it was found that as service years increase, attitude scores decrease. The possible explanation for the significant decline in attitude as service years increase, could be the diminishing of the amount of professional information as time goes on. In fact LaBue (1959) from the George Washington University reported that attitude of a teacher is significantly related to the amount of professional information he/she possesses. Hence, in a system where there is no follow up and retraining, teachers who worked in the system longer are more likely to be weaker in having a favourable attitude. Gettler (1963) and Hall (1964) reported that attitude differences between fully prepared (trained) and untrained teachers become less after several years of teaching. They reported that several years of teaching would have the effect of diminishing or possibly eliminating initial differences that tended to favour the trained teachers.

The other probable explanation for the decline of attitude as service years increase is related to the quality of training. The training given during preservice may be deficient in building enduring professional attitude of trainees. Particularly observing the great emphasis given to the mastery of subject matter and less emphasis given to attitude during preservice training, one dares to suspect that the decline of favourable attitude as service years increase may be, during training lasting influence on the attitude of the would be teachers was not achieved. Hence, the reason for the decline of attitude with increasing experience could be due to the weak easily erodable attitude built during training. In fact, Roemer (1981) stressed that professional attitude is more important than professional competence for teachers.

In addition to the explanations given above, the probable reason which may have contributed to the decline of attitude as service years increase could be the low societal prestige given to the teaching profession. Teachers who have served long may be much more aware of the inferior treatment they receive from the society and may develop less favourable attitude towards the profession. Hence, the decline in attitude towards radio lesson as experience increases could be a reflection of weak attitude towards the profession. However, those teachers with less service may not have yet fully noticed the low regard given to the teaching profession and hence may have more favourable attitude than more experienced teachers. In fact Derese (1987) compared that desire to leave teaching between less experienced and more experienced teachers and reported that more experienced teachers showed greater desire to leave teaching than less experienced ones.

Table 5

Comparison of Attitude towards Radio Lesson between the Two Sexes

Teaching	Male				Female				Significance
Experience	N	Mean	SD	Sd^2	N	Mean	SD	Sd^2	of the Test
1-5	12	122.08	7.97	63.52	7	118.29	4.68	21.90	ns
6-10	11	114.55	12.45	155.00	12	112.58	10.69	114.28	ns
11-15	10	102.70	9.71	94.28	6	102	5.89	34.69	ns
16-20	9	91.1	10.49	110.04	5	89.2	7.05	49.70	ns
21-25	7	77.57	10.67	113.95	3	80.00	7.81	61	ns

ns = not statistically significant at 0.05, df, the smaller of N_1-1 and N_2-1.

As Table 5 reveals, the t-test for significance of difference in attitude between the two groups (males and females) was found to be non-significant at each level of experience. This is because the computed t-value for each group was smaller than the

critical t-value. The non-significant difference in attitude between male and female teachers seems in agreement with the findings of Derese (1987) and Smith (1982), who reported that sex difference in attitude was found to be low and non-significant. The probable reason could be, because they (the male and female teachers) had the same training and were working in the same system where there was no follow-up and retraining. Thus, the deterioration in attitude as service years increase is the same for both sexes.

Table 6

Comparison of Attitude towards Radio Lesson between Teachers Working in Rural and Urban Schools at each Level of Experience

Teaching Experience Group	Urban				Rural				Signi-ficance of the Test
	N	Mean	SD	Sd^2	N	Mean	SD	Sd^2	
1-5	7	118	6.78	45.97	12	122.25	6.97	48.58	ns
6-10	6	114.33	12.13	147.14	17	113.24	11.43	130.64	ns
11-15	5	101	6.75	45.56	11	103.09	9.09	82.63	ns
16-20	8	93.13	8.69	75.52	6	86.83	9.24	85.38	ns
21-25	10	-	-	-	-		-	-	-

ns = not statistically significant at 0.05, df, the smaller of N_1-1 and N_2-1.

As it is shown in Table 6, comparison of attitude towards a radio lesson between teachers working in rural and urban schools at each level of experience showed non-significant difference, that is, whether teachers were assigned in urban or rural schools, the location of their working environment makes no difference in their attitude towards radio lesson.

4.2.2 Utilization

An observation rating scale was prepared to rate the effort made by teachers in utilizing radio lesson in the classroom (see Appendix B). the instrument was developed by examining Radio Teachers' Guides and identifying activities which are important and common to all the subjects in utilizing radio lessons. In assessing the utilization effort of each teacher, an individual's score was obtained by summing up the points he/she got for each of the 11 items.

Table 7

Mean Utilization Scores of Teachers with Varying Experience

Teaching Experience Group	N	Mean	Sd	Sd^2
1-5	19	47.05	3.84	14.72
6-10	23	37.69	5.55	30.86
11-15	16	31.44	4.29	18.39
16-20	14	25.07	4.78	22.84
21-25	10	18.00	3.29	10.89

ANOVA Table

Source	df	SS	MSS	F
Between groups	4	7331.72	1832.93	*86.54
within groups	77	1630.68	21.18	
Total	81	8962.40		

* Statistically significant at 0.05. F - (4, 77).

Table 7 reveals a summary of the mean utilization scores of the compared groups. The five groups are different in their mean utilization scores. Teachers with

more teaching experience seem to have lower utilization scores than teachers with less teaching experience. To test whether or not the mean utilization differences among the five groups were significant, statistical analysis was necessary. To this end, a one way ANOVA was employed. The F-test result reveals that the difference among the five groups is highly statistically significant. Thus, the computed F value (4,77) = 86.54) is greater than the critical F value (4,77) = 2.48) at an alpha level of 0.05 demonstrating a significant difference in utilizing radio lessons among the five groups.

As it was difficult to show which groups contributed more to this difference, Tukey's post hoc pair wise comparison was carried out and the result is presented in Table 8.

Table 8

Tukey Post Hoc Pairwise Comparison of Utilization of Radio Lesson

Compared Groups		N	Mean	SD	SD^2	Q-Calculated	Significance of the Test
1-5 Vs	1-5	19	47.05	3.84	14.72	7.8	*
6-10	6-10	23	37.69	5.55	30.86		
6-10 Vs	6-10	23	37.69	5.55	30.86	5.21	*
11-15	11-15	16	31.44	4.29	18.39		
11-15 Vs	11-15	16	31.44	4.29	18.39	5.31	*
16-20	16-20	14	25.07	4.78	22.84		
16-20 Vs	16-20	14	25.07	4.78	22.84	5.89	*
21-25	21-25	10	18.00	3.29	10.89		

$P < 0.05$ (Q critical 3.98 for dfw = 77 r = 5).

