

**ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES**

**A STUDY ON THE PRACTICES OF BALE ROBE EDUCATIONAL
RADIO**

BY

ABDI HASSEN

**A THESIS SUBMITTED TO THE GRADUATE SCHOOL OF
JOURNALISM AND COMMUNICATION**

**PRESENTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE**

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DECLARATION

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

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ACRONYMS

AAU: Addis Ababa University

BRER: Bale Robe Educational Radio

EMA: Educational Media Agency

ETV: Educational Television

FAO: Food and Agriculture Organization

FDRE: Federal Democratic Republic of Ethiopia

FGD: Focus Group Discussion

ICT: Information and Communications Technology

SJC: School of Journalism and Communication

UNESCO: United Nations Education, Science and Culture Organization

DEFINITIONS OF KEY TERMS

Daawwitii Ummataa- BRER entertainment programme-means public mirror

Dialogue: conversation: talk of any kind between two or more people

Mijuu Sanbataa- Element of BRER programme-means drinking invitation of Saturday

Practice: Implementation/ Performance

Soorata Dilbataa-Element of BRER programme-means-Sunday meal

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ABSTRACT

A Study on the Practices of Bale Robe Educational Radio

Abdi Hassen

Addis Ababa University, 2015

Nowadays, educational technologies are flourishing and schools should use them appropriately to achieve the needed objectives. Moreover, Mass media, especially, electronic ones like radio and television, have the power to support class teachers on carefully selected topics. Specifically, educational radios can cover the most remote areas and help schools which lack best teachers and materials. This study focused on investigating the practices of Bale Robe educational radio.

To this end, the study employed mainly qualitative research design. As a result, focus group discussions, individual in-depth interviews, and observation were employed to gather the necessary data. Additionally, documents of the radio station were analyzed depending on their context and language used. The study was situated within the theoretical framework of dialogical pedagogy.

The findings of the study show that the Bale Robe Educational radio produces different entertainment and educational programs with the educational and entertainment messages. It also produces programs that promote the local language and culture through local music, narration and drama in Afan Oromo. Moreover, the study reveals that the Bale Robe Educational radio gives more air time for formal education in an official regional language.

The findings again reveal that the Bale Robe Educational radio employees participate in the administration of the station as well as in the production of the programs. The practitioners who participated in the individual in-depth interviews and focus group discussions confirmed that the radio station has various challenges like lack of training, logistics and digital materials among others. Hence, Bale Robe educational radio should be alleviated from many hindrances surrounding it to effectively serve the community.

CHAPTER ONE: INTRODUCTION

1.1. Background of the Study

The term “technology” is strongly associated with the application of science to the solution of technical problems. As Landies (1980) observes, while the intellectual is at the heart of the technological process, the process itself consists of “the acquisition and application of a body of knowledge concerning technique, that is, ways of doing things” (p. 111). To be sure, it embodies knowledge. Technology alone may not work all jobs without the involvement of human efforts. According to Parayil (1991), for one, observes that “Technology constitutes knowledge, and that all technologies are embodiments of some form of human knowledge” (p. 292).

There is a common belief that ICTs have significant contributions to changes in teaching practices, school change and innovations and community services. Among the ideas of the scholars who believe the importance of technology for knowledge, this is an example- People have to access knowledge via ICT to keep pace with the latest developments (Plomp, Pelgrum & Law, 2007). Technology has the power to share knowledge to different directions regardless of borders. According to Daniels (2002), ICTs have become within a very short time, one of the basic building blocks of modern society.

The innovations of technology and its power to disseminate knowledge can be facilitated by the use of mass media. According to the International Journal of Humanities & Social Sciences (2013), Mass media has a prominent role to play in modern society. It can bring about radical changes and improve social situation as it influences our social, civil, cultural, political, economic and aesthetic outlook. This is because of the Modernization process that has converted media into an indispensable feature of human activity. Consciously or unconsciously, people are often influenced by mass media, such as persuading the audience to use a particular product or indirectly persuaded to support a particular political ideology or party (ibid). The journal further states the roles of the mass media, among of which the following are parts: Firstly, the media can expand the horizons of thought. This can be done through exposure to different views from a lot of media outlets and people.

Secondly, the mass media is used to focus attention. Traditional society moving toward a modern little by little began to hang up its knowledge on the mass media so that the things about what is important, which is dangerous, what is interesting and forth came from the media. Thirdly, mass media was able to raise the aspirations of the society. Indirectly, growing community aspirations were through broadcasts or information delivered through media. Many new things are delivered by media, for example of the style of dress or hairstyle that makes people compelled to make or use the same things as their views through it.

Rapid developments of information and communication technologies such as mass media, causing rapid changes occur everywhere. The media shows the public how the standard of living worthy of a human being, thus indirectly causing the communities to assess whether their environment is feasible or met these standards and this figure is heavily influenced from what's seen, heard and read from the media (ibid).

It is obvious that media and education are inter-related as one enforces the other. The latter is the most important and most noble of human endeavors that plays a major role in social, economic and political spheres of life. All other activities have their foundations in education. It transforms an individual and allows her/him to effect change in an environment. According to White (1903), education is a continuing voyage of discovery, an everlasting quest to achieve the fullest wisdom and stature that God meant for us. Mrs. White contends that: True education means more than the pursual of a certain course of study. It means more than a preparation for the life that now is. It has to do with the whole being and with the whole period of existence possible to man. It is the harmonious development of the physical, the mental, and the spiritual powers. It prepares the student for the joy of service in this world and for the higher joy of wider service in the world to come (p. 13). By increasing a child's integration with dissimilar social or ethnic groups early in life, education contributes significantly to nation building and inter-personal tolerance, too. Nowadays, access to education, information, knowledge and communication plays a vital role in the individual and social life; as well as human development and inclination towards growth in which mass media plays a vital role for development activities.

It is in Bale zone itself that Bale Robe Educational Radio located and has been giving educational and entertainment services. It is clear that radio is potentially very powerful and for its positive use and education to succeed; adequate resources and environment must exist. Unfortunately, there are a lot of claims in this Educational radio station that attracted the attention of the researcher and necessitated investigation on its actual practices.

The General Description of Bale Robe Educational Radio

Most radio programming is intended for a general audience, but increasing use is being made of the medium to offer special groups of listeners, specifically educational programs. This use of radio is particularly well-suited to developing countries like Ethiopia where means of communication and transport are often poor and there are seldom enough teachers, public health and welfare officers, adult education and agricultural extension workers. Most educationists and broadcasters are agreed that educational radio is no substitute for the class-room teacher, but that it can assist the teacher in the class-room in many ways. It can appeal to a child's imagination and extend the horizons of his/her mind. It is particularly helpful in providing support for the teacher in social-science subjects, and in language teaching and it can provide models which the teacher may not be able to provide him/her.

Bale Robe Educational Radio (BRER) station was established in 1973 E.C. According to the respondents of the interview, this radio was first formed to counter-attack the war propaganda of Somalia government from Mogadishu. During that time, the programs were produced in Somali at the center and BRER only transmitted them-according to the interviewees. It was after the end of that war propaganda that this radio was thought for educational purposes. This radio is found in Robe town, the capital of Bale zone; while its studio is in Goba town; which is 10kms away from the station in Goba town.

This radio covers Bale, Arsi, Guji, South Shoa, West Hararge and Borena; even during its establishment time, the 1KW transmission went as far as Southern Yemen; according to the official document the researcher got from the office of the station and the interview with experienced technician.

This radio is responsible to the Oromia Educational Mass Media Agency Capacity Building Department. The mission of this radio is to provide quality education, developing culture and good governance; while its vision is to see students and the society to live better life as a result of educational radio. The station produces and broadcasts in Afan Oromo as primary education of the region uses this language based on the curriculum, as the main instructional language. The main objective of the radio station is to produce and/ broadcast formal and informal, environmental and distance educations. According to the documents of the radio station, from 1973 to 1987 E.C, formal education was prepared and broadcast from the center but, at first, one kilowatt radio station was built in Robe town in 1973 E.C.

In 1989 E. C, the station installed 10kilowatt and continued broadcasting. It was transmitting 10kilowatt on 801meterband medium wave but now this kilowatt is being transmitted on 1260meterband to cover 350,000 square kilometers. The researcher confirmed that the radio station is digital and the studio is manual. In 1997 E.C, new employees' structure allowed so that the number of the staff became 42 ; of which 10 program producers, 2 production technicians, 2 maintenance technicians, 6 broadcasting technicians and 22 administrative employees. After the studio began service in 1988 E.C, environmental radio program began. From 1988 to 1992 E.C Saturday and Sunday weekly for two hours, mijuu Sanbataa and soorata Dilbataa were transmitted, mostly for the user of the radio-Bale People. In 1993 E.C, since the equipment was damaged, programs terminated while from 1994 to May 1997 E.C, on Sundays for one hour, soorata Dilbataa was broadcasting. From this month 1997 E.C, by increasing broadcasting time to one and a half hour and changing the day to Saturday, Daawwitii ummataa has been broadcasting weekly from 5:30 to 7:00 local time. Generally, formal education and other messages are broadcast from Monday to Friday from 1:45 to 10:45 local time.

The station has an entertainment program which is called Daawwitii ummataa (public mirror) whose topics are Language and Culture, Science and Technology, Our Society and Messages of our Audiences. This program is broadcast from 4:30-7:00 every Saturday and Sunday weekly local time. For the question of what is the main aim of BRER to the employees, almost all of them gave similar answers.

these discussions. Educational leadership, management, and governance can also be improved through ICT by enhancing educational content development and supporting administrative processes in schools and other educational establishments. Regarding the management of the radio station, while it is responsible to Oromia educational bureau, within the station, there are three sectors-according to the manager of the station. These are: Administrative sector which is in charge of facilitating the general practices of the station in every aspect, program production sector for program production activities and technical sector for following the quality of programs during productions and transmissions.

In relation to the leadership and management of any educational radio station, there are some pre-conditions to achieve goals and Mackie (1968) presented a history of the Citizen's Forums in Canada from 1943 to 1963. He pointed out that successful educational radio depends on skilled field leadership, extensive promotional activities, and continuity in format and broadcast time. Bale Robe educational radio has now 38 employees. As the issue of the management of the station, the researcher heard that there are some gaps of the continuity of the information flow among the employees and even some of them openly criticized the management during the focus group discussions for lack of commitment from the top. This can create the probability of disparity on the smooth functioning of the station.

1.2. Statement of the Problem

The relationship among technology, media and education is obviously visible in day to day activities of modern educational systems, influencing teaching-learning process and research. This is in agreement with the idea of Yusuf: the field of education has been affected by ICTs, which have undoubtedly affected teaching, learning and research (Yusuf, 2005). In developing countries like Ethiopia, educational broadcasting is taken up very enthusiastically. Specially, media plays important roles in socio-economic and political spheres of life. That is why the modernization theorists like Schramm saw the media as vital in the efforts towards development (Schramm, 1964). Moreover, media can be used as a bridge to transfer technological innovations to facilitate the ways of educational deliveries and the quality of education; which has impact on skilled man power.

Scholars like Al-Ansari (2006) affirm that a great deal of research has proven the benefits to the quality of education. Accordingly, ICTs have the potential to innovate, accelerate, enrich, and deepen skills, to motivate and engage students, to help relate school experience to work practices, create economic viability for tomorrow's workers, as well as strengthening teaching and helping schools change (ibid).

Information and Communication Technologies (ICTs), according to Watson's description, have revolutionized the way people work today and are now transforming educational systems (Watson, 2001). As a result, if schools train children in yesterday's skills and technologies, they may not be effective and fit in tomorrow's world. This is a sufficient reason for ICTs to win global recognition and attention (ibid). There are also limitations of using ICTs for education(if technologies and media are available), which can be categorized as teacher- related, student- related and technology -related ones.

All of them potentially limit the benefits of ICT to education). According to the ideas of scholars, teachers are expected to do more on ICTs to help their learners. Unless teachers develop some basic skills and willingness to experiment with students, ICT use in education is in a disadvantage (Brosnan, 2001). Because ICTs are excellent tools for information processing, the new generation needs to become competent in their use, should acquire the necessary skills, and, therefore, must have access to computers and networks while at schools (Kok, 2007). Students also play a great role in achieving their goals from technologies and the educational media should also be relevant to context within which it operates. These days, it is possible to choose relevant educational media to achieve the intended goals.

We are living in a world that is saturated by mass media with our environment brimming with data and information (Hutchings and Matthews, 2008). In some countries' contexts, regardless of the claims of poor quality programming, no pre-testing and careful evaluation, irrelevance of contents, little or no administrative support, and lack of supervision with radio schools and feedback, which lead the teachers become discouraged and turn off programs, or radios break down and are not repaired, there are still relevant instructional media to choose.

Among the diverse mass media, radio and television, due to their wide and vast range of viewers and listeners, have had an outstanding position, particularly, with regard to informal teaching, and are considered as the best cultural and educational media (Tancard and Verner, 2005). Despite the grave problems in developing countries, instructional radio would seem to have an important future in rural areas. This could come about if the problems of rural underdevelopment were reanalyzed and a set of learning needs defined in which radio could conceivably play a part (Coombs, 1973).

It is clear that television is not as cheap as radio to establish and run in all educational settings. Radio is uniquely suited to the African context, being an aural and portable medium in a continent that is pre-dominantly non-literate and has communal living patterns (Spitulnik, 2000). In developing countries such as Pakistan (Abbas, 2003) and Africa (Hambly, 2007), radio is considered as an informal educational tool which is vital for development and farming systems.

Since the radio plays a more important role in public education, producers should be familiar with the latest and newest program structures to be able to meet the needs of people by employing appealing methods, because radio is a powerful communication tool (Chapman, 2003). One of the weaknesses of traditional analogue radio is that the programs are tied to a time bound flow on a limited number of frequencies and that the programs are not available when it suits the listeners.

Bale Robe educational radio, which is the focus of this study, has many alleged drawbacks. There are a lot of claims about this radio station from different directions. Among the claims are: whether the station has enough skilled workforce and modern equipment or not. Again, students and teachers are always heard blaming the station as the schedules of the radio and that of the class teachers do not match; additionally, they seem unhappy with the speed of the broadcasting as there is not enough time given for the class to think and discuss on topics under discussions. The radio is often heard as lacking attractive presentation skills of being info-tainment. There are also allegations of not updating the programs in time and the redundancy of the producers. There are additional claims of the shortage of broadcasting time for both formal and informal educations.

In addition to these allegations, to the knowledge of the researcher, there has not been any empirical study conducted on this educational radio station. Therefore, the study attempted to investigate the practices of Bale Robe educational radio station.

1.3. Objectives of the Study

1.3.1. General Objective

The general objective of the study was to investigate the practices of Bale Robe educational radio.

1.3.2. Specific Objectives

The specific objectives of the study were:

1. To identify the types of the subjects produced and broadcast through the radio station.
2. To examine how the radio station produces and or broadcasts the programs.
3. To find out the major challenges of the radio station that might hinder the production and/or broadcast of the programs.