It appears that there is a significant difference in utilizing radio lesson when comparing groups of teachers with different experiences. The observed trend is that

as experience increases mean utilization score decreases. This finding seems to be consistent with the findings of Turner (1964) by grouping teachers into different experience categories. Turner compared the teaching performance of the teachers and after repeated studies reported that, the very early years of teaching experience produced the greatest rise in teaching performance. He stressed that the rise in teaching performance never continued after the third year of teaching. Turner concluded that statistical significance rise in performance occurred between none and the end of third year of experience. Besides, statistically significant decline occurred between the tenth and twenty-fifth years. Similar results were also reported by Katz (1972), who studied the developmental stages of preschool teachers and reported that teachers under went four developmental stages. He pointed out that during the third or fourth year of teaching (at the third stage - he called it renewal stage), teachers begin to get tired of doing the same thing and start to ask questions about the profession. This time they need to have renewal or refreshing up with new ideas so as to help them keep up their initiative.

The possible explanation for the decline in the utilization of radio lessons in classrooms as service years increase could be attributed to the deterioration of attitude which was reported previously in this study (i.e., as service years increase, a decline in attitude occurs).

Table 9

Comparison of Utilization of Radio Lesson between the Two Sexes at each Level of Experience

Teaching Experience Group	Male				Female				Signi-ficance of the Test
	N	Mean	SD	Sd^2	N	Mean	SD	Sd^2	
1-5	12	47.58	3.94	15.54	7	46.14	3.76	14.14	ns
6-10	11	38.53	6.17	38.07	12	36.92	5.07	25.71	ns
11-15	10	31.1	3.63	13.21	6	32.00	5.55	30.8	ns
16-20	9	25.5	5.61	31.53	5	24.2	3.11	9.7	ns
21-25	7	18.14	3.76	14.14	3	17.67	2.52	6.33	ns

ns = not statistically significant at 0.05, df the smaller of N_1-1 and N_2-1.

As depicted in Table 9, a test of significance using t-test was made between the two sexes in radio lesson utilization and the results demonstrate that the differences are not statistically significant. This is because the calculated t-value for each group was smaller than the critical t-value. The results of the study appear to be inconformity with the findings of Ryans (1963). Ryans reported that there is no difference between male and female teachers in their teaching performance.

The urban-rural variation in utilizing radio lesson was also found to be statistically non-significant, that is, teachers with similar teaching experience working both in rural and urban schools do not show difference in utilizing radio lessons. The t-test result is depicted in Table 10 below.

Table 10

Comparison of Radio Lesson Utilization between Teachers Working in Rural and Urban Schools

Teaching Experience Group	Urban				Rural				Signifi-cance of the test
	N	Mean	SD	Sd^2	N	Mean	SD	Sd^2	
1-5	7	44.29	4.15	17.24	12	48.66	2.64	6.97	ns
6-10	6	38.83	4.88	23.77	17	37.29	5.86	34.35	ns
11-15	5	29.4	3.91	15.3	11	32.36	4.39	18.45	ns
16-20	8	26.15	5.09	25.93	6	23.5	4.23	17.9	ns
21-25	10	-	-	-	-	-	-	-	-

ns = not statistically significant at 0.05, df, the smaller of N_1-1 and N_2-1.

As the t-test results demonstrate, there is no difference in utilizing radio lessons between teachers working in rural and urban schools. This is because the computed t-value for each group was smaller than the critical t-value. The results of this study are in agreement with the findings of Turner (1964), who classified teachers into three groups depending on the location they teach: rural, village or city. Turner reported non-significant difference in the performance of the teachers in the three groups. Thus, like attitude, the working environment (both urban and rural) did not make difference in the utilization of radio lessons.

4.2.3 Association between Attitude and Utilization

To find out the association of the two variables, attitude and utilization, the Pearson Product Moment Correlation Coefficient was calculated for each level of experience. The results of the correlation coefficient of the five groups showed positive correlation as shown in Table 11.

Table 11

Correlation Coefficients and Coefficient of Determination between Attitude towards and Utilization of Radio Lesson at each Level of Experience

Teaching Experience	N	r	r2	T-Critical	Significance Level
1-5	19	0.90	0.81	0.445	*
6-10	23	0.84	0.71	0.413	*
11-15	16	0.77	0.59	0.493	*
16-20	14	0.94	0.88	0.533	*
21-25	10	0.81	0.65	0.632	*

*Statistically significant at 0.05 df, N-2, where N is the number of pairs of observations.

In addition to the correlation coefficient (r), a Correlation of Determination coefficient (r2) was computed to find out the strength of the relationship between attitude of teachers towards radio lesson and the effectiveness in utilization Computed results of the Coefficient of Determination indicate that the strength of relationship between the two variables is strong in all groups.

The strong relationship between attitude and utilization seems to be in line with the findings of smith (1971) and Juppen (1966), who reported that attitude predict teaching performance fairly well. In this study, it is observed that as teaching experience increases, attitude decreases. Consequently, utilization of radio lessons also decreases. It, therefore, seems that utilization depends on attitude.

CHAPTER 5

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary

The major objective of the study was to identify the effect of teaching experience on attitude and utilization of educational radio lessons. More specifically, the objectives of the study were to:

1. Examine the effect of teaching experience on attitude to and utilization of educational radio lessons.
2. Find out the relationship between attitude to and utilization of educational radio.
3. find out if experience as medoated by sex makes difference in attitude to and utilization of educational radio lessons.
4. find out if experience as mediated by school location makes significant difference in attitude to and utilization of educational radio lessons.
5. explore deficiencies in the system for system overhaul.

In order to achieve the stated objectives, the following hypotheses were formulated.

1. Teachers who have more years of service have less positive attitude towards radio lesson than teachers with less years of service.
2. Male and female teachers with similar teaching experience do not have a significant difference in attitude towards educational radio lesson.

3. There is no significant difference in attitude towards radio lesson between teachers having similar years of service but working in rural and urban schools.
4. Teachers who have less teaching experience utilize educational radio lesson better than teachers with more years of service.
5. Male and female teachers with similar teaching experience do not have significant difference in utilizing the radio program.
6. There is no significant difference between male and female teachers having similar years of service in utilizing radio lessons.
7. There is strong correlation between attitude to and utilization of the radio lesson at each level of experience.

The study was carried out in Tigrai region - Southern and Makalle zones. Data was collected from 15 randomly selected primary schools. To select particular schools to be included in the sample, 41 schools which have Grades Five and Six were identified and based on the list of schools, 15 schools were randomly selected (six urban and nine rural).