1.4. Research Questions

The study tried to answer the following research questions:

1. What are the subjects the radio station broadcast?
2. How does the radio station produce and/ or broadcast the programs?
3. What are the major challenges of Bale Robe educational radio?

1.5. Significance of the Study

The researcher believed that the results of the research would benefit the following: First and foremost, teachers as well as students of primary schools would use to prepare themselves accordingly.

Secondly, Bale Robe educational radio management and the staff to re-visit their works based on the findings of the study. Thirdly, Bale zone educational office and Oromia Regional State educational bureau to examine and support the station, in case needed. Fourthly, Ministry of education and other policy makers on educational radio stations and their practices would use. Fifthly, other researchers who wanted to conduct further studies on the area as starting point.

1.6. Scope of the Study

As this was a case study, the scope of the study was to investigate the actual practices of Bale Robe educational radio. Documents of the radio station, seven employees for in-depth interviews and sixteen persons for FGD were selected along with observation to triangulate the topic under the study. The target population was BRER workers/employees. Audience reception study, effectiveness of using radio for education, effect of radio education on learners and other educational radios in Oromia were excluded from this study due to time, money and resource limitations. The time frame for this study was from September 01/2014 to June 5/2015.

1.7. Limitations of the Study

The researcher understood that the study would have been more comprehensive if different educational radio stations were included in the sample; however, due to time, resources and financial constraints, the study was limited to the practices of Bale Robe educational radio. Hence, audience reception studies, effectiveness of using radio for education, effect of radio education on learners and other educational radios in Oromia were excluded from this study. As a result, the findings of the study could not be generalized to other educational radio stations in the country. Nevertheless, the researcher believed that the study, as it stood, served the right purpose and met the expected academic standard.

1.8. Organization of the Study

This study has five chapters. The first chapter was about an introduction on the background of the study, statement of the problem, objectives of the study and others that listed there.

The second chapter reviewed the literatures, i.e. the theoretical framework of the study and issues those included about educational radios and related sources. The third chapter presented discussions on the methodology employed to conduct this study and the reasons why the researcher had chosen it. The fourth chapter discussed the analysis and interpretation of the data. Finally, chapter five provided conclusion and possible recommendations depending on the results of the study.

CHAPTER TWO: REVIEW OF RELATED LITERATURE

2.1. CONCEPTUAL FRAMEWORK OF THE STUDY

It is fact that the only constant is change and mankind is in a period of rapid technologically driven changes. Although the personal computer and the internet are less than 30 and 20 years old, respectively, information and communication technology (ICT) has revolutionized how we live, work, communicate and learn. In connection with this, educational technology, which includes, but is not restricted to, information and communication technologies (computers and networks, mobile devices, video conferencing and multi-media, including audio/visual and online production) and teaching and learning spaces, is the broad range of information, communication and related technologies that are integrated in well-researched educational practice for the direct purpose of effective design, development and facilitation of learning and teaching (AECT, 2010a; AECT, 2010b; ALTC, 2010; Schmid et al., 2009).

The term educational technology includes the use of technology by teaching staff, teaching support staff and students. The concept of instructional or educational technology is totally integrative. It provides a common ground for all professionals, no matter in what aspect of the field they are working and permits the rational development and integration of new devices, materials, and methods as they come along. Moreover, technology offers new ways of teaching and learning, and provides new ways for all involved in education to be openly accountable to parents, communities, and students (National Research Council, 1995).

There is widespread belief that thoughtful and pervasive applications of technology can help eliminate many educational inequities between inner city and suburban schools, between urban and rural districts, and those affecting minorities and people with physical and learning disabilities. Technology should also be a tool to help educators meet the educational needs of all children.

There are many ways in which educational technologies can support teaching and learning process. Accordingly, the National Academy of Sciences suggests that new and emerging technologies have the potential to enhance learning and the development of new knowledge in many exciting ways by providing access to a vast array of information and connections to other people—for information, feedback, and inspiration (National Research Council, 1999). Since technology is evolving at an astonishing rate, it has dramatically changed the ways we work, learn, interact, and spend our leisure time, too.

It is both reasonable and expected that technology should help lead the way to improve teaching and learning in our schools. It is also clear that technology cannot be solution for all the problems in schools. As such, technologies cannot function as solutions in isolation, but must be thought of as key ingredients in making it possible for schools to address core educational challenges (Bennett, Culp, Honey, Tally, & Spiel Vogel, 2000). In addition to these scholars, Bajcsy (2002) views technology in teaching and learning as an enabler and suggests that technology can help to:

- ▶ Help organize and provide structure for material to students.
- ▶ Help students, teachers, and parents interact, anytime and anywhere.
- ▶ Facilitate and assist in the authentication and prioritization of Internet material.
- ▶ Simulate, visualize, and interact with scientific structures, processes, and models.
- ▶ Help in learning history and depicting future trends.
- ▶ Serve as an extension and enhancer for handicapped populations.
- ▶ Provide automated translators for multilingual populations.

Similarly, Wilson (2002) envisions technology as offering endless possibilities to enhance educational experiences, expand academic opportunities, and develop critical employment skills. Others affirm the real promise of technology to be in its potential to facilitate fundamental, qualitative changes in the nature of teaching and learning (Thompson, Schmidt, & Stewart, 2000). However, technology and equity are not inevitable partners (Johnson, 2002; Resnick, 2002; Whitehead, Jensen, & Boschee, 2003).

Simply providing access does not ensure that technology will effectively enhance teaching and learning, and result in improved achievement. Nor does providing access imply that all teachers and students will make optimal use of the technology. Technology may mean little without appropriate objectives and goals for its use, structures for its application, trained and skillful deliverers, and clearly envisioned plans for evaluating its effectiveness. There are ways in which schools can be beneficiaries from educational technologies and the Benton Foundation Communications Policy Program (2002) suggests that five factors must be in place for technologies to support real gains in educational outcomes:

- ▶ Leadership around technology use, anchored in solid educational objectives.
- ▶ Sustained and intensive professional development that takes place in the service of the core vision, not simply around technology.
- ▶ Adequate technology resources in the schools.
- ▶ Recognition that real change and lasting results take time.
- ▶ Evaluation that enables school leaders and teachers to determine whether they are realizing their goals and to help them adjust their practice to better meet those goals. Different stakeholders must share their responsibilities to make technology more productive in schools.

Similarly, two primary elements of the Technology Standards for School Administrators are leadership and vision (Technology Standards for School Administrators Collaborative, 2001). Under these standards, educational leaders are called upon to:

- ▶ Facilitate shared development by all stakeholders of a vision for technology use and widely communicate that vision.
- ▶ Maintain an inclusive and cohesive process to develop, implement, and monitor a dynamic, long-range, and systematic technology plan to achieve the vision.
- ▶ Advocate for research-based effective practices in the use of technology.
- ▶ The existence of a particular technology does not dictate the manner in which it will be used. Teachers are the most important people in schools to support students in the process of learning and that is why technology know-how may be obligatory for them.

When viewed in terms of teaching, Means (2000) recommends that teachers should have basic technology skills and be able to:

- ▶ Use technology for personal productivity.
- ▶ Use technology to support learning in a subject area.
- ▶ Design or adapt technology-supported learning activities.
- ▶ Manage student-centered, technology-supported activities.
- ▶ Assess student skills within the context of technology-supported activities.

A great deal depends on the levels of planning, structure, preparation, and evaluation of the potential impact that technology will have on teaching, learning, and achievement. Experts believe that increasing capacity depends on enhancing the technology skills of teachers and administrators. In terms of utilization, Fouts (2000) reports that in the past decade, technology has expanded from use primarily as an instructional delivery medium to an integral part of the learning environment. He indicates that technology is serving at least four distinct purposes in the schools:

- ▶ To teach, drill, and practice using increasingly sophisticated digital content.
- ▶ To provide simulations and real world experiences.
- ▶ To develop cognitive thinking and to extend learning.
- ▶ To provide access to a wealth of information and enhanced communications through the Internet and other related information technologies.

If technologies are used to support educational outcomes, there must be sustained professional development, technology leadership anchored in solid educational objectives, and evaluation that will help determine whether educational goals are realized and whether educational practices are appropriate. Technology is an integral part of our educational system, and it is a daunting task to separate the effects of technology from the effects of other factors that influence teaching and learning (Thompson, Schmidt, Walker, O'Connell, Bergland, Bengfort, & Linduska, 2000). Results and conclusions of educational technology must be considered in the context of the interdependent set of variables in which the use of technology is embedded (Collis & Lai, 1996; Owen & Lambert, 2002; Russell, 2001).

These variables can include access, teacher preparation and experience, student background, curriculum content, instructional methods, and additional educational resources. In a report commissioned by the Software and Information Industry Association, Silvin Kachala and Bialo (2000) summarized educational technology research from the late 1980s through 2000. They concluded that technology is making a significant positive impact on education. In addition to many of the preceding findings, they listed the following:

- ▶ A learning advantage has been found when students have developed multimedia presentations on social studies topics.
- ▶ Kindergartners who have used technology have benefited in areas such as improved conceptual knowledge, reading vocabulary, reading comprehension, and creativity.
- ▶ Educational technology has significant positive effects on student attitudes and achievement for special needs population—speech recognition being a valuable compensatory tool for the learning disabled.
- ▶ Use of online telecommunications for collaboration across classrooms in different geographic locations can improve academic skills.
- ▶ Technology has been found to have positive effects on student attitudes toward learning and on student self-concept.
- ▶ Students trained in collaborative learning on computers in small groups had higher achievement, higher self-esteem, and better attitudes toward learning, and these results were especially pronounced for low ability and female students.

They concluded that the specific student population, the software design, the educator's role, how the students are grouped, the preparedness of the educator, and the level of student access to the technology all influence the level of effectiveness of educational technology (Ibid). Dominant themes in the preceding reviews have implications for the design and implementation of technology evaluations. A great deal of the responsibility for successful integration of technology inevitably falls upon individual administrators and teachers. This can be the evidence as the most critical element in technology use is the preparedness and skill level of those who employ it (Wilson, 2002).

The stakeholders in schools are responsible for the applications of educational technologies and technology in schools may best be used in the ways adults use technology to accomplish their work—write, organize and analyze information, do research, and communicate (Rockman, 2000). If teachers have the basic skills of technology, there can be many changes that the devices can bring in schools even though the ability of teachers to foster such changes depends upon training that shows them how to integrate technology into content-specific instructional methods (Heinecke, Blasi, Milman, & Washington, 1999). If there is adequate evaluation, it can help improve existing technology programs so that they evolve to meet student and teacher needs, work to support multiple levels of learning, and foresee new developments. Cuban (2001) emphasizes a systematic approach to evaluating technological implementations that involves:

- ▶ Identification of educational needs.
- ▶ Specification of implementation goals.
- ▶ Design of instructional strategies to create effective learning environments.

Penuel and Means (1999) recommend that evaluation must pay careful attention to local program contexts. Evaluators must first examine the program's specific design describing how interventions are expected to bring about particular changes in teaching and learning. They advise that anticipated changes must be described in enough detail for stakeholders to know when desired changes have been achieved. Second, evaluators must consider a range of factors such as scope of the evaluation, who the stakeholders and partners are, the kinds of data that are needed, and how the data will be used.

There is often no consistent set of specific curriculum-related goals and objectives for the use of technology in teaching and learning (Ibid). In addition, evaluation plans can include efforts to determine enhanced efficiency and cost-effectiveness, and examine whether technology is achieving better results at lower costs. Moreover, evaluation plans should reflect beliefs about how technology fits into the model of instruction, how it is utilized to improve teaching and learning, and, in so doing, how it increases student achievement, motivation, and value for learning (Russell, 2001).

Evaluation approaches can consider human and technology inputs (student, teacher, school, classroom, and other contextual influences), process (types and areas of technology use in school and classroom), and expected and unexpected outcomes (student, teacher, family, school, and community achievements).

In general, it is fact that administrators and teachers are key technological interfaces in the schools: one is responsible for bringing technology into the district or building, the other for bringing it into the classroom. They are also major technology stakeholders. Successful technological implementations will largely depend upon the motivation, knowledge, and skill of administrators and teachers to implement and utilize technology in effective ways to enhance learning for all students. It is imperative that these educators be fully supported in this regard through adequate pre-service preparation, ongoing and state-of-the-art in-service activities, and links to local colleges and other resources for additional support and learning.

2.1.1. Definitions of Educational Technology

A concept as complex as educational technology requires an equally complex definition. There is no single definition of educational technology. But this does not mean that there are not different attempts to define the field. According to Oxford English Dictionary (2000), educational technology means “a process of teaching, training and learning, especially in schools or colleges to improve knowledge and develop skills”. This is also not enough to define the concept fully. Educational technology, still, is a complex, integrated process involving people, procedures, ideas, devices and organization, for analyzing problems and devising, implementing, evaluating and managing solutions to those problems, involved in all aspects of human learning.

There is also another idea of defining the concept in relation to its contributions. Likewise, Adeyanju (1999), Balogun and Abimbade (2002) are of the opinion that “the contributions of technology to education constitute or mean educational technology.” In line with these, educational technology scholars and practitioners contributing to the field over the past four decades realize that formally defining Educational Technology is challenging for a number of reasons.

First, defining an applied field like educational technology is more difficult than defining any of the social science disciplines because there is no single knowledge base to ground Educational Technology as is the case in the social sciences. In an applied field, by its very nature, multiple knowledge bases are employed. The development of new knowledge causes shifts in thinking and introduces change and in the field of Educational technology, multiple knowledge bases lead to multiplying change. This compounds the challenge of creating a viable definition. In agreement with this idea, there are scholars who asked the question "what is educational technology?" And the responses given to the question "what is educational technology" have changed significantly within time (Seels & Richey, 1994). A chronological review of these definitions is important in the sense of revealing the perception styles which are parallel to the understandings we have had at a certain point of time.

Second, defining Educational Technology as a process also creates dissonance between the popular notion of technology as state-of-the-art equipment and the older idea of technology as a process. This dissonance surrounding technology gives rise to definitions that are not easily understood within the field or widely embraced outside of the field of Educational Technology. This is the field concerned with the design, development, utilization, management, and evaluation of processes and resources for learning. There is another idea, too, which supports this argument: Educational technology is the broad range of information, communication and related technologies that are integrated in well--researched educational practice for the direct purpose of effective design, development and facilitation of learning and teaching (AECT, 2010a; AECT, 2010b).

What does the term educational technology include? The term includes the use of technology by teaching staff, teaching support staff and students-within a diverse range of learning and teaching spaces, both off and on-campus (physical, virtual and blended, i.e., a combination of physical and virtual spaces in learning) and the necessary support processes. It includes both hardware, i.e., infrastructure and software that are supported centrally in the schools and by faculties, and educational technologies not supported in this way, e.g., external online technologies.

Moreover, it includes, but are not restricted to, information and communication technologies (computers and networks, mobile devices, video conferencing and multi-media, including audio/visual and online production) in teaching and learning spaces.

Generally, when we discuss about the issue of the definitions of educational technology, the commencement of systematic studies in the area does not even date back to the nineteenth century. First studies related to the educational technology have started at the beginning of the twentieth century, with the pressure of industrial technology, regardless of educational sciences and studies of educators. The concept of “visual education”, emerged with industrial technology, may be regarded as the starting point of the fostering of educational technology as a specialization (Simsek, 1998).

2.1.2. Characteristics of Educational Technology

It is obvious that educational technology is a discipline that is difficult to define. But, its meaning can be derived from the two components of technology in education and technology of education. It is also an eclectic discipline that borrows from such educational fields like psychology, sociology and philosophy. There should not also be confusion between instructional technology and educational technology. The former is a subset of the latter. Moreover, instructional technology is narrower in scope than educational technology. However, both concepts are related. While educational technology principles can be applied to solving educational problems at the macro level, instructional technology principles can be applied to solving instructional problems at the micro level. Educational technology has various characteristics that emanate from its nature and uses. Accordingly, even if these can be by no means the exhaustive ones, Singh (2006) tried to list the characteristics of educational technology:

- ▶ It is based on scientific and technological advancements
- ▶ It is more a practical discipline and less a theoretical one
- ▶ It is a fast growing modern discipline
- ▶ It brings pupils, teachers and technical means together in an effective way

- ▶ It makes use of the research findings of psychology, sociology, engineering, sciences and social psychology, etc. and applies the same to the field of education
- ▶ It is the science of techniques and methods. It locates the problems in the field of education, remedies them and ultimately aims at improving the education system.
- ▶ It is bound to improve the teacher, the learner and the teaching-learning process.
- ▶ Educational technology is a continuous dynamic, progressive and effect-producing method
- ▶ Educational technology cannot solve each and every problem of education; but can be used successfully in teaching and instructional system only.
- ▶ Educational technology accepts schools as a system. In this system, the school building, furniture and teachers act as inputs while various methods, techniques, strategies and the teaching and examination with the help of audio-visual aids function in the form of a process. Lastly, the output is in the form of ability of the pupils.
- ▶ Educational technology is not an end in itself but a means to accomplish some educational and instructional objectives already determined and clearly defined.

Generally, educational technology is usually conceived of as addressing itself to the twin goals of improving educational effectiveness (meaning 'success in achieving objectives') and efficiency (meaning 'optimum relationship between output and input'). Following the definition of technology, in general, as the systematic application of knowledge and techniques to practical processes, educational technology places stress on education methods and modes of organization rather than on technical devices. The mechanical apparatus of education is merely a means to an end, and has no virtue in its own right.

Educational technology has also been described as a systematic approach to instruction, where the objectives are defined, the logical blocks in the argument worked out, and students tested for their ability to absorb the blocks at different rates in different sequences (ibid).

2.1.3. Functions of Educational Technology

During this era of widespread education reform activity, it is not surprising that educators, policy-makers, and business and other community groups are looking to technology as a tool for reshaping and improving education. One of the various functions of educational technology is supporting student-based learning and curriculum.

The educational technologies should be carefully designed and implemented to achieve the objectives set purposely and that is why the instructional value lies in the way the technology is used and in the activity structure that surrounds it, rather than in the hardware or software itself (Means et al., 1993).

There are different functions the educational technologies offer and these can be clearly understood from the following definition: educational technology (ET) is the efficient organization of any learning system adapting or adopting methods, processes, and products to serve identified educational goals. This involves systematic identification of the goals of education, recognition of the diversity of learners' needs, the contexts in which learning will take place, and the range of provisions needed for each of these.

The challenge is to design appropriate systems that will provide for and enable appropriate teaching-learning systems that could realize the identified goals. The key to meeting this challenge is an appreciation of the role of ET as an agent of change in the classroom, which includes not only the teacher and the teaching-learning process, but also systemic issues like reach, equity, and quality. If attention is given in advance, communication/educational technology can be designed to bring the school in closer contact with other parts of the globe, also appeared to reduce the barriers between classes within the school (Newman, 1990; 1992). Moreover, modern ET has its potential in schools, in the teaching of subjects, in examinations, in research, in systemic reforms, and, above all, in teacher education, overcoming the conventional problems of scale and reach through online, anytime, anywhere because satellite transmission can beam instructional material to sites thousands of miles away.

Research suggests that students are better able to function as intellectual critics for distant peers than for themselves or classmates and that they learn to write better when physical distance makes clear the need to provide explicit content for the reader (Riel, 1992).

When technology is used as a tool, the curriculum content resides not in the software but in the instructional activity within which the tool is used. This means, the technology itself does not convey the content (except in the limited cases where the instructional goal is to learn to use the technology tool). Although technology applications are frequently characterized in terms of their most obvious or innovative feature (e.g., a high-speed data line or videoconferencing), from the standpoint of educational functions, it is the nature of the instruction delivered that is important rather than the equipment delivering it.

If used well, technology applications can support students' work on authentic, complex tasks in which students apply these tools—library research, scanning media, talking to experts, recording information, writing or otherwise producing compositions—reflect the kinds of work in which they will continue to engage throughout their careers). During instructional classes, it was also found that the teacher became a learner alongside students, serving as a model of active learning (Riel, 1990b).

2.3. Media and Social Development

Different scholars in the area of development have conceptualized development in different ways i.e. development means different things to different scholars and practitioners. Development signifies growth or change for the better in any aspect of social process. To put it in other words: Applied to an economy it means growth in its different sectors of production and distribution, improving standards of education, living and civilization of people, improving wages for the workers etc.

Similarly, political development involves healthy growth of political institutions in society, like democracy, public administration, growth with justice, equality among citizens, integration among communities and linguistic region and so on.

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According to Servaes (1996, p.82-83) development is multi-dimensional process that incorporates improvement and change in social structures, institutions, attitudes, economic growth, reduction of inequality and the eradication of poverty. But, other scholars define development differently: development is a type of social change in which new ideas are introduced in social systems in order to produce higher per-capita income and levels of living through more modern production methods and improves social organization (Rogers with Shoemaker, 1971, p.11). This is also criticized as modernization is not the only way of development by scholars. Moreover, in developing world, where majority of the citizenry suffer from undesirable socio-economic and political conditions, the media have long been recognized as engines of development (Melkote, 2001 and Murthy, 2006). As it is commonly said by communication scholars, 'Information is knowledge and knowledge is power'.

Due to this, the use of mass media is a prerequisite for communication and attitudinal change which are very crucial in the process of social development, which has ever been taken as the most excellent solution for the major problems of Third World countries, like Ethiopia, including poverty and poverty related problems such as backwardness, hunger, diseases, injustice and exploitation (Hartmann, 1989: P.1).

On the other hand, social development cannot be achieved only by transferring capital and technology. It strictly necessitates "the communication of ideas, knowledge and skills to make possible the successful adoption of innovations" (Melkote and Steeves, 2008). Transfer of capital and technology, which is a basic requirement for development, is not possible without communication; communication that is significant for behavioral and attitudinal change is not possible without adequate information. Coronel (2011:P. 6) argues that "addressing poverty requires not just a transfer of economic resources to the needy but also making information available to the poor so that they can participate more meaningfully in political and social life". Media's role in national development is highly important.

Media's contributions to national development are mainly in two ways: As advocates for development and as carriers of development messages. Mass media find out problems faced by people in different walks of their life and make the administrators aware of them. Most often, media report such events and further campaign to get the grievances redressed.

On the other hand, media make people aware of their rights, government subsidies, development policies and the merits and demerits of adopting or practicing them for better life. Radio is found to be the most preferred mass medium to support development efforts in Ethiopia simply because the majority of Ethiopians are farmers while the country's level of illiteracy is significantly high. From the total population of Ethiopia (73.75 million), 83.91 percent of the people live in rural areas mainly based on subsistence farming for their livelihood (Central Statistical Authority [CSA], 2010) and the infrastructure is significantly very poor.

Rural areas are places of too grave poverty" (Ministry of Information, 2001). But, the attainment of social development goals is very dubious without ample opportunity not only to disseminate information to various parts of the society but also to communicate with them effectively. Because, in Ethiopia, development activities, for instance health, agriculture and education, are mainly executed by the government, development information is expected to come from and being communicated via systematic channels, i.e. through development experts, journalists/mass media, etc. White (2008: P. 11) argues: "There is a huge communication gap between the modernized elite sector and the vast majority who live in peasant farming, the informal economy or on the verge of survival."

The dearth of radio receiver is, therefore, one of the major impediments in the use of radiobroadcast for development in Ethiopia even though mass media, in general, play very important roles. Using mass media in educational sector also the area where educational gaps of the citizens of the country are being bridged.

2.3.1. Using Mass Media for Education

Undoubtedly, education is a strong tool to transform people into human resource. Literates are the asset of the nation and tool for development. However, providing education to millions of illiterates is also a challenge which educational institutions alone cannot meet. Under these circumstances, it is inevitable to look at the mass media which has full potential to tackle this challenge. In recent decades, the widespread use of the mass media has resulted in heightening the level of public knowledge in different fields (Buren, 2000).

Instructional technology is a subset of educational technology and is narrower in scope than the latter. However, both concepts are related. While educational technology principles can be applied to solving educational problems at the macro level, instructional technology principles can be applied to solving instructional problems at the micro level. Mass media are instructional technologies and have the ability to disseminate identical information at the same time to diversified audiences.

Particularly, broadcast media (radio and television) have the ability to reach mass audiences simultaneously (Folkerts and Lacy, 2001). Mass media can be used to influence public opinions to achieve any needed goal. That is why ideologists, propagandists and other powerful individuals use media to influence the mass (Vivian, 2005). Education is one of the areas where media supports learning and teaching both in and out of schools. The roles of the various instructional technology media in teaching and learning process cannot be underestimated. By Media Mediated Instruction (MMI) approach, we mean an instructional system in which the traditional roles of a teacher during teaching – learning process are to be played by the employed instructional materials/media. Thus, the media act as teacher surrogates or mediated instructor (Balogun and Abimbade, 1999). The exchange of roles between the teacher and the media is, however, deliberate and, therefore, systematically planned. The list of media that could be used as teacher surrogates are in exhaustive. These include: the radio, the television, computer, textbooks, charts, films, video tapes etc.

Decision can be made by the instructional system developer to use the mediated media partially or totally. When partial media mediated approach is used, it gives room for some teacher interventions during the course of instruction. However, when total media mediated approach is used; there is no intervention of the teacher throughout the teaching – learning period.

Generally, media can widen their knowledge, diversify teachers' method, stimulate learners' interest, used to enhance effective communication, and teach thousands of students at the same time in different geographical locations. Media could be produced following the basic principles and procedures. Through the use of media, education can become more productive, more scientific, more concrete, real and immediate. There are many other advantages which media can give in educational settings if properly utilized. Accordingly, Ajayi (2001) opines that the new ICT facilities could allow teachers and lecturers to move into the roles of guides and facilitators assisting students to gain skills required to acquire and utilize knowledge available in various forms all over the world. Moreover, the media that are used in instructional purposes can have many positive results to offer for both learners and teachers.

The uses of ICT/media is making major differences in the learning of students and teaching approaches. For example, schools in the Western World invested a lot for ICT infrastructures over the last 20 years, and students use computers more often and for a much larger range of applications (Volman, 2005). Several studies reveal that students using ICT facilities mostly show higher learning gains than those who do not use. For instance, Kulik's (1994) finding across 75 studies in the United States showed the following. Students who used computer tutorials in mathematics, natural science, and social science score significantly higher on tests in these subjects. Students who used simulation software in science also scored higher.

Information and communication technologies are excellent tools for information processing; the new generation needs to become competent in their use, should acquire the necessary skills, and therefore must have access to computers and networks while at school (Kok, 2007). To fully achieve the goals of education using media, teachers themselves must be technologically updated through trainings.

That is why technology professional development is a key to teachers' learning to integrate technology effectively into the classroom (CEO Forum, 1999). The learning needs can be thought of as, one, about learning to operate the software and, two, about learning to use software as an integrated, instructional tool. But, using media technology for the sake of using in education can be distractive, too. Rather, technology integration should be in support of specific outcomes and add value to and assist in the assessment of those outcomes. The overall, curriculum connections should often be the central focus of technology professional development sessions and facilitate sharing or instructional planning time (ibid).

Mass Media is a prime resource in achieving the goal in socio-economic and cultural sectors and also for the development of education. Among the mass media, Radio and television have extended their helping hand by broadcasting educational programs for educationally deprived classes and motivates them to pursue their education through distance education. It is through this role that radio and television are called the most effective tools in communication for the support of development (Hussain, 1997). Therefore, students can learn and understand their syllabus much similar to the students learning in the class-rooms.

Particularly, the radio is a powerful and effective medium through which the audiences, especially, the distant learners can be reached. Radio broadcasting allows for one-way of passing information across to the audience. However, it allows for some degree of interactivity by using printed materials to accompany the programs and requiring learners to send responses back to the radio teacher. Moreover, some programs provide a telephone number for the students to contact the radio teacher / facilitator.

As instructional technology, radio has many advantages that lead to the benefits it gives to the learners and some of the scholars that agree with this idea are the following. Likewise, writing on the advantages of broadcast radio, Heinich, Molenda, Russell, Smaldina (2002) posited that:

- It is widely used to solve the problems associated with geographical and economic constraints;

- ▶ The audio medium is extremely flexible and can have a powerful, dramatic effect, particularly for conveying music, discussion and storytelling;
- ▶ In addition to these, radio broadcasts train the audience to be good listeners.

Apart from its advantages, radio has also limitations and this topic is not the scope of this study. Most schools have some levels of technical support available on using radio for education, although the frequency and level of expertise varies widely.

2.4. History of Educational Radio

Radio is one of the communication media invented in the information age, the 20th century. Because it had only voice, it was mentioned as an easy technology, but its invention almost took sixty years. James Clerk Maxwell (1860-1865) introduced the process of the idea of electromagnetic waves to people. In 1886, Heinrich Hertz proved Maxwell's ideas with some laboratory tests. With the highlight of these developments, another scientist, Guglielmo Marconi succeeded in the audio transmission in the first time in the world in 1895 (DeFleur & Dennis, 1996). After this time many scientists started to work on audio transmission issue. After these developments, the first radio station, KDKA, started to broadcast the radio programs in 1920, in Pittsburg, USA. After this growth, radio spread out worldwide in fifteen years period (Dominick, 1996).