To collect data from the selected schools, attitude questionnaire (Likert type) and observation rating scale were employed. These instruments were originally prepared in English and later translated into Tigrinya. The observation in how teachers utilize classroom radio lessons was done with the help of research assistants. The research assistants were given training to secure clear understanding of the purpose of the study and to be familiarize with the instrument.

The attitude questionnaire was distributed to 85 teachers. Out of these, one was filled incorrectly and hence was discarded. Besides, two teachers declined to return the questionnaire. Thus, 82 teachers were taken as data sources for the study.

In view of the stated hypotheses, the collected data were anlyzed using statistical tools such as, Fishers one way analysis of variance (ANOVA), Tukey's post hoc comparison, t-test, Pearson's Product Moment Correlation and Coefficient of Determination. Finally, the following major findings were reached upon.

1. The study revealed that the level of attitude towards radio lesson, as measured by the Likert type attitude scale, is different for teachers with different years of teaching experience. The ANOVA test of difference among the five experience groups (1-5, 6-10, 11-15, 16-20 and 21-25) showed that the means for the five groups are statistically significant. The computed F-value ((4,77) = 64.63) was found to be greater than the critical F-value ((4,77) = 2.48) at an alpha level of 0.05. More specifically, calculations of Q using the Tukey method indicated that there is significant difference between three of the compared groups (6-10 vs 11-15, 11-15 vs 16-20 and 16-20 vs 21-25). This finding seems in agreement with some of the previous research findings which reported a decline in attitude as service years increase.
2. Utilization of radio lesson also depicted similar results. Utilization effort is different for teachers with different years of teaching experience. The ANOVA test results demonstrate that utilization scores of teachers (classified into five experience groups: 1-5, 6-10, 11-15, 16-20 and 21-25) are highly statistically significantly different. Thus, the computed F-value ((4,77) = 86.54) is greater than the critical F, value (4,77) = 2.48) at alpha level of 0.05 showing a

significant difference in utilizing radio lesson among teachers with varying teaching experience. Pair wise comparison using the Tukey method (Q) also showed that the difference between the compared groups is statistically significant.

3. T-test employed to assess whether there is significant difference between female and male teachers having similar level of teaching experience in attitude towards radio lesson and in their effort of utilization depicted that there is no significant difference in attitude as well as in utilization efforts. Thus, the computed t-values were less than the critical t-values in all the groups.

4. Urban-rural variations in attitude towards radio lesson and in efforts of utilizing radio lessons also depicted similar results. The computed t-values revealed that there is no significant difference in attitude as well as in utilization efforts in all the five groups.

5. Pearson Product Moment Correlation (r) computed between attitude of teachers towards radio lesson and effort made by teachers in utilizing radio lesson was found to be positive. In addition Correlation of Determination (r2) computed between attitude towards radio lesson and utilization effort indicated that the strength of relationship between the two variables is strong and significant in all the five groups.

5.2 Conclusion

Based on the analysis of data and the findings of the study, the following conclusions are derived. The findings of the study revealed that service years and attitude towards radio lesson have a negative relationship. That is, as service years increase, attitude of teachers towards radio lesson decrease. Thus, teachers with more

service years have lower attitude towards radio lesson than teachers with less service. Besides, in this study it is concluded that as favourable attitude towards radio lesson decreases with increasing teaching experience, utilization of radio lessons also decreases which confirms that utilization depends on attitude. This depicts that experience weakened attitude and attitude in turn weakened utilization. Furthermore, teaching experience as mediated by sex of the teachers and school location (rural or urban) have no impact on the attitude towards radio lesson and efforts in utilizing of radio lesson.

5.3 Recommendation

Based on the findings and conclusions reached, the following recommendations are forwarded.

1. The reason for the deterioration of teachers' attitude towards radio lessons as service years increase could be due to the weak, easily erodable attitude built during training. Thus, it is recommended here, the nature (quality) of training specifically how far attitude of trainees are changed including the adequacy of the duration of training should be evaluated.
2. The effect of low societal prestige attached to the teaching profession on the attitude of teachers with different teaching experience should also be studied.
3. As revealed by the present study, the attitude and utilization of radio lessons decline with increasing teaching experience. To change this, the existing system of teacher education should be studied and incorporate a system of follow up (feedback) so that information secured could be used to arrange recurrent training after initial training so that teachers can continue with their strong favourable attitude and sustain the effort they demonstrate during the early years of their career.

4. The study revealed that as teaching experience increase, teachers attitude and utilization effort decline, hence, concerned authorities and principals should take into account teaching experience of teachers during assignment of teachers.

5. In addition to the implications outlined above, the study also suggests further investigation be carried out on a wider population by improving the present instruments and including some other relevant variables such as grade level and qualification.

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APPENDIX A

Addis Ababa University

School of Graduate Studies

Department of Curriculum and Instruction

Attitude Questionnaire

I am a graduate student at the Addis Ababa University. The purpose of this questionnaire is to gather information on the teaching-learning process. Hence, to make the study complete your honest reaction is highly desirable. You are, therefore, kindly requested to give genuine information. Be also informed that the response you give is only for study and it will be kept confidential. Remember that the truthfulness of the response you give contributes a lot to the success of the study. You do not need to write your name.

Thank you in advance.

I. Following is a list of items about Educational Radio. Read each statement carefully and show your choice that best represents your attitude by putting a tick (√) mark in one of the five alternatives

Use the following scoring key.

5 = strongly agree

4 = agree

3 = undecided

2 = disagree

1 = strongly disagree

Ser. No.	Statement	5	4	3	2	1
1	Radio lessens the importance of the class room teacher.					
2	Radio lessons help classroom teachers to improve their teaching methods listening to radio teachers.					
3	I am pleased that my teaching is supplemented by radio.					
4	Period of radio lessons help classroom teachers to rest.					
5	Radio lessons are important in updating instruction.					
6	Radio instruction is applicable to all subjects.					
7	Radio is a good supplement to the teaching-learning.					
8	It is better for students to follow radio lessons by themselves at home than utilize them in class.					
9	Radio helps few outstanding teachers to teach many students.					
10	Students can best learn without radio.					
11	Because of radio students did not pay significant attention to classroom teacher's instruction.					
12	Radio is of little use in the regular classroom.					
13	The classroom teacher gives up his/her authority to the broadcast teacher.					

Ser. No.	Statement	5	4	3	2	1
14	Radio instruction is applicable only to some subjects.					
15	Students can benefit from radio as much as from the teacher.					
16	Radio lessons narrow the gap created among schools by the supply of teaching materials.					
17	Radio lessons do not bring change in the achievement of students.					
18	Instructional radio should be expanded to other grades because it is really a good help in the teaching learning process.					
19	Radio lessons give practical assistance to teachers.					
20	Radio is more useful for recreation and a musement than teaching.					
21	Radio lessons help classroom instruction not to be monotonous.					
22	If it had been optional I would not have used radio lessons.					
23	Radio lessons waste valuable learning time.					
24	Radio lessons are duplications of what the classroom teachers do.					
25	Radio lessons help students develop listening skills.					
26	I recommend other teachers should use radio lessons.					
27	Radio lessons interfere in my teaching activity					
28	Radio lessons should be continued.					