After worldwide growth, radio was used for educational purposes. This means, this mass medium has become one of the delivery technologies of the distance education systems for many years. Learners have a chance to take the courses only with audio, which contains voice, music, and effects. Radio is a communication technology, and uses electromagnetic waves for transmitting the signals from places (studios, or anywhere where the programs are producing) to other places with radio machines, which are capable of playing radio programs. These waves travel through air and the vacuum of space equally well, not requiring a medium of transport (Dictionary & Encyclopedia, 2004). Because of reaching many people in a short time, radio is defined as a mass medium. There are more than one definitions of radio, which are defined in its technological infrastructure, or in its medium characteristics. In social and communication sciences, however, the medium characteristics of radio are more important.

With highlighting this point, it can be said that radio is a medium, which sends audible messages through its potential listeners. The producers constitute audible messages with voices, music, and effects. In distance educational radio broadcastings, there has to be a definitional part, which explains educational-based presentations or programs. Radio has been used for educational purposes since its beginning in the early 1920's. The application of radio to the educational problems of developing nations is not a new concept by any means. Most developing nations have broadcast capabilities to cover their geographic region. The main technical problem is the absence of receivers for all people. Some countries have governmental problems in allowing the import of transistors or radios for use by the populace. Additionally, radiobroadcast technicians and educational radio format designers are very scarce in developing countries and academic programs need to be created on a large scale.

Those studies of the effect of educational radio since the 1930's often use materials not developed specifically for radio use. Educational radio for classroom presentation has been demonstrated as effective as television, slide/tape presentations and other media. The great gains in learning shown in radio lessons might be further enhanced by using materials designed specifically for radio use rather than applications of modified scripts from other media. During the 1930's and 40's most of the activities in educational radio were conducted through universities.

Wagner (1939) provided a summary of the most important work being done at that time. The following works cited are included in his summary. At Kansas University, one of the pioneers in the field of giving classroom instruction in radio broadcasting, courses dealing with the program side of radio have been available to students since February, 1932. From the beginning, emphasis has been placed on training students for educational rather than for commercial broadcasting. Ohio State University's "Evaluation of School Broadcasts" was a study sponsored by the Federal Radio Education Committee and involved the active cooperation of educators and of network and independent broadcasters. The major purpose of the undertaking was to gather evidence regarding the effectiveness of radio broadcasts, planned for use in school, in achieving a variety of educational objectives which broadcasters and teachers alike considered important.

The Research Project in School Broadcasting being carried on by the University of Wisconsin was to determine, through demonstration and evaluation, the place of radio in the classroom and to devise methods for its most effective use. During the seven years of experimentation in school broadcasting, the Wisconsin School of the Air has had a steadily increasing audience. The purpose of school broadcasts was to supplement and enrich rather than to give curricular instruction.

The School of Public and International Affairs at Princeton University established an Office of Radio Research in September, 1937. At that time a Rockefeller grant was secured to finance a radio research project to be carried out by this office. A series of publications about the project was planned and, as the work of the project proceeded, a number of basic principles of procedure were formulated. In the spring of 1937, Wayne University started an experiment to develop a radio research technique for measurement of listening habits which would be inexpensive and yet fairly reliable, and one which might best be carried out through the schools. At the University of Mississippi, a questionnaire was formulated for the study of radio listening habits, effects of listening, and attitudes toward radio programs and governmental control of radio (ibid).

Additionally, in a review of some forty-one articles on educational radio, Forsythe (1970) covered the span of application of radio in American education and highlighted some international projects. He noted that the greatest use of radio for instructional purposes occurs in the United States, Sweden, Japan, and Canada. Some characteristics and uses of radio identified in the review include:

1. The ability to present students with events as they happen. Radio can be combined with visual elements to create an emotional impact which may heighten the effectiveness of instruction.
2. Radio provides listeners with a sense of involvement and allows the listener to hear authorities or programs that are beyond the scope of the typical school system.
3. Radio may be used jointly with other media such as television. Multiplexing offers the opportunity to use single-image facsimile transmission or the use of electro writers.

4. Radio is capable of copying almost all educational projection that television can do, and at substantial lower production and reception costs.
5. Other services offered include; in-service teacher training, continuing professional education, community service, health and vocational education, etc.

Forsythe concludes that radio has been shown to be an effective medium, through extensive research. In fact, radio has been shown to be as effective as "conventional methods. In support of the above ideas, Sandler (1967) discussed the re-emergence of radio as an instructional medium and the rediscovery of some of the features that make radio particularly appropriate for certain purposes. He pointed out that with the rise of ETV; radio had to re-establish itself as a viable medium. That it has done so, can be seen in the growth of FM educational stations, in the use of new techniques such as multiplexing, in the wide range of broadcasting offered, and in the creation of National Educational Radio in 1964. Programming in educational radio includes public affairs, community affairs, and service to special audiences, news, general education, in-school instruction, agriculture, and cultural enrichment.

The National Educational Radio Network supplies programs to its affiliated stations in seven categories: 1) current information and orientation, 2) physical sciences, 3) social sciences, 4) art and literature, 5) mental and physical health, 6) music, and 7) programs for children. The network also has in-school offerings for use in kindergarten through the 12th grade.

One of radio's greatest strengths is the diversity of programming possible. In addition to direct instruction, in and out of the classroom, radio has been used to provide supplementary material, aid in motivating students, and increase community awareness and involvement. Moreover, Riitho (1971) described uses of radio which offer some obvious advantages as a communication medium for family planning education in Africa. The program consisted of various broadcasting in such formats as shot messages, spot announcements, interviews, panels, talks, etc. In introducing the content, local customs, holidays, and taboos were considered. Problems included getting the villagers used to fixed schedules, nationwide scheduling, and the uniqueness of the radio. In agreement to the fore mentioned ideas, Mackie (1968) presented a history of the Citizen's Forums in Canada from 1943 to 1963.

He pointed out that successful educational radio depends on skilled field leadership, extensive promotional activities, and continuity in format and broadcast time. Jain (1969) investigated theoretically and empirically the functions of group radio listening, discussion, decision, commitment, consensus on the effectiveness of Indian radio forums. Theoretical conceptualization of radio forums and the predicted role of group discussion, group decision, and the public commitment is rather well supported by the data. However, he was not able to demonstrate the usefulness of private commitment and group consensus. Additionally, Kahnert (1967) reported on the regular broadcasting of an educational radio program for adults in Togo, where villagers gathered in listener's clubs under the direction of a club leader to hear and discuss the programs. The programs which were broadcast were in French and two of the local dialects, covered five general content areas. The project began in 1964 and by the end of 1966 had more than 1,000 active clubs participating. There has been no formal evaluation of the project, however, it appears that despite difficulties due to financing, coordination, and communications with club leaders, a meaningful dialogue have been established between the administrators and workers in the villages.

A study of the Farm Radio Forum Project of Ghana was conducted by Abell (1965). This project was carried out in eighty villages divided into four groups; two experimental and two control villages. Through pre and post broadcast questionnaires, it was found that the listening groups contributed to villagers' comprehension of inter-village cooperation, formation of cooperatives, and food nutrition.

Experiments have been conducted in Africa on the instructional uses of radio. For example, Griffith (1967) reported that the government of Malawi has supported the development of educational radio. Facilities are limited and attempts are being made to make the system self-supporting. Programming centers on agriculture, rural development, public health, literacy, adult and formal education. Problems include lack of suitable equipment and lack of receivers among the native population. Available data on radio as an instructional device indicate that it can be highly effective.

Studies have been carried out in classrooms with radio playing varying degrees of importance, in industrial and vocational education, in career education, in professional education, Asian aid in community development projects, and as a motivational aid.

To find out the types of lessons or demonstrations that can be presented successfully by radio to pupils, Dickson (1924) carried out an experiment involving eight lessons for 7th through 10th graders. Dickson's primary purpose was to investigate the possibility of radio programming as a supplementary service in addition to classroom teachers. The results were positive and Dickson suggested that through radio it would be possible to plan for more effective use of standard tests and measurements. A period of twelve to fifteen minutes seemed to be about the maximum time that instruction should be given without some break.

A study measuring the educational value of instructional radio programs for intermediate school pupils 8th and 9th graders were taught using fifteen educational programs on local radio stations. Another group with similar characteristics was taught the same lessons but not permitted to listen to the broadcasts. From pre and post-test data the authors concluded that lessons taught by means of radio effect definite changes in pupils, and that the radio certainly should be used as an instructional device (Cook and Nema 1939). Usan (1965) used short wave radio broadcasts to teach geographic and related physical science concepts to 5th grade students. The experimental group achieved significantly higher post-test scores than a control group.

2.5. Experiences of other Countries in Utilizing Educational Radios

There are several benefits to the use of radio for instructional purposes. Perhaps the largest single benefit for radio education is that it can reach a large population of people in need of educational services. Each of its benefits would indicate that radio can be an effective educational medium, particularly when other educational options are limited or non-existent.

Pennycuick (1993), of the Centre for International Education at the University of Sussex, states a bit more specifically that interactive radio instruction (IRI) is characterized by “highly coordinated” instructional materials and delivery strategies, and includes elements of active participation on the part of the students. He goes on to say that IRI “is effective, is cost-effective, and teachers are enthusiastic about it” (Pennycuick, 1993, p. 24).

In support of this, the South African Institute for Distance Education (2004) stated that “radio remains the key media to which most rural people have access” (p. 45) and that educational radio initiatives in South Africa were “effective in providing topical programs and reaching large numbers of learners rapidly” (p. 36). Going further, they state that “the impact of the radio programs was greater when used with other text-based materials, such as posters and comics” (p. 36). Radio can be easily run when compared with television and the idea of International Development also confirms this.

Accordingly, International Development (2001) stated quite clearly: our view is that radio is, for the time being, the most cost effective ICT for enhancing the quality of education in the classroom. It remains the most widespread and accessible ICT in Africa. In some countries, it has near universal penetration. The costs of producing educational material for radio are one tenth of the costs of producing material for television, which has much lower coverage and is more expensive to access (p. 14). In response to the educational needs of rural poor populations throughout the developing world, there are several large-scale operations conducting radio education projects. The Free play Foundation, the developers of the Lifeline Wind-up/Solar-Powered Radio, “is committed to ...ensuring sustained access to information and education via radio” (Free play Foundation, n.d.).

According to the Free play Foundation’s website, “radio is the primary medium of communication in developing countries, where most people live below the poverty line (and), therefore, is the lifeline of information.” In support of its goals, this organization has distributed radios in countries as diverse as Afghanistan, Indonesia and Zambia, among others.

As part of this process, the Free play Foundation “collaborates with in-country non-governmental organizations (NGOs), government ministries, international organizations and broadcasters to ensure radio information and education reaches the widest possible rural populations.” In order to do this, it works with international and local broadcasters to assure that the content is appropriate. In addition to this, the foundation works with local populations to facilitate the creation of listening groups, distributing radios, and evaluating the impact of the programming. Another organization that is also working extensively with IRI is the International Education Systems (IES) division of the Educational Development Center, Inc.

This program “grew out of a concentrated focus on the use of technologies to expand access to basic education and improve its quality” and goes “beyond basic education in classrooms to design many radio-delivered education systems” (International Education Systems, 2007a). Working in 25 developing countries, the IES is focused on improving the quality of teaching and learning and uses “traditional technologies such as radio to deliver interactive instruction where school systems have broken down or never existed or to reach refugees, nomads and children who cannot afford to go to school” (International Education Systems, 2007a)(ibid). Another global institution that mainly works with African countries is Farm Radio International. Specifically, it works "in direct partnership with approximately 300 radio broadcasters in 39 African countries to fight poverty and food insecurity" (Farm Radio International, 2007). Working mostly on the production end of the radio education continuum, this project researches and develops the scripts that are then used to produce content for delivery through the radio.

Radio has also been extensively used in India for primary, secondary and higher education purposes as well as informal learning. Its first applications were in the Farm Radio Forums of the 1950s, which placed “radio on the educational map of India” (Mishra, 2005). It was shown that those who participated in the listening groups at the Poona radio forum learned more about agriculture, health and literacy than those who did not. In primary school education, radio was found most effective in the acquisition of factual information, commonly via story and drama formats.

India has also experimented with the use of hybrid, 'radio-vision' technologies in middle-school education. This consists of the combined use of radio and text support, and has been found to be particularly effective in subject areas such as geography and disciplines requiring graphic illustration. At the Indira Gandhi National Open University (IGNOU) established in 1985, radio has been extensively used (Agrawal, 2005); and since 2001 an Indian educational radio network, Gyan-Vani, has been extensively used for university-level and other educational programmes (Chandar & Sharma, 2003).

China, on the other hand, has implemented educational policies since the 1960s which made primary and rural schooling compulsory (Gulati, 2008), and has implemented radio and TV programs for primary schools up to year nine in rural areas. At the university level, the Chinese Radio and TV University system (CRTVU) was developed as part of the government's economic reconstruction and in the effort to build up the national workforce (Rumble, 1989; Hodes, 1995). The CRTVU is a hierarchical system with five tiers whereby course material is primarily developed by the central University and programs are delivered by regional universities and colleges. Transmission of class material is via radio or TV to tutorial groups of approximately 40 students in local centers.

Despite the popularity of India's radio initiatives, the medium has never received the political attention required to make it widely successful; and it has played a marginal role compared with that of educational television (Mishra, 2005). Currently, India is placing much emphasis on the development of DE Internet technologies; and this is increasing the educational access gap between the privileged classes and the poor and rural sectors of society (Agrawal, 2005). Despite efforts to reinforce rural educational systems, however, rural schooling in China has suffered from poor teacher quality and shrinking government budgets.

Overall, as in India, the successes of educational radio in China have been overlooked and the movement has been allowed to wane, spurred by the promise of new technologies such as TV and the Internet, and by a general lack of investment in rural education, which is the main target of radio programs.

Gulati (2008) highlights the disparities between urban and rural, men and women, and the privileged and non-privileged, caused by the targeting of investment in Internet-based education methods on the more advantaged groups. Hence, the rural poor lag increasingly far behind the urban learners in both India and China; and yet, as Gulati indicates, “printed material, radio, and television remain more effective and accessible for rural and disadvantaged groups” (p. 12).

By comparison with Asian nations, African countries are at a more rudimentary stage of development in their educational practices, policies, and uses of educational technologies. In Africa, there is far lower TV coverage and fewer TV sets than in Asia, decidedly less Internet access, fewer fixed telephone lines and limited computer access. Insights into how the models of radio for DE and community radio in Asia have been creatively applied in Africa can be gained from examples of interactive radio instruction (IRI) in Kenya and Mali. IRI was first used in Africa in the '80s, to develop a Radio Language Arts (RLA) program in Kenya for first to third grades (Moulton, 1994; Dock & Helwig, 1999). The IRI lessons were very structured, with timed pauses for chorused replies from the class. They also incorporated time for individual questions and comments. The RLA program relied extensively on stories, games and songs, and engaged the students in learning by stimulating their fantasies. The basic structure of the lessons was that of a conversation. The IRI approach has since been equally useful in approximately 20 developing countries in Africa, Asia, and South America.

It is largely used to improve the quality of education when teacher training is low or when there is a teacher shortage. Lessons are transmitted by an initial teacher via radio or audio cassettes to classrooms where a supplementary teacher manages the student exercises, class discussion, and follow-up. Exercises and interactive activities are scheduled during pauses in the audio programme. Bosch (1997) showed that IRI can increase learning and improve test scores, and is useful in bringing rural children up to the level of those in urban schools who have access to better teachers and materials. Bosch (2004) has stated that, since the early 1980s, the sustainable success rate for IRI projects has been 66 per cent.

This is quite exceptional given the common challenges encountered by distance education initiatives in developing countries. The IRI initiatives of Kenya and the rural radio projects of West Africa, indicate that some African countries have a rich tradition of both educational and community radio. The overall goal of these rural radio initiatives is one of social awareness and change (Ilboudo & delCastello, 2003). Thomas (2001) states that: "In many areas of the world, radio is still the only medium through which educators can reach a mass audience, simultaneously and at relatively low cost" (P. 5).

Dagron (2001) adds that it is not only an important mechanism for the diffusion of development information in local languages and over widespread and remote geographical areas; it is also a great tool for reinforcing and strengthening cultural expressions and identities. Radio alone will not solve the problems of educational delivery to remote, rural people in the developing world. As Baggaley and Ng (2005) have indicated, there is no single formula for DE in developing countries. Empowerment of ministries of education, higher educational priorities, improved teacher training, the implementation of sustainable programs, and particular attention to the needs of rural areas, are all necessary steps to this end. Yet radio, if used effectively, can be a powerfully motivating and low-cost educational technology capable of sustaining the oral tradition of indigenous people and cultures. The medium reaches large numbers of people, and allows learners to remain in their own home settings without having to relocate for schooling. It can also protect the heritage of minority languages; and it is accessible to illiterate people.

Radio has its drawbacks, of course. In its original form, it is essentially a one-way communication medium whereby interaction with listeners is minimal. As a result, a radio programs pace is primarily that of the broadcaster, who can find it difficult to gauge the listeners' prior knowledge and attitudes critical to learning. To compensate for these drawbacks, radio presentations can be packaged with visual and print materials; interactive elements can be organized via listening groups and tutorial classes; and radio cassettes can be used to minimize scheduling problems.

As suggested by Dagron (2001), radio can also be combined with Internet techniques. As in the examples of Sri Lanka and West Africa, radio and Internet methods allow communities to embrace the newer technologies and assist illiterate people to gain general knowledge. Due to its wide usage in certain countries and the scarcity of other technologies there, radio clearly has the potential for a significant impact in all societies. The years of experience in Asia should be embraced and shared in Africa; and lessons may be learned from these innovative social initiatives in the developed nations also.

A rich diversity of various solutions is necessary to meet the different DE challenges of the international community; and radio should not be overlooked in the mix of emerging approaches. The current initiatives that show the trends of countries that are utilizing educational radios can be seen as follow.

► The Sudan Radio Service (SRS).

Serving adults at all levels throughout Sudan, this program provides instruction concerning civic education, current events (news), health, general education, agriculture and animal husbandry, and culture, among other content areas. Its programming is conducted primarily in Arabic, however it includes English and local languages such as Nuer and Dinka. Starting with 2 hours of daily programming in 2003, the current schedule includes 6 hours of daily programming, 3 hours in the morning and 3 in the evening (Jeremy Groce, Nov. 7, 2007). In addition to SRS, *HEAR Sudan* is also another program whose aim is to build the “capacity of local stakeholders to plan, implement and monitor health and education services” (International Education System, 2007b). Interactive radio education is used to support improvement in instructional methods as well as provide health curricula to both teachers and health workers.

► Southern Sudan Interactive Radio Instruction (SSIRI)

Another experience of using radio for education is from the world’s youngest country-South Sudan.

This (SSIRI) project anticipates reaching over 100,000 children in grades 1 to 4 through daily half-hour radio programs per grade. The lessons teach math, local language literacy, English, peace building, and life skills. The broadcasts are in English, with instructions for the local instructor to translate directions into the local language as may be necessary depending on the grade level and the subject matter. In addition to this, SSIRI is developing an English language series for youth and adults consisting of 240 half-hour programs ranging from beginning to advanced levels.

Apart from teaching English, the programs provide information on civic education, health, and numeracy. Finally, SSIRI has developed the first of several planned modules of radio programs to support teacher training (Thomas D. Tilson, Nov. 6, 2007).

► Zambia Quality Education Services through Technology (QUESTT) Project

Zambia is also where we can get educational radio whose project “aims to improve the quality of basic education delivery systems” (International Education Systems, 2007e). Serving rural, hard-to-reach students from grades 1 through 7, this (QUESTT) program teaches math, science, social studies, language literacy, and Health (emphasis on HIV/AIDS). More than 1,100 hours of English-language radio content has been produced, and the radio instruction has reached “over 100,000 children in community schools and 120,000 in government schools.” Also, this program has piloted the use of iPods and cell phones in instructional settings (Richard Trewby, Nov. 6, 2007).

Another project in Zambia that is serving the people is the Zambia Interactive Radio Instruction Program for Out-of-School Children is primarily focused on reaching out-of-school youth, this project taught English language, math, science, social studies, life skills and health (predominantly concerning HIV/AIDS) to students in grades 1 through 5. As an unintended consequence, the popularity and quality of this program led to a demand for it to be integrated into the governmental schools (R. Zimmerman, Nov. 1, 2007).

► Somali Interactive Radio Instruction Program (SIRIP)

This (SIRIP) program has been designed to reach students both in and out of the formal education system; the program uses radio to reach students in grades 1 to 5 to teach Reading, Math and Life skills (health, conflict prevention and mediation, democracy-building). Instruction is conducted in Somali, and has already reached nearly 120,000 students, and has a goal of reaching 400,000 students (Said Yasin, Nov. 6, 2007).

► Somalia Distance Education Literacy Program (Somdel)

As part of the BBC World Services Trust, this (Somdel) project used radio instruction to teach more than 10,000 Somalis basic literacy, numeracy, and life skills.

By using teachers who were nominated by the community, this project allowed for substantial community involvement in determining when and where classes would be held. "Of the 10,908 people on Somdel, 9,000 passed their final exam and of those, 70% were women" (BBC News, 2003).

► Malawi Interactive Radio Instruction (Tikwere!)

Using national radio broadcasts, covering all 5,200 primary schools in Malawi as well as all out-of-school students (although this is not the primary audience), this project teaches language skills, literacy, English, math, and life skills to children in grades 1 through 3. This project develops 150 interactive radio episodes per- grade. Each of these radio episodes is thirty minutes long and is delivered in the Chichewa local language with the English lessons taught in English (Jennifer Kennedy, Nov. 7, 2007).

In general, the above countries cannot, by no means, be the exhaustive examples in utilizing educational radios; but they are intentionally selected by the researcher as they have relevance to the context of the country in which the study is being conducted-Ethiopia.

Even though educational radios of different countries may have different formats and facilities to satisfy their audiences, there are also characteristics of effective educational radios to which relatively most this educational media appeal. The following sub-topic tries to discuss this issue briefly.

2.6. Characteristics of Effective Educational Radio

Educational radio has been employed within a wide variety of instructional design contexts. There are a lot of literatures that support the uses of radio for education. Evaluation of communication programs, projects, and experiments have repeatedly shown that radio can teach; it can present new concepts and information (Gaida & Searle, 1980; White, 1976, 1977; Leslie, 1978; Jamison & McAnany, 1978; Byram, Kaute, & Matenge, 1980; Hall & Dodds, 1977; McAnany, 1976). It has been used extensively as an educational medium in developing countries.

There are some characteristics of this medium to make it effective in its services. In some cases, its design is supported by the use of printed materials, by local discussion groups, and by regional study centers. It is sometimes designed to permit and encourage listener reaction and comment. Indeed, in some cases, there is provision for the audience to raise questions and to receive feedback. In this regard, Sweeney and Parlato (1982, p. 13) concluded that "radio plays an effective educational role both as the sole medium or in conjunction with print and group support." For example, in a project for teaching mathematics by radio to school children in primary grades in Nicaragua, students who were taught through radio lessons achieved significantly higher scores in the final evaluation than those taught through regular, face-to-face, classroom instruction.

Rural students, tested against rural control groups, benefited more than urban students tested against urban control groups (Gaida & Searle, 1980). Moreover, published reports confirm that radio has supported educational programs in a wide range of subject areas and in many different countries. It is possible to consider the following list of examples (which is by no means exhaustive). Educational radio has been utilized in:

- ▶ Thailand, to teach mathematics to school children (Galda, 1984), and for teacher training and other curricula (Faulder, 1984).
- ▶ India, for rural development (Long, 1984).
- ▶ Swaziland, for public health purposes (Byram & Kidd, 1983).
- ▶ Mali, for literacy training (Ouane, 1982).
- ▶ Columbia, for various programs (Muhlmann de Masoner, Masoner, & Bernal, 1982).
- ▶ Mexico, for literacy training and other programs (Ginsburg & Arias-Goding, 1984).
- ▶ Nigeria, for management courses for the agriculture sector (Shears, 1984).
- ▶ Kenya, in support of correspondence courses (Kinyanjui, 1973).
- ▶ Nicaragua, for health education (Cooke & Romweber, 1977).
- ▶ The Philippines, for nutrition education (Cooke & Romweber, 1977).
- ▶ Guatemala, in order to promote changes in farming practices and to improve production (Ray, 1978).
- ▶ Sri Lanka, for family planning and health (Academy for Educational Development, 1980).
- ▶ Trinidad and Tobago, to promote knowledge of breastfeeding (GueriJutsun, & White, 1978).
- ▶ South Korea, in support of family planning (Park, 1967).
- ▶ Botswana, for civics education (Byram, Kaute, & Matenge, 1980).
- ▶ The Dominion Republic, in support of primary education (White, 1976).
- ▶ Paraguay, to offer primary school instruction (Academy for Educational Development, 1979).

Still, it is possible to explore some of the various instructional design formats in which educational radio has been employed and see some of the evaluative studies and the recommended practices regarding the effective characteristics of educational radio. One of the most dominant and widespread examples of the use of educational radio is known as "Farm Radio Forum." It was started in Canada in 1941 as a radio discussion program and served as a model which was adopted subsequently in a number of developing countries.

After ten years, its sponsors, the Canadian Broadcasting Corporation (CBC), the Canadian Federation of Agriculture (CFA), and the Canadian Association for Adult Education (CAAE), invited UNESCO to cooperate in carrying out an evaluation of the program and its effectiveness as an instrument of adult education (Abell, 1968; Coleman & Opoku, 1968; Mathur & Neurath, 1959; Nicol, Shea, Simmens, & Sim, 1954).

There are some features of this radio model to be considered. Accordingly, the lessons learned from Canada such as the use of forums, multi-media, printed materials, two-way communication and various production techniques (drama, interview, panel discussion) were then introduced in India early in 1956, and in Ghana in 1964, with the initiative and sponsorship of UNESCO. The radio programs for rural forums have been concerned with the problems of agriculture, rural development, rural education, innovations, self-government, and literacy. Such forums have now been introduced in many developing countries. By 1968, a total of about 15,000 were reported (Nyirenda, 1981; Waniewicz, 1972).

There are studies that show the effectiveness of forum discussions in educational radio services. For example, in a study sponsored by UNESCO, Paul Neurath (1959, 1960) studied the effects of a Farm Radio Forum project at Poona, India. He compared 145 forum villages with non-forum villages. The forum lasted for ten weeks with a total of twenty programs. Each forum had twenty members who came together twice a week to listen to a thirty-minute program on subjects such as agriculture, health, and literacy. Forum members were interviewed before and after the project as were samples of twenty adults from each of the control villages. Each forum was visited and observed four times during the project. It was found that forum members learned much more about the topics under discussion than did adults in villages without forums. According to Neurath (1959):

Radio farm forum as an agent for transmission of knowledge has proved to be a success beyond expectation. Increase in knowledge in the forum villages between pre- and post-broadcasts was spectacular, whereas in the non-forum villages, it was negligible. What little gain there was occurred mostly in the non-forum villages with radio (p. 105).

In agreement with the idea of Neurath, Abell's research, which was also financed by UNESCO, confirms the effectiveness of group work-based listening. Abell (1968) conducted research into the effect of group listening to rural radio forums in Ghana. He selected the "Eastern Region of Ghana" for the experiment. Sixty experimental forums were organized in forty villages, while forty more villages were designated as controls. Twenty programs were broadcast once a week from December, 1964 to April, 1965 exclusively.

Five programs dealt directly with agricultural problems while the rest took up the problems of family living, national policy, and relationships with government. Each forum met on the day of the broadcast and exchanged ideas on the topic, then listened to the broadcast and discussed it. After the last session, forum members as well as the control group (non-forum members) were interviewed on what they had learned from the broadcasts. When the results were compared, they revealed that forum members learned more than the non-forum members (ibid). Additionally, Jain (1969) conducted a study on the effect of rural radio forums. He selected a number of villages in one area of India and formed in each one a volunteer group of adult farmers.

All the groups listened to a twenty-five minute recorded broadcast on a topic of current rural interest; some followed it up with group discussion or decision making or both. Others were only expected to listen and take no further action. Tests were conducted after the broadcasts. The results showed that group listening followed by group discussion was more influential in changing beliefs and attitudes towards innovation than was group listening without discussion. Group decision making was found to be an important factor as well. It enabled farmers to approach their problems in a more informed fashion and to work together towards the solutions (ibid).

The radio is not only popular by its own teacher who presents the already prepared programs to the learners. There are still other supporting ways to make it more effective to achieve the educational goals. As radio education is both formal and informal, it is possible to use for imparting information to farmers and evaluate its effectiveness. Likewise, (Anyanwu, 1978, p. 1) conducted a research in the Benin Republic where radio was used to educate rural peasant farmers in the 1960s.

- ▶ support the distance education secondary level program for out-of- school youth and adults;
- ▶ provide programs to a general audience on a variety of development issues; and
- ▶ Develop new non-formal programs to upgrade the qualification and skills of primary school teachers.

Regarding the Educational context, even though Ethiopia is a large but poor country in the Horn of Africa; it has a long and rich history. As of this website, in Ethiopia, formal education began in the early part of 4th century, but didn't begin to expand in a substantial way until the 1950s. The country is now halfway through a five year plan to expand access to and improve the quality and equity of education. Educational media has been particularly important in Ethiopia for several reasons, the site adds. First, the country is large and mountainous and travel is difficult. Educational broadcasting helps to ensure the delivery of quality programs throughout the nation. Second, it has helped to support classes with under qualified teachers. This has been particularly true in the sciences in secondary schools. Third, it expands the experiences of the children. For example, in the sciences, the programs can demonstrate many experiments that would not be possible to do in regular classrooms or even in labs. Fourth, the programs provide general enrichment in a variety of ways.