II. Please fill in the blanks with the right responses.

1. Name of the school _____
2. Location of the school
   - 2.1 Zone _____
   - 2.2 Woreda _____
   - 2.3 Tabiya _____
3. Your age _____
4. Your sex _____
5. Your qualification _____
6. Your specialization (if any)
   - 6.1 Major _____
   - 6.2 Minor _____
7. Subject(s) you teach _____
8. Grade(s) you teach _____
9. When did you start teaching?

   Month _____ Year _____
10. Teaching experience in years _____
11. Experience other than teaching (if any) specify type(s)

    _____
12. Duty other than teaching in the school _____
13. Have you taken any training on how to use (utilize radio in the class room)?

    A. Yes _____ B. No _____
14. If your answer to question number 13 is yes, how many times and for how long did you take the training? Specify the number and duration of the training?
    1. _____
    2. _____
    3. _____
15. General comments.

    _____

    _____

    _____

Thank you again.

APPENDIX B

Addis Ababa University

School of Graduate Studies

Department of Curriculum and Instruction

Teacher's Radio Utilization Classroom Observation Rating Scale

Dear Observer,

The purpose of this instrument is to gather information on the teaching-learning process. You are selected to participate in the collection of data. Hence, to make the study successful your honest co-operation is needed. Therefore, according to the plan of data collection, you have to visit some classes which have radio lessons. You are expected to observe how teachers utilize radio lessons and fill this form immediately after class. Please do not forget to record the additional information indicated as Part II.

I. Below are items related to different aspects of classroom radio utilization. Read each statement carefully and rate the performance of the teacher you observe on the five point scale and show your rating by putting a tick (√) mark in one of the five alternatives.

Key

5 = outstanding

4 = above average

3 = average

2 = below average

1 = inferior

Ser. No.	Statement	5	4	3	2	1
1	Efforts made by the teacher to check for proper arrangement of seats for optimum pupil attention and participation					
2	Efforts made by the teacher to revise previous radio lesson.					
3	Efforts made by the teacher to introduce radio lesson topic effectively.					
4	Efforts made by the teacher to inform objectives of the radio lesson					
5	Efforts made by the teacher to motivate pupils to receive the radio lesson.					
6	Efforts made by the teacher to keep classroom discipline.					
7	Efforts made by the teacher to set him self/herself as an example for the students to follow.					

Ser. No.	Statement	5	4	3	2	1
8	Efforts made by the teacher to encourage students to follow (use of verbal and non-verbal reinforcers)					
9	Efforts made by the teacher to integrate what is presented on the radio lesson.					
10	Efforts made by the teacher to evaluate the attainment of purposes (objectives)					
11	Efforts made by the teacher to provide follow up activities.					

II. Please fill in the blanks with the right responses.

1. Name and address of the school

   1.1 Name of the school _____

   1.2 Location of the school

   Zone _____

   Woreda _____

   Tabiya _____

2. Subject _____
3. Grade _____
4. Section _____
5. Radio lesson topic _____
6. Lesson number _____
7. Teachers name (observed teacher) _____
8. Sex _____
9. Age _____
10. Qualification _____
11. Specialization (if any) Major _____

    Minor _____
12. Teaching load per week _____
13. Subject(s) he/she teaches

    1. _____ 2. _____ 3. _____
14. Grade(s) he/she teaches

    1. _____ 2. _____ 3. _____
15. Teaching experience in years _____
16. The teacher started teaching (indicate month and year)

    _____
17. Number of observation _____
18. Time observation begun _____
19. Time observation ended _____
20. Name of the observer _____
21. Date observation done _____
22. General comments about the observation (briefly).

    _____

    _____

    _____

APPENDIX C

Tigrianya Version of the Attitude Questionnare

ዩኒቨርስቲ ኣዲስ ኣበባ

ቤት ትምህርቲ ድሕረ-ምረቃ

ክፍሊ ካሪክለምን ኢንስትራክሽንን

ዓላማ:- መምህራን ብሬድዮ ዝቀርብ ትምህርቱ ብዝምልከት ዘለዎም ኣረኣእያ ልምፍላጥ ዝተዳለወ መጠይቅ::

ኣነ ኣብ ዩኒቨርስቲ ኣዲስ ኣበባ ናይ ድሕረ ምረቃ ተምሃራይ እንትከውን÷ ናይዚ መጠይቅ'ዚ ዓላማውን ከይዲ ምምሃር ምስትምሃር ብዝምልከት ንዝካይዶ መፅናዕቱ መረዳእታ ንምእካብ'ዩ::

ስለዚ እቲ መፅናዕቲ ዕውት ንክኸውን ንሶም/ንሰን/ ዝህብዎ/ዝህብኦ መረዳእታ ወሳኒ'ዩ:: ብምኻኑ እምነቶም/ተን ዝገልፅ መረዳእታ ንክህቡኒ/ባኒ እሓትት:: እቲ መረዳእታ ንዝተጠቀሰ ዓላማ ጥራሕ ዝውዕልን ካብ ዝተጠቀሰ ዓላማ ወፃኢ ማንም ውልቀሰብ ወይ ኣካል ከምዘይሪኦን ኣረጋግፅ:: ነዚውን ሽም ምፅሓፍ ኣየድልን:: ሕዚውን ኣይዘንግዑ ዝህብዎ መረዳእታ ኣብቲ ዝግበር መፅናዕቲ ፅፈት ዓብይ እጃም ኣለዎ::

ንዝግበረለይ ምትሕብባር ኣቀዲመ ኣመስብን::

I. ካብዚ ቀፂሉ ትምህርቲ ብሬድዮ ዝምልከቱ ሓሳባት ተዘርዚሮም አለው። ሕድ ሕድ ሓሳብ ብጥንቃቐን ብምሉእ ልብን ድሕሪ ምንባብ ብመሰረት እቲ ተጠቂሱ ዘሎ መማረፂ ሓሳቦም አብ ዝገልፅ መማረፂ ቁፅሪ ናይ ልክዕ /√/ ምልክት የቀምጡ።

ዝስዕብ መማረፂ ይጠቅሙ /ቁፅርታት ዝውክልዎ ሓሳብ/

5 = ኣዕርየ እሰማመዓሉ

4 = እሰማመዓሉ

3 = ክውስን ኣይክእልን

2 = ኣይሰማመዓሉን

1 = ኣዕርየ ኣይሰማመዓሉን

ተራ ቁ.	ሙሉእ ሓሳብ	5	4	3	2	1
1	ብሬድዮ ዝቀርብ ትምህርቲ ተደላይነት ናይ ክፍሊ መምህር ንክንኪ ዝገብር'ዩ።					
2	ብሬድዮ ዝቀርብ ትምህርቲ መምህራን ምስ ዝተፈላለዩ ኣግባብ ኣመሃህራ ንኽላለዩ ዝገብር'ዩ።					
3	ናይ መምሃር ስርሓይ ብሬድዮ ብዝቀርብ ትምህርቲ ብምሕጋዙ ሕጉስ'የ።					
4	ብሬድዮ ዝቀርብ ትምህርቲ ናይ ክፍሊ መምህራን አብ እዋን ፈነወ ንክዓርፉ ዝህግዝ'ዩ።					
5	ብሬድዮ ዝቀርብ ትምህርቲ ስራሕ ምምሃር ምስትምሃር እዋናዊን ምስ ኩነታት ዝሰማማዕን ንኽኾን አብ ምሕጋዝ ተራ ኣለዎ።					
6	ኩሎም ዓይነታት ትምህርቲ ብሬድዮ ምምሃር ይከኣል'ዩ።					
7	ብሬድዮ ዝቀርብ ትምህርቲ አብ ምምሃር ምስትምሃር ዓብዩ ሓገዝ ኣለዎ።					

ተራ ቁ.		5	4	3	2	1
8	ብሬድዮ ዝቀርብ ትምህርቲ ካብ ኣብ ክፍሊ ምጥቃም ተምሃሮ ባዕሎም ኣብ ገዝኦም እንተዝከታተሉዎ ይምረፅ/ይሓይሽ/::					
9	ብሬድዮ ዝቀርብ ትምህርቲ ብዙሓት ኣሽሓት ተምሃሮ ብውሑዳት ብቁፕኣት ነኣይ ሬድዮ መምህራን ንምምሃር ይሕግዝ'ዩ::					
10	ተምሃሮ ብሬድዮ ዝቀርብ ትምህርቲ ከይተከታተሉ ብዝበለፅ ክምሃሩ ይክእሉ እዮም::					
11	ብሬድዮ ዝቀርብ ትምህርቲ ተምሃሮ ብናይ ክፍሊ መምህር ንዝወሃብ ትምህርቲ ዘለዎም ኣቃልቦ ክንኪ ይገብር'ዩ::					
12	ብሬድዮ ዝቀርብ ትምህርቲ ዘለዎ ጥቅሚ ውስን'ዩ::					
13	ብሬድዮ ዝቀርብ ትምህርቲ ናይ ክፍሊ መምህር ስልጣኑ ንሬድዮ መምህር ክህብ/ክገድፍ/ ዝገብር'ዩ::					
14	ብሬድዮ ምምሃር ዝካኣል ዝተወሰኑ ዓይነታት ትምህርቲ ጥራሕ'ዩ::					
15	ጠቃሚነት ብሬድዮ ዝወሃብ ትምህርቲ ምስ ኣብ ክፍሊ ብመምህር ዝወሃብ ትምህርቲ ንተምሃሮ ማዕረ እዩ::					
16	ብሬድዮ ዝቀርብ ትምህርቲ ኣብ መንጎ ኣብያተ ትምህርቲ ብቀረብ ኣድለይቲ ናይ ትምህርቲ መሰርሕታት ዝፍጠር ፍልልይ ኣብ ምፅባብ ግደ ኣለዎ::					
17	ብሬድዮ ዝቀርብ ትምህርቲ ኣብ ተምሃሮ ውፅኢት ዘምፅኦ ለውጢ የለን::					
18	ብሬድዮ ዝቀርብ ትምህርቲ ኣብ ካልኦት ዘይብሉም ክፍልታትውን ክወሃብ አለዎ ምክንያቱ ኣብ መምሃር ምስትምሃር ዓብዩ ሓገዛ ዝገብር'ዩ::					

ተራ ቁ.		5	4	3	2	1
19	ብሬድዮ ዝቀርብ ትምህርቲ ኣብ መምሃር ምስትምሃር ንመምህራን ጭቡጥ ሓገዝ ዝገብር'ዩ።					
20	ሬድዮ ካብ ንምምሃር ንምዝንጋዕን ምሕዳስን ዝህቦ ጥቅሚ ዝለዓለ'ዩ።					
21	ብሬድዮ ዝቀርብ ትምህርቲ ብናይ ክፍሊ መምህር ንዝወሃብ ትምህርቲ ተለዋጢ ብምኻን ተምሃሮ ናይ ምምሃር ድልየቶም ንክውስኽ ይሕግዝ'ዩ።					
22	ግዴታ እንተዘይኽውን ኣብ ምምሃር ስርሓይ ብሬድዮ ዝቀርብ ትምህርቲ አይምተጠቀምኩን።					
23	ብሬድዮ ዝቀርብ ትምህርቲ ኣብ ክፍሊ ምጥቃም ኣብ ጥቅሚ ክውዕል ዝግብኦ ግዘ ምብካን'ዩ።					
24	ብሬድዮ ዝቀርብ ትምህርቲ ካብቲ ናይ ክፍሊ መምህራን ዝህብዎ ዝተፈለየ ነገር የብሉን					
25	ብሬድዮ ዝቀርብ ትምህርቲ ተምሃሮን ናይ ምድግፅ ክእለቶም ክዓበጸ ዝሕግዝ'ዩ።					
26	ካልኦት መምህራን ብሬድዮ ዝቀርብ ትምህርቲ ክጥቀሙሉ ይግባእ።					
27	ብሬድዮ ዝቀርብ ትምህርቲ ኣብ ምምሃር ስርሓይ ጣልቃ ኣትዩ ዘተዓናቅፍ'ዩ።					
28	ብሬድዮ ዝወሃብ ትምህርቲ ንቅድሚትውን ክቅዕል አለዎ።					