In line with the curriculum, the educational programs are produced after identifying important academic skills designated in the syllabus of each course. Then, informative and imaginative programs are created, that suit each medium. By using both instructional and enrichment approaches, EMA widens the learners' horizon by applying the academic skills in a variety of ways and, thus, strengthens the teaching and learning process. To see the EMA's Program support to education and the relation between EMA and the regions, radio and television are used to support formal education in the following ways (Ibid).

The programs:

- ▶ Improve the quality of primary education by producing at the regional level radio programs in local languages for all primary school grades in most subjects

- ▶ Strengthen the teaching of English through the development of an improved approach known as interactive radio instruction (IRI)
- ▶ Improve the quality of secondary education and reduce regional disparities by producing radio and television programs in many secondary school subjects
- ▶ Increase access to secondary education by providing a distance education secondary equivalency program for out-of-school youth and adults
- ▶ Improve the qualifications of teachers by creating new distance education programs for upgrading under-qualified primary school teachers

Generally, as this website, to achieve these goals, there is a 15-minute radio program per-week for each major subject area at each grade level for primary schools. EMA produces programs in English and Amharic; the regions produce natural and social science programs in local languages. One of the major consequences for education based on the new federal government structure is that primary education is given in the mother tongue. Although there are approximately 80 languages in Ethiopia, currently about 15-20 of the languages are being used as the medium of instruction. Although most regions have only one or, perhaps two, languages of instruction, some regions have several languages. Therefore, the radio programs in each subject must be produced in each of the languages for each grade. This greatly complicates the production process as well as placing extensive demands on the transmitting capacity within the country. In secondary schools; the medium of instruction is English (Ibid). So, programs have only to be developed in one language.

Moreover, EMA has embarked on a new initiative that has the potential for improving the quality of its programming and, eventually, the programming in the regions as well. It is developing daily 15-minute English radio programs for grade 1 based on the IRI model. IRI is noted for its systematic curriculum design and, particularly, for the way in which the children in the classroom become active participants in the learning process. Although IRI uses standard one-way radio broadcasting, the scripts are written in a way that actively engages the children in the lessons (Ibid). Thus, anyone observing an IRI class can understand why the name "Interactive Radio Instruction" became associated with this type of broadcast. IRI is not a major departure from EMA, but builds upon and improves its systems for writing and producing other programs.

The process involved the organization of small listening groups, called "Radio Clubs," formation of national and departmental committees, use of village chiefs as presidents of the radio clubs, and the use of animators as group leaders. Group discussions were carried out after listening to the broadcasts, and the animators provided reports on group discussions. After one-and-a-half years of experimentation, an investigation was carried out to collect the reactions of the peasant farmers. As a result of the investigation, the administration of the Agricultural Radio programs and organization of the radio clubs was reformed.

A national committee was formed to assume the responsibility of planning the agricultural broadcasts calendar. Topics on rural life and on general motivation were developed for the programs. After that, Messages from the radio clubs, questions and answers of interest to the development of agriculture, all formed important themes for the radio programs. Department committees were also set up to make recommendations to the national committee on topics and subjects for the radio broadcasts. A year later, a national seminar was organized to evaluate the achievements of the Agricultural Radio.

"About 60 participants, mostly district heads and a few operational heads, attended the seminar (ibid). The results of the evaluation revealed that rural radio is an effective instrument of information and education among the rural peasants. Anyanwu concluded that:

Through education from the radio, the peasants have grown to understand how to work better, even with the use of new implements which also require new techniques for the development of agriculture. The success achieved in this direction has demonstrated that through collective listening, discussion, and the use of audio-visual aids, the radio can contribute substantially to the process of transformation of agricultural traditions, as well as some social and economic attitudes in general (p. 15-16).

Other scholars' findings also justify how educational radio, which is supplemented by inter-personal communication-based activities, can be effective in delivering education. Punasiri and Griffin (1976) summarized the Farm Radio Forum Pilot project of Thailand.

The purpose of the project was to strengthen existing agricultural service and to obtain qualitative data on the value of radio farm forums in facilitating communication between the farmer audience and the extension service. The programs included interviews with specialists, discussions from listening groups, announcements, and answering questions from the groups.

The evaluation was designed as an integral part of the project activities. It used a number of methods to collect data, namely "weekly Radio Farm Forum reports and attendance records; follow-up visits to villages; observation notes; surveys of Radio Farm Forum leaders and members; survey of Provincial Level committee members; post-project seminar with group leaders and final presentation to DOAE (Department of Agricultural Extension)" (p. 6). The evaluation found that the two-way flow of information between the farmer and the extension workers had improved. The frequency of farmers' contact with extension agents increased as farmers felt that the agents were trying to provide information directly relevant to their perceived needs. Retention of information and overall learning were greatly improved because of high interest in the content and the reinforcement of messages by various communication channels such as radio, literature, and field visits by extension agents and technicians. Finally, the extension staff and the farmer audience were found to be extremely motivated by the Radio Farm Forum activity.

Educational radio is not only listened to for its programme contents, but also the way it presents matters. Both content knowledge and the skill of production can affect its effectiveness. Therefore, thinking about a suitable format is necessary to attract the attention of learners so that effectiveness comes. This can be seen from the experience of Kenya. Using a format which combines entertainment, humor, and instruction, Kenya's nationwide weekly radio program, "Giving Birth and Caring for Your Children," was measured effective in educating the audience about modern child care practices (Hostetler, 1976; Jamison & McAnany, 1978). The results indicated that more than one-half of those interviewed listened for the educational content, while more than one-third listened for the entertainment. The survey showed general recognition of the major theme (child care) and a high recall on topics covered by the program (ibid). Another characteristic of effective educational radio is how it paves the way to participate the learners.

As learners are the key targets for education, their interests can determine the outcomes. So, any educational project must consider this and one example can be Botswana. A civic education project was organized in Botswana by a community college to provide villagers with basic information about the government and its procedures about citizens' rights and responsibilities. The radio programs were heard and discussed by listening groups. Pre- and post-broadcast surveys revealed a definite increase in people's knowledge and awareness of government and of ways people can participate in development processes (Byram, Kaute & Matenge, 1980). The potential of radio to motivate learners to take action, modify behavior, and undertake activities also depend on dialogue and innovation. In some cases, radio has been used effectively to advise populations of new government policies and to encourage discussion, feedback, and eventual support for new measures. Radio has also been used to promote community development, innovation, and other programs in which self-help and community participation are essential (Byram, Kaute & Matenge, 1980; Cassirer, 1977; Punasiri & Griffin, 1976). Even though there is some evidence to suggest that radio alone can bring about results as in (Ray, 1978; Cooke & Romweber, 1977).

Other reports have examined the results of radio when used in conjunction with some form of interpersonal support such as discussion/study groups, printed materials, or contact with extension workers (Cerqueira, Casanueva, Ferrer, Fontanot, Chavey, & Flores, 1979; Bordenave, 1977), and found them to be very efficient and effective. While most communication and education experts agree that radio can play an important role in inducing change, the ability to bring about such change using radio alone remains controversial. That is why Sweeney and Parlato (1982, p. 16) state that "...established theories of communication hold that human interaction is necessary at some point in getting individuals to adopt innovations." Even though the potential of radio has been particularly difficult to ascertain on the issue of changing practices, there is some evidence about change and actions produced by radio in developing countries. For example, a five-year "Basic Village Education" project was carried out in two geographic areas of Guatemala in 1973. The purpose of the project was to change farming practices and improve production through a constant flow of information (Ray, 1978).

Reviewing the evaluation, Sweeney and Parlato (1982, p. 16.) concluded that: For the Spanish-speaking farm area, radio alone was an adequate source of information, much of which was translated into action. For the less developed area, a mixture of radio and home visits by a field worker and an agricultural specialist worked best (ibid). Further, the "Radio Farm Forum Pilot Project" of Thailand (Punasiri & Griffin, 1976) concluded that (the crucial element of radio forums was the opportunity they afforded members to exchange experiences and ideas and to participate in group problem solving.

The two-way flow of information between farmer and extension worker improved retention and overall learning of participants because of its high interest in content of broadcasts and the opportunity for discussion. This happens because messages were reinforced by various communication channels such as radio, literature, and field visits by extension agents and technicians. Agricultural broadcasting was made relevant to farmer problems through the exchange of ideas and problem-solving discussions (ibid). This shows that radio should use different mechanisms to be effective in its educational careers. A mere one-direction communication of identical format may not be advised to be effective in this technologically competitive century.

A study of nutrition education in rural Mexico compared the effectiveness of a mass media group (radio with posters and pamphlets) with a direct education group (teachers and audio-visuals) in transmitting nutrition concepts. The study included three geographic areas with similar characteristics, all in the same state. Villagers in one area were taught by radio. In a second area, the method was the regular, face-to-face classroom instruction by teachers. The third area was a control, not taught directly by radio or teachers. They were not made aware of the radio programs but some of them could have listened to them.

Knowledge of nutrition concepts was evaluated immediately after instruction and three months later. One year later, changes in diet were studied. The evaluation showed that nutrition concepts were learned equally well using mass media and regular face-to-face classroom instruction. Both groups reported a positive change in food consumption habits.

It was observed that radio messages were more uniform than the regular face-to-face methods of education, as messages were received in identical format by all listeners. Also style of presentation and content did not vary as they did from teacher to teacher indicating the uniqueness and uniformity of educational radio in teaching disadvantaged adults in developing countries (Cerqueira et al., 1979; Sweeney & Parlato, 1982).

Many writers have proposed that educational radio can be most effective when supported by trained facilitators, group learning, group discussion (dialogues), feedback, and the use of multimedia approaches. For example, Perraton (1978) argued that trained facilitators must be used in order to successfully utilize educational radio. Similarly, Higgs and Mbithi (1977) contend that a "good program has to be backed by careful training of trainers, preparation of training materials and continuous improvements in these" (p. 42). There are also other scholars who are in agreements with the idea of using good facilitators and group discussion. Perraton (1978) stated that group learning is more effective than individual learning and that group discussion is an effective method of learning from radio. The facilitator must converse with students in order to emphasize the main points covered by radio programs as well as to provide feedback where necessary. The facilitator must ensure that programs are supported by visual demonstrations, that groups are cohesive, and that discussions are carried out effectively by employing techniques of group discussion (Daniel & Marquis, 1983; Moore, 1983).

Also, multi-media such as print materials, posters, films, and chalk boards, must be used to elaborate the main points to students (ibid). Based upon experiences, Sewart (1983) claimed the study centers where students interact help each other, replay programs, and opportunities for practical experiments are important. The study center aids the effectiveness of educational radio and acts as a link between the institution and the local community in which it is embedded (ibid). The effectiveness of Educational radio depends on various factors. Neil (1981) contends that educational radio can only be effectively utilized by employing the following techniques:

- Using educators with long (and preferably recent) experience of living in rural areas.

- ▶ Communicating, in detail and continually, with the leaders of village learning groups where these exist.
- ▶ Paying careful attention to, and learning from, the work of local communities or other organized groups (for example, farmers, agricultural, and health service radio broadcasters).
- ▶ Working through valid intermediaries such as chiefs or headmen in villages, i.e., through established and accepted social structures.
- ▶ Encouraging illiterate people to communicate their ideas and concerns through trusted and better educated villagers, who can act as scribes when needed.

It is recognized that there is no single "best" format for utilizing educational radio. This means each situation in which educational radio is employed is unique in some important ways which can impact instructional design considerations. There are also other potential factors that can undermine radio's educational potential and importance. Among the factors is the consideration of audiences/learners. Bates (1982) argues that it is important to identify clearly the primary target audience in order to select appropriate production styles and transmission arrangements which are best suited to that audience. He reviews some research which "...supports the use of dramatization for reaching the disadvantaged" (p. 48). It is, still fact that there is considerable support for the view that radio is an effective medium of instruction. Throughout the world, educational radio program has become popular and in certain countries, it has worked wonders. These countries also represent both developed and developing world and the radio programs have been found effective both in formal and non-formal systems of education.

Specially, the countries which do not have properly equipped laboratories and qualified teachers need radio for education. It is common understanding that radio is a powerful mass medium used in education for disseminating information, imparting instruction and giving entertainment. It serves with equal ease in both developed and developing countries. It spreads information to a greater group of population thereby saving time, energy, money and man-power in an effective way.

It is clear that the success of educational radio depends on the transmission of high quality programs which should support the current needs of both teachers and pupils. There is no single “best” format available for utilizing in educational radio. It is only the experience that can help in finding some such solutions. But, it has been proved time and again that radio can teach; it can present new concepts and information effectively when good programs are given. Interactive Radio Instruction (IRI) is an instructional tool designed to deliver active learning by radio. Audio lessons are developed to guide the teacher or facilitator and students through activities, games, and exercises that teach carefully organized knowledge and skills.

In addition to radio-delivered instruction, IRI enriches the learning environment by engaging resources already available (including, for example, teachers, local cultural artifacts such as songs, games and the environment, instructional materials in the classroom such as books and the blackboard, the expertise of local community members, and locally available materials (such as bottle tops and sticks) to create a blend of good teaching and learning practice. IRI was first developed in the 1970s in Nicaragua by Stanford University, funded by the United States Agency for International Development (USAID). Evaluation data gathered between 1975 and 2000 demonstrated that IRI had improved learning outcomes in conventional classrooms when compared with control classrooms not using IRI (Tilson, et al, 1991; Leigh, 1995; Corrales, 1995; Bosch, 1997; Dock and Helwig, 1999). In addition, IRI was repeatedly found to narrow achievement gaps between boys and girls, as well as between urban and rural students (Tilson et al, 1991; Hartenberger et al, 1996; Bosch, 2001). Programs during this time period often had relatively well-funded evaluation components, often taught a single subject, and focused almost entirely on improving quality.

2.7. History of Educational Radio in Ethiopia

To highlight the history of radio in Ethiopia, the first airwaves came to Ethiopian ears from their native soil at the time of Emperor Haile Selassie (1930 -1974) in 1935. During this time, however, radio broadcasting was employed as an instrument of unification, “to help overcome the internal linguistic and ethnic divisions which geography has perpetuated over Ethiopia’s long history of independence” (Negussie, 2006: 10).

Though by the late 1960s the country's radio system had been organized under the imperial government's Ministry of Information, radio broadcasting (as this was also true to the other mass media) was neither employed as a means of development nor in a position to exercise freedom of expression as the government was an absolute, undemocratic monarchy (Brook, 2000: 18-19).

On the other hand, at the time of the socialist/Mengistu's regime (1974-1991), radio was employed as a major tool for propaganda and counter-propaganda purposes since "Broadcast played a primarily propaganda role, aimed at promoting national unity under state socialism" (Brook, 2000: P. 19). Though it was very negligible, radio was "used for education purposes to promote literacy campaigns, health and farming" (ibid). To see the trend of radio broadcasting since 1991, according to the report that the researcher obtained from Ethiopian Broadcast Authority, up to February 2012, there were 26 radio stations that were operational in the country. From these, seven radio stations are belonged to state media; they are owned either by the Federal Government or Regional States. From the remaining radio stations, eleven of them are commercial (seven of the stations belong to Fana Broadcasting Corporate) and eight are community radios.

It is after this federal system that radios are mostly used for educational purpose. According to the website entitled *Technologies at work*, May, 2000 at www.TechKnowLogia.org, Ethiopia has a long experience in providing schools with a weekly supplemental radio program and a single lesson plan, but the current approach is different because it provides teachers and students with daily 15-minute programs including daily notes to assist teachers in using the program and in creating additional language learning activities after the radio broadcast.

In addition to the audio programs for children, there are special audio cassette programs for first-cycle primary school teachers on how to use the IRI lessons and on teaching methodology for English (Ibid). Ethiopia has experience spanning more than three decades in using radio and television to support primary, secondary and non-formal education.

The Educational Media Agency (EMA) of the Ministry of Education, which has provided the leadership in this area, traces its origin to the Audio- Visual Center established 1952/53. This website further claims that as the Center developed, produced and distributed audio-visual teaching aids, and even had a mobile team that traveled to villages and schools to show films and slides. In 1965, a year after the introduction of television in the country, television became the first technology for broadcasting educational programs using the facilities of the Ministry of Information. In 1969, EMA started broadcasting from its own studio, an indication of its technical and production attainment. At that time, according to the site given above, as a result of increased enrollment in schools, the multiple shift system was introduced, and EMA had to repeat the broadcast of lessons for each shift. Later in 1971, educational radio broadcasting was initiated after a humble experiment using audio-cassette programs in a prison in Addis Ababa.

In 1967, the Audio-Visual Center was re-organized as the Educational Mass Media Center with its own TV studio that produced programs in eight subjects for senior secondary schools and in five subjects for junior secondary schools (Ibid). TV programs were developed for primary schools as well. But the secondary school programs were interrupted in 1976 and the primary school programs stopped in 1980. TV programs returned for junior secondary schools in 1988-the website, still shows.

Most importantly, EMA's radio and television programs are an accepted part of the school curriculum throughout the country. Over the years, EMA expanded greatly. It currently manages an extensive broadcasting infrastructure dedicated to supporting education. Educational media agency has large facilities, employs approximately 160 persons, operates eleven transmitters, each with two channels, throughout the country, and runs 12 recording studios at the center and the regions, with more planned construction in the coming years (Ibid).

Radios, including 500 solar-powered sets, have been distributed to almost all schools nationally, and 800 color televisions have been sent to almost all secondary schools. As this website shows, the radio and television programs enrich education in the following manner:

- supplement and enrich the regular curriculum;

IRI programs in other countries including English, mathematics, science and health have been extensively evaluated and consistently show a strong impact on learning (Ibid). At secondary level, EMA is producing both television and radio lessons. It is producing television programs for Grade 9 in Chemistry, Physics, Biology, English and Mathematics. As the website continues to explain, EMA is also developing Grade 9 radio lessons in Amharic, English, Biology, Chemistry, History and Geography. Over the next three years, it will expand these programs through Grade 12.

EMA has conducted for many years a distance education secondary-level program for out-of-school youths and adults. Currently, 8,500 students are enrolled of whom 7,000 are active this year. The program is basically a correspondence course with students taking 5-6 courses at a time. There are, however, 20-minute weekly radio programs in English, Amharic, and Biology. Although this program is now under the control of EMA, the administration of this program will fall to the regions (Ibid). From the side of teacher education, EMA is coordinating a new initiative for up-grading under-qualified primary school teachers using distance education. Additionally, it will produce over 100 radio programs to support this new initiative –especially for language courses. Under the new decentralized structure, non-formal education is the responsibility of the regions-the site mentions.

Nevertheless, EMA will continue to produce prototype non-formal education programs in areas such as gender, AIDS, the environment, harmful cultural practices, and other development issues. These lessons will serve as a model and starting point for the regions. These prototype programs are targeted to specific communities and audiences, usually involving study centers. EMA continues to develop some programs for a general adult audience (Ibid). These informal programs are related to problems found in many communities such as early marriage of girls even if the topics are determined after consultation with the regions.

2.7.1. Challenges of Using Educational Radio in Ethiopia

It is fact that schools are information and knowledge holding institutions. Therefore, ICT should be fundamental information management tool at all levels of an educational system, from classroom to ministries. That is why most of the time people who cannot get face-to-face follow their learning through distance education to upgrade themselves. Mass Media can be the best tool in this case and employers have indicated that, if employees have the opportunity to pursue higher education through distance education, they are willing to support them (ECSC, 2002a).

Even though mass media, particularly, radio is the most appropriate tool in distance education in Ethiopia, there are various challenges that test its full utilization. According to the website www.TechKnowLogia.org, the most challenging condition to implement ICT strategy in Ethiopian schools is inadequacy of existing infrastructures. Even if integrating ICT use in the teaching-learning process was given due recognition in the implementation strategy, only about 40 percent of schools in the country have computers, and most of which are in Addis Ababa, causing a rural-urban divide to equity and access for quality education.

Regarding capacity building in the education and civil service sectors, Ethiopia adopted a federal system of government in the early 1990s. It is clear that this system of government requires that power be shared between regional states and the central government. Within education, the regions now plan for, and administer primary education under guidelines and standards set by the Ministry of Education. The regions also administer secondary education, although the Ministry of Education is still responsible for developing the curriculum and instructional materials at that level. The central government administers higher education. However, implementing these policy reforms at national, regional, zonal, and district levels requires strengthening the human resource capacity (ibid). Moreover, there are also regional schools which lack enough books and qualified teachers. In addition to shortages of trained personnel in a variety of fields, most of the existing employees (80 per cent) are unqualified and below the requirements of their jobs (ECSC, 2002a). Apart from the benefits, there are several concerns that confront radio education if the history of the country is seen.

Perhaps most importantly, regional instability can create difficulties with effectively delivering appropriate content to those most in need. The situations on the ground within the developing countries can place limitations on the reach of programming and the content that can be included. According to this website, another challenge of radio as an instructional tool in Ethiopia is the content itself. There are many programs that focus on the idea of life skills as an area of content delivery; however, none are focused on farming content/skills.

Since most of the out-of-school students who would benefit from this instruction are likely the children of farmers (and many will become small holder farmers themselves), it would be beneficial to focus these instructional models on farming content – at least to some extent. The site further adds another problem of using educational radio in Ethiopia, which is lack of funding. Uncertain monetary situations can lead to alterations or cancellations of instructional programs. In spite of the experience of Ethiopia in using educational broadcasting and its acceptance by educators at all levels of the school system, there remain other related challenges, too. With the decentralization and democratization of the educational system, the number of programs has greatly increased and it has become difficult to distribute materials, radios and other resources. To add more challenges of the country in this sector, according to the site again, sometimes, the radios are mishandled, kept in a storeroom, or left idle due to a shortage of batteries.

Despite the fact that schools are advised to adjust their timetable to accommodate the broadcasting schedule, sometimes this schedule does not match with the teachers' schedule. In addition to these, with the introduction of multiple languages of instruction, there are increasing demands for broadcasting time that may be difficult to meet. Although this is the case, it would appear that radio has been used successfully in the past to provide educational services to rural, poor populations. Issues such as determining the most effective language of instruction, developing appropriate content, and identifying substantial and stable funding must be addressed. Regardless of these challenges, the benefits found through radio instruction can be substantial. The potential to reach large numbers or underserved people and efficiently convey information, make radio a powerful medium for delivering content (ibid).

2.8. Theoretical Framework of the Study

It was confirmed that Bale Robe educational radio has been giving both formal and informal education types to the community. Hence, to produce informal education programs, producers should participate the community and so that that took the researcher to the theoretical framework of the study. The Participatory communication, which cannot be considered as a unified model (Dagron, 2001), has been influenced by two major approaches. These were the dialogical or critical pedagogy of Paulo Freire and the ideas of access, participation and self-management articulated in the UNESCO debates of the 1970s (Servaes, 1993; Berrigan, 1979).

Both approaches involve the notions of access and participation as the core ideas of a normative theory of alternative communication. Freire, in his 'Pedagogy of the Oppressed' (1968) stressed that many political and educational projects have failed because they have been designed from the implementers' view of reality', not considering and involving the people to whom the programs have been directed, except as mere objects of their action. (P. 84). The model of conscientization and dialogic communication has formed the core methodological framework for this research.

According to Freire (1968), people have to start from their own perceptions; from "the situation within which they submerged, from which they emerge, and in which they intervene." Positive outcome of educational or political programs can only be generated by respecting the "particular view of the world held by the people" (Freire, 1968). Freire (1968) pointed out that the 'oppressed' have to critically reflect on their social reality to free themselves. Dialogue, according to Freire (1968), is the tool for cultural action for freedom and its preeminent purpose is people's conscientization of their situation. As explained above, the Freirian argument takes a dual theoretical strategy. Freire insists that subjugated people must be treated as full human subjects in any political process. This implies dialogical communication and action. The intention of his model is to prompt the individual to critically reflect on his or her own living conditions and problems.

He believes that “the right to participation and emancipation regarding social, cultural, and historical reality” is a fundamental right for everyone (Servaes 1996). Freire believed in people’s ability to learn, to reflect on dominating social, political and economic contradictions, and, consequently, to be able to take actions against those oppressive elements in their lives. This is what he calls ‘conscientization’. According to Freire (1968: P.77), in the process of ‘conscientization’, men begin to single out elements from their ‘background awareness’ and to reflect upon them. Stemming from his practice and theory of dialogical education, he holds the view that dialogue leads to ongoing processes of reflection and creating awareness, resulting in action.

He underlines mutual, horizontal dialogue between the people and between the ‘oppressed’ and other instances as the encounter in which reflection and the resulting action is addressed to the ‘world’ that is meant to be transformed, to be developed (Ibid). Freire (1968) believes that individuals have the capacity for reflection, for conceptualizing, for critical thinking, for making decisions, for planning and social change. It is not merely awareness, however, that is important, but its relationship to a project of social transformation, whereby consciousness and action on consciousness are dialectically linked. According to Freire (1968), action and reflection are organically integrated. It is this dialectical and emancipatory process of action and reflection that constitutes the process of conscientization. By this, Freire goes beyond his educational model and suggests a role of media in developing countries. His conscientization model “was designed to bring about new conditions by breaking through a culture of acceptance and silence and encourage active participation as a subject” (Richards, 2001).

By emphasizing the crucial importance of dialogue, he points to the core importance of communication for learning and creating awareness. For Freire (1968), true and, as such, participatory education and development cannot take place without communication and true communication can only be created by dialogue.

For this particular study, the dialogical or critical pedagogy of Paulo Freire was used as the theoretical framework.

It appears that the framework of dialogue, designed initially to describe distance education instructional systems, is also useful for investigating traditional, campus-based instructional systems. An instructor lectures and there is no accompanying question and answer for discussion.

The lecture is a structural resource that enables intra-personal dialogue. The verbal presentation is equivalent to a video cassette or a written printout of the lecture. Structural resources for intra-personal dialogue include all instructional materials that students may learn from. Examples include, self-instruction texts, television and radio programs, and web-based instructional systems, lectures presented through audio and video cassettes, computer-based simulations, and tutorials.

Therefore, the instructional radio programmes are also directed to the potential learners and the feedbacks are delayed or absent which leads the media institution to be researched for actual practices. As Freire's ideas further discuss the role of education in the society, as either a tool of oppression or liberation, the academic freedom-based curriculum for formal education can lead the students to fully recognize the problems of their community so that they can be part of the solution, accordingly.

CHAPTER THREE: RESEARCH METHODOLOGY

As far as the research methodology was concerned, this chapter presented the detailed discussion of the research methodology that had been employed to collect, analyze and interpret data for the study. As mentioned earlier in chapter one, the main purpose of the study was to investigate the practices of Bale Robe educational radio. As of the reading of the literatures by researcher in the area was concerned, the methodology that suited the study was mainly qualitative in its nature.

3.1. Research Design

A research design is a plan for an entire research project. It provides a road map for the entire study and involves specifying the philosophical assumptions, research method, which data collection techniques will be used, the approach to data analysis and how to write findings. The research design for this study was pre-dominantly qualitative as all of the data gathering methods were qualitative ones. According to Shank (2002, p.5), qualitative research is —a form of systematic empirical inquiry into a meaning. By systematic he means —planned, ordered and public, following rules agreed upon by members of the qualitative research community.

By empirical, he means that this type of inquiry is grounded in the world of experience. Inquiry into meaning says researchers try to understand how others make sense of their experience. Moreover, Flick (2002, p.13) argues the importance of qualitative approach as it provides rich and detailed information in the local context. In his own words, —qualitative approach is oriented towards analyzing concrete cases in their temporal and local particularity and starting from the people's expressions and activities in their local context. According to Griffin (2006, pp.14-15), quantitative methodology is employed in order to build a universal law that makes universal prediction possible whereas qualitative approach is used to direct social researches through the process of interpretation that helps make sense of equivocal communication.

While quantitative researchers strive to use unbiased samples so that they can generalize to populations, qualitative researchers strive for in-depth information about purposive samples without special regard to the issue of generalization (Orcher 2005, p. 99). What one can understand from Orcher's conceptualization is that qualitative research sampling is often based on purposive or theoretical sampling principles. The aim is to identify information rich participants who have certain characteristics, detailed knowledge, or direct experience relevant to the phenomena of interest. In addition to the key participants, the researcher prepared checklist and conducted observations to gather primary data from what were really on the ground after getting consent from the media institution.

3.2. Data Sources

A "population" consists of all the subjects the researchers want to study. It is a group of individual persons, objects or items from which samples are taken for measurement or study. According to Donald Ary, Lucy Cheres and Asghar Razavieh (1972, p.160), a population comprises all the possible cases (persons, objects, events) that constitute a known whole. On the other hand, population of interest is usually too large or too scattered geographically to study directly. However, by correctly drawing a sample from a specific population, a researcher can analyze the sample and make inferences about population characteristics.

It is fact that inductive reasoning is an essential part of the scientific process. It moves from individual observations to general principles. If a researcher can observe a characteristic of interest in all members of a population, he/she can with confidence base conclusions about the population on these observations. This is perfect induction. If he/she, on the other hand, observes the characteristic of interest in some members of the population, he/she can do no more than infer that these observations will be true of the whole. This is imperfect induction, and is the basis for sampling (ibid, P. 25).

To investigate the practices of Bale Robe educational radio, the study employed primary data from key informants who were directly working at the institution and observation was also conducted to see what the actual happenings looked like on the ground.

Additionally, secondary data were gathered from different documents of the media institution as well. This means, Bale Robe educational radio staffs were the sources of this study. These populations were selected because they were the employees who daily practice the jobs of the institution.