II. መልሶም/ሰን ኣብቲ ዝተውሃበ ክፍቱ ቦታ የቅምጡ/ጣ::

1. ሽም ቤት ትምህርቲ _____

2. እቲ ቤት ትምህርቲ ዝርከበሉ ቦታ ዞባ _____

ወረዳ _____

ጣቢያ _____

3. ዕድመ _____

4. ፆታ _____

5. ናይ ትምህርቲ ደረጃኦም/ኣን _____

6. ዝሰልጠኑሉ/ናሉ ዓይነት ትምህርቲ

6.1 ዓብዩ /Major / _____

6.2 ንኡስ/Minor/ _____

7. ዝምህርዎ/ኦም ዓይነታት ትምህርቲ ካብ ሓደ ንላዕሊ እንተኾይኖም ይዘርዝሩ/ራ

_____

8. ዝምህሩሎ/ራሎ ክፍሊ/ክፍልታት _____

9. ስራሕ መምህርነት ዝጀመሩሉ/ራሉ ወርሕን ዓመተ ምህረትን?_____

10. ናይ ኣገልግሎት ዘመን/ብዓመታት/ _____

11. ካብ መምህርነት ወፃኢ ካልእ ኣገልግሎት ኣለዎምዶ?ኣለወንዶ? እንተሃልዩ ዓይነቱ ይገለፁ/፯_____

12. ሎሚ ኣብዘለውዎ/ዎኦ ቤት ትምህርቲ ካብ መምህርነት ወፃኢ ሓላፍነት ኣለዎምዶ?ኣለወንዶ? እንተሃልዩ ዓይነቱ ይግለፁ/፯_____

_____

13. ብሬድዮ ዝቀርብ ትምህርቲ ከመይ ከምዝጥቀሙሉ/ማሉ ስልጠናዶ ወሲዶም/ወሲደንዶ ነይሮም/ረን? √ የቅምጡ/ጣ:: ሀ. እወ ☐ ለ. ኣይወሰድኩን ☐

14. ኣብ ላዕሊ ንዝቀረበ ሕቶ/ሕቶ 13/ ዝሃብዎ/ኦ መልሲ እዎ እንተኾይኑ ዝወስድዎ/ኦ ስልጠና ክንደይ ግዜ፡ ንክንደይ እዋን ነይሩ ብሓፂሩ ይግለፁ/ፃ::

1. _____
2. _____
3. _____

15. ሓፈሻዊ ሪኢቶ _____

_____

_____

ንዝተገብረለይ ምትሕብባር ደጊመ ኣመስግን::

APPENDIX D

Tigrianya Version of the Teacher's Radio Utilization Classroom Observation Rating Scale

ዩኒቨርስቲ ኣዲስ ኣበባ

ቤት ትምህርቲ ድሕረ-ምረቃ

ክፍሊ ካሪክለምን ኢንስትራክሽንን

<u>ዓላማ</u>:- መምህራን ዝምህርዎ ዓይነት ትምህርቲ ንምሕጋዝ ዝቀርብ ፈነወ ትምህርቲ ብሬድዮ ከመይ ከምዝጥቀሙሉ ኣብ እዋን ፈነወ ኣብ ክፍሊ ተረኪብካ ብምዕዛብ ዝርከብ ሓበሬታ መኣከቢ ቅጥዒ::

ዝኽበርካ/ኪ ተዓዛቢ

ዕላማ እዚ ቅጥዒ'ዚ ከይዲ ምምሃር ምስትምሃር ብዝምልከት ንዘካይዶ መፅናዕቲ መረዳእታ ንምእካብ'ዩ:: ስለዚ ኣብ ዝግበር መፅናዕቲ ሓበሬታ ንምእካብ ተመሪፅካ/ኪ ኣሎኻ/ኺ:: ስለዝኾነ እቲ መፅናዕቲ ዕውት ንኸኾን ናትካ/ኪ ሙሉእ ምትሕብባር ወሳኒ'ዩ:: ብምኻኑ'ውን ናይቲ ቤት ትምህርቲ ናይሬድዮ ትምህርቲ ፕሮግራም መስረት ብምግባር ኣብ እዋን ፈነወ ኣብ ክፍሊ ተረኪብካ/ኪ መምህራን ብሬድዮ ዝቀርብ ትምህርቲ ከመይ ከምዝጥቀሙሉ ምዕዛብ÷ ድሕሪ ትዕዝብቲ ድማ ምስዚ ተተሓሒዙ ዘሎ ቅጥዒ ብጥንቃቀ ምምላእ የድሊ:: ኣስተውዕል/ሊ ኣብ መወዳእታ ተተሓሒዙ ዘሎ ሓደ ገፅ ምምላእኻ/ኺ ኣይትረስዕ/ዒ::

I. ካብዚ ንታሕቲ ኣጠቃቕማ ትምህርቲ ብሬድዮ ዝገልፁ ሓሳባት ኣለዉ:: ሕድሕድ ሓሳብ ብጥንቃቀ ቅድሚ ናብ ክፍሊ ምእታውካ/ኪ ብሙሉእ ልቢ ኣንብብ/ቢ:: ድሕሪ ኣብ ክፍሊ ተረኪብካ ምዕዛብ ድማ ነንሕድሕድ መምህር ክንደየናይ ተግባራዊ ከምዝገበሮም ካብዚ ንታሕቲ ተጠቂሱ ብዘሎ መማረፂ መሰረት ነቲ መምህር ይገልፅዩ ኣብ እትብሎ/እትብልዮ ኣብ ሓዲኡ ናይ ልክዕ / √ / ምልክት ኣቅምጥ/ጢ::

ቁፅርታት ዝውክልዎ 5 = ብጣዕሚ ዝለዓለ

4 = ዝለዓለ

3 = ማእከላይ

2 = ትሑት

1 = ብጣዕሚ ትሑት

ተራ ቁ.		5	4	3	2	1
1	ናይ ተምሃሮ ኣቀማምጣ ብሬድዮ ዝቀርብ ትምህርቲ ንምክትታልን ተሳትፎ ንምግባርን ዝምቹ ምኻኑ ንምርግጋፅ መምህር ዝገብሩዎ/ኦ ፃዕሪ::					
2	ዝሓለፈ ናይ ሬድዮ ትምህርቲ ኣብ ምክላስ መምህር ዝገብሩዎ/ኦ ፃዕሪ::					
3	ናይ ሬድዮ ትምህርቲ ርእሲ ንምፍላጥ መምህር ዝገብሩዎ/ኦ ፃዕሪ::					
4	ናይ ሬድዮ ትምህርቲ ዓላማ ቅድሚ ሬድዮ ትምህርቲ ንተምሃሮ ንምልላይ መምህር ዝገብሩዎ/ኦ ፃዕሪ::					
5	ተምሃሮ ናይ ሬድዮ ትምህርቲ ብሙሉእ ኣቃልቦ ንኽከታተሉ ኣቀዲሞም ናይ ተምሃሮ ምክትታል ድልየት ንምልዕዓል መምህር ዝገብሩዎ/ኦ ፃዕሪ::					
6	ተምሃሮ ብፅቡቅ ንኽከታተሉ ስነ ስርዓት ንምግባር መምህር ዝገብሩዎ/ኦ ፃዕሪ::					
7	ተምሃሮ ብኣቃልቦ ንኽከታተሉ ባዕሎም/ለን ኣብነት ኣብ ምኻን መምህር ዝገብሩዎ/ኦ ፃዕሪ::					

ተራ ቁ.		5	4	3	2	1
8	ተምሃሮ ብሙሉእ ኣቓልቦ ንኽከታተሉ/ብምልክትን ብቃልን/ ኣብ ምብርትታዕ መምህር ዝገብሩዎ/ኣ ፃዕሪ።					
9	ብሬድዮ ዝቀረበ ትምህርቲ ኣብ ምክላስ መምህር ዝገብሩዎ/ኣ ፃዕሪ።					
10	ዕላማ ብሬድዮ ዝቀረበ ትምህርቲ ተግባራዊ ምኻኑ ንምርግጋፅ መምህር ዝገብሩዎ/ኣ ፃዕሪ።					
11	ብሬድዮ ዝቀረበ ትምህርቲ ዝምልከት ተከታታሊ ዕዮ /ስራሕ/ ንተምሃሮ ኣብ ምሃብ መምህር ዝገብሩዎ/ኣ ፃዕሪ።					

II. ኣብቲ ክፍቲ ቦታ ትክክለኛ መረዳእታ አቅምጥ/ጢ

1. ሽምን አዳራሻን ቤት ትምህርቲ _____

1.1 ሽም ቤት ትምህርቲ _____

1.2 ቤት ትምህርቲ ዝርከበሉ ቦታ ዞን _____

ወረዳ _____

ጣቢያ _____

2. ዓይነት ትምህርቲ _____

3. ደረጃ ትምህርቲ _____

4. ክፍሊ _____

5. ናይ ሬድዮ ትምህርቲ ርእሲ _____

6. ቁፅሪ ናይ ሬድዮ ትምህርቲ _____

7. ሽም ኣብ ክፍሊ ትዕዝብቲ ዝተካየዱሎም/ለን መምህር _____

8. ዖታ _____

9. ዕድመ _____

10. ደረጃ ትምህርቲ _____

11. ዝሰልጠኑሉ/ናሉ ዓይነት ትምህርቲ ዋና _____ ንኡስ _____

12. ኣብ ሰሙን ዘምህሩዎ/ኦ ክፍለ ግዘ ብዝሓት _____

13. ዘምህሩዎ/ኦ ዓይነት /ዓይነታት/ ትምህርተቲ _____

14. ዘምህሩሎም/ራሎም ክፍልታት _____

15. ኣብ ምምሃር ዘሕልፍዎ ዘመን ግልጋሎት _____

16. ምምሃር ዝጀመሩሉ/ዝጀመራሉ ወርሕን ዓመተ ምህረትን ወርሒ _____

ኣመተ ምህረት _____

17. ቁፅሪ ትዕዝብቲ _____

18. ትዕዝብቲ ዝተጀመረሉ ሰዓት _____

19. ትዕዝብቲ ዝተወደአሉ ሰዓት _____

20. ትዕዝብቲ ዝካየዱ ዕለት _____

21. ናይ ተዓዛቢ ሽም _____

22. ሓፈሻዊ ርእቶ _____

_____

_____

APPENDIX E

Addis Ababa University

School of Graduate Studies

Department of Curriculum and Instruction

Attitude Questionnaire

Following are statements which are designed to assess the attitude of elementary school teachers towards Educational Radio. However, the development of the items has not yet been finalized. Thus, your participation in finalizing the instrument is invaluable. You are, therefore, kindly requested to judge the adequacy of each item. Your task is to rate the degree of adequacy of the items as very high, high, moderate, low and very low with corresponding values of 5, 4, 3, 2 and 1 respectively by circling the number corespondent to the value of the item.

Note that your judgement should be free from your own attitude towards the item.

Thank you for you cooperation

Calculations of Raters Reliability/Index of Attitude Questionnaire Scale Values Given by the Judges

Items No.	J_1	J_2	J_3	J_4	J_5	ΣJ	J
1	4	3	5	3	4	19	3.8
2	3	3	3	4	3	16	3.2
3	3	4	2	3	4	16	3.2
4	4	5	4	4	5	22	4.4
5*	2	3	3	2	3	13	2.6
6	5	3	4	3	4	19	3.8
7	4	4	3	3	3	17	3.4
8	4	5	4	4	4	21	4.2
9	3	4	5	4	3	19	3.8
10	3	4	3	2	3	15	3.0
11	4	5	4	4	3	20	4.0
12*	2	3	2	2	1	10	2.0
13	4	3	4	3	4	18	3.6
14	5	4	5	5	4	23	4.6
15	4	5	3	4	5	21	4.2
16*	3	2	1	2	2	10	2.0
17	4	3	4	3	4	18	3.6
18	5	4	4	5	4	22	4.4
19	3	4	4	3	3	17	3.4
20	5	5	4	5	4	23	4.6
21	4	5	4	5	4	22	4.4
22	4	4	5	4	5	22	4.4
23*	3	3	2	3	2	13	2.6
24	4	4	3	4	4	19	3.8
25	5	4	3	4	3	19	3.8
26	5	4	5	4	5	23	4.6
27	4	4	5	5	5	23	4.6
28	3	5	4	3	4	19	3.8

Items No.	J_1	J_2	J_3	J_4	J_5	ΣJ	J
29	5	4	3	3	4	19	3.8
30*	1	2	2	3	2	10	2.0
31	5	4	5	4	4	22	4.4
32	4	5	4	4	5	22	4.4
33	3	4	3	5	3	18	3.6
34	5	4	4	5	4	22	4.4
35	4	3	3	4	5	19	3.8
36	4	3	3	3	2	15	3.0
37*	2	3	2	2	3	12	2.4
38	4	3	4	4	4	15	3.0
ΣJi	143	144	135	137	138	$\Sigma J693$	
d^2Ji	0.9702	0.6925	1.0367	0.8705	0.9695	d^2J 14.602	

Σd^2xi = 4.5394

Ebel (1979: 282) Rating reliability

$$(dK) = K- (1-\frac{\Sigma d^2xi}{d^2xi})$$

$$= \frac{5}{5-1} (1- \frac{4.5394}{14.602})$$

$$= 1.25 (1-03108752)$$

$$= 1.25 (0.689125)$$

$$= 0.86$$

---

* Items dropped after judges rating.

APPENDIX F

Addis Ababa University

School of Graduate Studies

Department of Curriculum and Instruction

Classroom Observation Scale

The purpose of this instrument is to gather data how teachers utilize educational radio based on classroom observation by competent observers. However, the development of the instrument ? finalized. Thus, your participation in finalizing the instrument is crucial. You are, therefore, kindly requested to judge the adequacy of each item. Your task is to rate the degree of adequacy of the items as very high, high, moderate, low and very low with corresponding values of 5, 4, 3, 2 and 1 respectively by circling the number corresponding the value of the item.

Note that your judgement should be free from your own attitude toward the statement.

Thank you for your co-operation.

Calculation of Rater's Reliability

Index of Utilization Rating Scale

Scale Values Given by Judges

Items No.	J_1	J_2	J_3	J_4	J_5	ΣJ	J
1	4	2	3	3	3	15	3.0
2	5	3	4	3	3	18	3.6
3	3	4	3	3	3	16	3.2
4*	2	3	2	1	2	10	2.0
5	3	4	4	3	3	20	4.0
6	4	5	4	3	4	20	4.0
7	4	4	3	4	3	18	3.6
8	4	3	3	3	3	16	3.2
9*	3	3	3	3	2	14	2.8
10	4	4	3	4	5	20	4.0
11	3	5	4	4	4	20	4.0
12*	2	3	2	1	2	10	2.0
13	4	3	5	4	3	19	3.8
14	4	4	5	4	4	21	4.2
15	5	4	4	4	4	20	4.0
Σxi	54	54	51	47	48	257	
d^2xi	0.773	0.64	0.773	0.916	0.693	11.982	

Σd^2xi = 3.795

$$dK = \frac{k}{5-1}\left(1 - \Sigma d^2xi\right) \qquad \text{Ebel (1979: 282)}$$

$$= \frac{5}{5-1}\left(1 - \frac{3.795}{11.982}\right)$$

$$= 0.854$$

$$= \underline{0.8}$$

* Items dropped after judges rating.

APPENDIX G

Split Half Reliability of Pilot Testing

Ser. No.	Evern Scores X	X^2	Odd Scores Y	Y^2	$\sum XY$
1	40	1600	47	2209	1800
2	69	4761	63	3969	4347
3	26	676	33	1089	858
4	72	5184	68	4624	4896
5	56	3136	62	3844	3472
6	70	4900	66	4356	4620
7	45	2025	47	2209	2115
8	38	1444	41	1681	1558
9	70	4900	69	4761	4830
10	50	2500	53	2809	2650
11	57	3249	62	3844	3534
12	67	4489	65	4225	4355
13	35	1225	40	1600	1400
14	51	2601	55	3025	2805
15	39	1521	42	1764	1638
16	23	529	27	729	621
17	72	5184	69	4761	4968
18	41	1681	44	1936	1804
19	70	4900	67	4489	4690
20	23	529	28	784	644
	$\sum X$ 1014	$\sum X^2$ 57,034	$\sum Y$ 1048	$\sum Y^2$ 58,708	$\sum XY$ 57,605

$$r = \frac{N\sum XY - (\sum X)(\sum XY)}{N\sum X^2 - (\sum X)^2 \quad N\sum Y^2 - (\sum Y)^2}$$

$$r = \frac{20\,(57,605) - (1014)\,1048)}{20\,(57,034) - (1014)^2 \quad 20(58,708) - 1048)^2}$$

$$r = \frac{1,152,100 - 1,0626,672}{1140680 - 1028196 \quad 1174160 - 1098304}$$

$$r = \frac{89428}{112484 \quad 75856}$$

$$r = \frac{89428}{335.39 \quad 275.42}$$

$$r = \frac{89428}{92373.11}$$

$$r = \underline{0.96}$$

Spearman - Brown Formula $Rc = \frac{2r}{1+r}$

$Rc = \frac{2x0.96}{1 + 0.96} = \frac{1.92}{1.96} = 0.97$

APPENDIX H

Attitude and Utilization Scores

Setting	Sex	Teaching Experience	
1. urban	1. male	1. 1-5	4. 16-20
2. rural	2. female	2. 6-10	5. 21-25
		3. 11-15	

Ser. No.	Setting	Sex	Teaching Experience	Attitude Score	Utilization Score
1	1	1	4	95	29
2	1	2	1	110	39
3	1	2	4	100	27
4	1	1	1	116	46
5	1	2	3	95	23
6	1	1	4	106	35
7	1	1	5	80	17
8	1	2	4	87	25
9	1	1	2	110	37
10	1	2	5	76	18
11	1	1	5	93	25
12	1	2	2	119	40
13	1	1	5	69	15
14	1	1	5	71	15
15	1	2	1	119	46
16	1	1	1	131	38
17	1	2	4	82	20
18	1	1	3	111	30
19	1	1	4	83	19
20	1	2	2	117	43
21	1	1	5	91	20
22	1	2	3	104	33
23	1	1	5	67	15
24	1	2	5	75	15

Ser. No.	Setting	Sex	Teaching Experience	Attitude Score	Utilization Score
25	1	1	5	72	20
26	1	2	1	116	45
27	1	2	4	100	27
28	1	1	4	100	28
29	1	2	3	100	32
30	1	2	2	123	43
31	1	1	2	92	30
32	1	2	5	89	20
33	1	1	1	113	47
34	1	2	2	125	40
35	1	1	3	95	29
36	1	2	1	121	49
37	2	1	4	87	23
38	2	1	2	120	41
39	2	2	2	102	36
40	2	1	1	118	45
41	2	1	3	105	35
42	2	2	2	90	29
43	2	1	4	102	30
44	2	1	2	130	46
45	2	1	1	132	52
46	2	1	4	86	24
47	2	2	2	111	41
48	2	1	2	116	35
49	2	1	1	124	48
50	2	1	2	107	31
51	2	2	3	98	30
52	2	1	1	135	53
53	2	1	1	126	50
54	2	1	3	110	35

Ser. No.	Setting	Sex	Teaching Experience	Attitude Score	Utilization Score
55	2	1	2	132	49
56	2	2	1	120	46
57	2	2	2	98	30
58	2	1	2	112	37
59	2	1	3	104	31
60	2	1	3	92	25
61	2	2	2	112	30
62	2	1	2	119	43
63	2	2	3	113	34
64	2	1	1	123	48
65	2	2	2	120	38
66	2	1	3	89	28
67	2	1	1	117	46
68	2	2	1	125	51
69	2	1	3	121	37
70	2	1	2	124	42
71	2	2	3	112	40
72	2	2	2	116	39
73	2	1	4	88	25
74	2	1	3	98	30
75	2	2	1	117	47
76	2	1	2	98	33
77	2	2	4	85	22
78	2	1	1	109	51
79	2	1	3	102	31
80	2	2	2	118	34
81	2	1	1	121	47
82	2	1	4	73	17