3.3. Sampling Techniques and Procedure

The sources of data for this study were both primary (key informants) and secondary (documents). Moreover, the data were collected mainly through purposive sampling method. A lot of researchers agree on the idea of this type of sampling as it is purposely purposive: with a purposive sampling method, the researcher selects a sample from a population that contains different people with certain characteristics, in which the researcher is interested, or media or other sources of data or content of interest to the researcher (Rubin, R., Rubin, A., Haridakis, & Piele, L., 2010). Moreover, purposive sampling is a form of non-probability sampling in which decisions concerning the individuals to be included in the sample are taken by the researcher, based upon a variety of criteria which may include specialist knowledge of the research issue, or capacity and willingness to participate in the research (Oliver, 2012).

It selects information rich cases for in-depth study; even though size and specific cases depend on the study purpose. The number of employees at Bale Robe educational radio was 38 with different educational and experience backgrounds. Among them, the researcher purposely selected 2 Administrative employees, 3 program producers and 2 technicians from Bale Robe educational radio station due to their expertise power, their interest to participate and their experience for the individual in-depth interviews, while 16, of which 5 administrative employees (three males and two females) and 5 technicians (three males and two females) and 6 program producers (four males and two females) for the two focus group discussions.

3.3.1. Sample

Because there is very rarely enough time or money to gather information from everyone or everything in a population, the goal becomes finding a representative sample (or sub-set) of that population. A sample is a smaller (but hopefully representative) collection of units from a population used to determine truths about that population. There should be a strategy to do so. In line with this, (Dattalo, 2008, p.3-5), argues that a sample is a sub-set of the population elements that results from a sampling strategy.

For this Bale Robe Educational Radio case study, 2 Administrative employees, 3 program producers and 2 technicians were purposely selected for individual in-depth interviews, while 16; of which 5 administrative workers, 5 technicians and 6 program producers were the target for focus group discussions depending on the criteria mentioned under sampling method. Therefore, the researcher used total samples of 23 key informants, in addition to observations and document analysis for the study. In the process of collecting data from the employees, the researcher deliberately excluded the general manager who participated in the individual in-depth interviews from participating in the focus group discussions to reduce the suspicion that may rise from the issue of power relation among the employees so that they can freely express their opinions. On the other hand, the individuals whose expertise power and experiences very important were used in both FGDs and individual in-depth interviews.

3.4. Data Collection Tools

3.4.1. Observation

Observation is the systematic process of recording the behavioral patterns of people, objects and occurrences as they are witnessed. Mostly, no questioning or communicating with people is needed. It is the act of looking at something —without influencing it — and recording the scene or action for later analysis. It has advantages for researchers and Natasha is among the scholars that agree on this idea. “Its objective is to help researchers learn the perspectives held by study populations” (Natasha et al., 2005).

Moreover, it is useful for gaining an understanding of the physical, social, cultural and economic contexts in which study participants live; the relationships among and between people, contexts, ideas, norms, and events; and people's behaviors and activities – what they do, how frequently, and with whom (ibid). This method, according to Ketan S. Chitnis (2005), allows issues and problems to emerge naturally what is called emic, or the insider's approach to data collection (Chitnis, 2005). It can be appropriate for collecting data on naturally occurring behaviors in their usual contexts. It is a qualitative method with roots in traditional ethnographic research. Particularly, C. R. Kothari (2004) carefully outlines the three major benefits of observation. In a context where the researcher decides to observe a behavior, Kothari says: (i) the researcher is enabled to record the natural behavior of the group; (ii) the researcher can even gather information which could not easily be obtained if [the issue is] observed in a disinterested fashion and, (iii) the researcher can even verify the truth of statements made by informants in the context of an individual and group interviews (p.97).

For this particular study, the researcher used this method to observe the whole practices of Bale Robe educational radio station for about two months to get the actual evidences of what the station and how the employees did their jobs on their daily practices. This observation process was conducted based on the checklist that was guidance for the researcher to get primary data from the situation on the ground.

3.4.2. Individual In-depth Interviews

Individual in-depth interviews are most appropriate for situations in which a researcher wants to ask open-ended questions that elicit depth of information from a relatively few people. What is more, this type of interview is a technique designed to elicit a vivid picture of the participant's perspective on the research topic. During individual in-depth interviews, the person being interviewed is considered the expert and the interviewer is the student. In this method, the skill and curiosity of the interviewer are very important. One of the scholars that support this idea is Rubin and he says the following:

The researcher's interviewing techniques are motivated by the desire to learn everything the participant can share about the research topic (Rubin, 1995). Moreover, the following scholars' ideas also strengthen this argument: In-Depth interview assists the researcher in digging the respondents' opinions, values, motivations, experiences and their feelings (Wimmer and Dominic, 1997). As Wimmer and Dominic emphasize, in-depth interview gives a wealth of detailed information and provides more accurate responses on sensitive issues. Depending on their expertise power, interest to participate and experience, therefore, the researcher purposely selected 2 administrative employees, 3 program producers and 2 technicians from Bale Robe educational radio station and used individual in-depth interview method to get richer information about the general practices of the radio station.

3.4.3. Focus Group Discussions

As to the views of many researchers like Burton (2000, p.195), focus groups are rich sources of qualitative data for the social science researchers and as such are an interactive and popular method of data collection. Focus group discussion requires active input and structuring from the side of the moderator to make it more useful. Accordingly, the researcher will prepare an outline of the interview guide that helps run the discussion in line with the purpose of the study. Before the discussion started, the moderator got ready by collecting all the necessary materials, like pen, paper and camera with cassettes for the discussion with the group.

For this study, due to their expertise power, interest to participate and experience, the focus group discussions were conducted with 16 persons of different roles in the media institution. Although Hansen et al argue that one should have a minimum of six focus groups, until comments begin to repeat themselves and little new material is generated (1998: P. 268), for this research, two focus group discussions with eight individuals were purposely selected and held. The total number of focus group discussion participants was 16 and they were drawn from program producers (6, four males and two females), technicians (5, three males and two females) and administrative employees (5, three males and two females).

The carefully selected place for discussion was listening room of the radio station as it is not allowed for anyone to enter it randomly. The researcher was a moderator and the camera man was a volunteer journalist from Bale zone communication office. On average, each group discussion lasted for more than one hour.

3.4.4. Document Analysis

Documents are sources of data and are used in relation to the subject under study. They can be put within a context and hence support the main tool of data collection. Besides, the document itself can be analyzed depending on the objective and perspective of a study. By supporting this idea, Prior says that documents are put forward for consideration in schemes of social research and are approached in terms of what they contain and the focus is primarily on the language embodied in the documents as a medium of thought or expression (Prior, 2004). He further adds that as the content of a document is flexible, not least because documents have always to be read and reading implies that the content of the document will be situated rather than fixed.

Accordingly, the researcher has searched for documents in the radio station and analyzed depending on the contexts they were written and documented, critically. These documents were schedule of radio programs, letters for the establishment of educational radios in Ethiopia, editorial policy of the radio station and NGO-related ones.

3.5. Validity and Reliability of the Instruments

Regarding the issues of validity and reliability, it is fact that qualitative designs are about credibility, transferability, dependability and confirmability as generalization is not a much concern as in the quantitative research. As far as the validity of the research instruments concerned in this study, they measured what they were supposed to measure because the research methodology was carefully chosen and the tools matched with it.

The researcher took care of any deliberate manipulation of the data to suit internal and external purposes than the objectives of the study. Since the researcher fully understood the language of the radio station's employees, Afan Oromo, and the culture, too, as he was/is also a native speaker, data collection and analysis was given high attention. After creating a rapport with the employees and identifying the most suitable persons by knowledge and experience, individual in-depth interviews were conducted with seven key informants selected purposely.

On the other hand, reliability (the extent to which the data collection method will yield consistent findings if replicated by others) of the data you collect depend on the design of the questions and the words that you use. Moreover, it refers to the quality of a measurement procedure that provides repeatability and accuracy. The researcher observed the reality on the ground and, by using Afan Oromo, the working language of the radio station; the key informants were asked relevant questions so that the result can by no means be the final reality of the station as far as my knowledge is concerned. Data collected from focus group discussions which had 16 participants divided in to two groups and individual in-depth interviews in Afan Oromo were transcribed in to English by the researcher himself and documents analyzed can give the results reliability within the context and time frame.

3.6. Data Organization and Analysis

All individual in-depth interviews and focus group discussions were tape recorded. The data were then transcribed and translated into English as the discussions and the interviews were first held in Afan Oromo; because the station mainly works with this language. After that, the data were analyzed using techniques of thematic analysis by corroborating the data obtained from the observation, FGDs and individual in-depth interviews for the sake of methodological triangulation. And pertinent quotations from the group discussions and individual in-depth interviews which spoke to the theoretical assumption and were selected to illustrate the major findings of the study. Then, the data were written in narrative form. Additionally, the documents of the radio station were also critically seen and analyzed before they were, too, written narratively.

CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND DISCUSSION OF FINDINGS

This chapter is about the findings, presentation and discussion of the data gathered through different mechanisms of qualitative tools: Individual in-depth interviews, focus group discussions, observations and data analysis. As mentioned earlier in the previous chapters, the main objective of this specific study was to investigate the general practices of Bale Robe educational radio.

The analysis of the data mainly emphasizes on radio education and its mechanisms of production-based themes activities of the radio station under the study. The data analysis, which is classified into five major thematical categories with different sub-themes, answers the research questions raised in the first chapter. These are: the studio facilities, the mechanisms of Bale Robe educational radio program production, types and contents of Bale Robe educational radio programs, feedback collection mechanisms of Bale Robe educational radio, and the challenges of Bale Robe educational radio.

4.1. Studio Facilities

It is fact that there are several different types of studios in the larger broadcasting centers and each is designed and intended for a different purpose. The general purpose studio is furnished with a round table and chairs suitable for talks, discussions and is sometimes used as a dubbing suite for assembling documentaries. All studios are built according to certain acoustic principles to provide quiet places where different kinds of performances can take place undisturbed.

They are constructed free of the structural walls of the buildings containing them so that outside sounds-footsteps in passage ways, traffic rumble, the clatter of office typewriters, sounds from the control booth loudspeaker- will not penetrate. The study of the behavior of sound is known as acoustics and some knowledge of it is necessary for any producer as it determines his/her choice of studio and microphones and the placement of artists in the studio.

When the researcher comes to the situation of Bale Robe educational radio studio, it was established in 1985 E.C in Goba town and began giving services in 1988 in the same calendar. Regarding the conditions and facilities of the studio, according to the observations of the researcher, there is one old mixer, one computer, one fire distinguisher, two tables and seven small chairs. Additionally, there are two old tape recorders named as studiers with old manual reel cassettes, one TASCAM - means CD user and power amplifiers. The studio is covered by sea mineral called acoustic which is used for sound proofing.

There are also three microphones for recording and, still three types of effects are found in the studio. There is also one PIE which was used for black television during the Haile Selassie regime-according to one informant. This radio broadcasts to grades from 1-8th; while the subjects broadcast are: Afan Oromo and Environmental Science for grades 1-4 and English Language even though this radio only transmits; for grades 5-8, Civic and Ethical education, Coordinated Science, Afan Oromo and English. In the past, Amharic was transmitted from grades 5-8, but not now due to the lack of human resource problem as the manager of the radio station told the researcher depending on the hint he claimed got from the Oromia educational bureau.

Biology is transmitted for grades 7 and 8, according to the informants and the schedule of the radio station. There are more than 200 recorded and saved music for use in the studio' while the listening room with four tables is also part of the studio for program evaluation after recordings. On the other hand, developing countries like Ethiopia have various challenges to implement their educational policies and the case of Malawi has been reported by Griffith (1967) as the government of Malawi has supported the development of educational radio. Like Bale Robe educational radio, facilities are limited and attempts are being made to make the system self-supporting while programming centers on agriculture, rural development, and public health, and literacy, adult and formal education. These are also similar with the findings of the researcher and Malawi's problems like lack of suitable equipment and receivers among the native population are not excluded from this Bale's radio station.

Moreover, the studio facilities of this radio are not up to the standard as the researcher confirmed during the observation in addition to the individual in-depth interview respondents' answers.

4.1.1. Library and Documentation Office

The two types of Bale Robe educational radio station libraries, according to the observation of the researcher and the individual in-depth interview informants, are hard copy and soft copy ones. In the hard copy library are more than seven hundred (700) books of different subjects and fields of educations. In this library, there are four tables, one computer, nine chairs and one television. According to the interview with the employee of the library, the television in the library is used for program and music selection. Additionally, Addis zemen, Ethiopian Herald and Barissa are the newspapers found here. When the researcher evaluated the suitability of the library, it is narrow, most books are overcrowded, some are even hidden in the drawers and users can hardly get them in short time. Moreover, as the library is part of the main building and found in front of the recording studio, it is not mostly suitable to be free in as the sounds of the staff and music of the studio may disturb.

The second type of the library, which is also called documentation office, is located next to the hard copy one. In this electronic library, there are old cassettes of music and even the scripts of the programs produced and broadcast. There are more than five hundred (500) reels and they are of three types, according to the technician who entered in to the documentation office during the researcher's observation. These are: reels of 5 inches which are used for 15 minutes, reels of 7 inches which are used for 30 minutes and reels of 10 inches which are used for 3 hours during recordings.

These cassettes are stored according to their years and this saves time to get easily. According to the observation of the researcher, the electronic library is also overcrowded with old cassettes and even with unworkable ones, too. The person who oversees these two libraries is a fifth level B.A summer student in Geography at Madawalabu University and told the researcher as she lacks training in the area of her job.

The researcher also confirmed that there is a mismatch between her motivation to work and the experience in the field. Not only some employees complain about the lack of training during individual in-depth interviews and focus group discussions, but also almost all of them do. This reminds the researcher as there is a mismatch between an employee and job or there is a knowledge gap on specific jobs. Accordingly, it is better to have experienced employees to achieve objectives and Perraton (1978) also argued that trained facilitators must be used in order to successfully utilize educational radio.

4.2. The Mechanisms of Bale Robe Educational Radio Program Production

Higgs and Mbithi (1977) contend that a "good program has to be backed by careful training of trainers, preparation of training materials and continuous improvements in these" (p. 42). Accordingly, it can be argued that broadcast programs usually entail an audio lecture or lesson, with printed materials for the students to follow if different formats are used. In this way, a "general" teacher or an under-qualified subject-matter teacher can use the radio program as a main instructional source with his or her students.

These programs follow the traditional model of education and can have the following features:

- ▶ Programs prepared by specialists
- ▶ May use sound and other effects
- ▶ Programs aired again with no additional development cost
- ▶ Breaks the isolation of schools

Bale Robe educational radio has two jobs of which one is production and another is transmission as the individual in-depth interview participants told the researcher. Accordingly, if the programs are produced at the center (EMA), the job of the radio is transmitting them and if the program production duty is also given to the station, it produces and transmits, too. The issue of informal education is different as it is produced and transmitted by the station. The radio station has its own mechanism of program production which is tied to the plans of Oromia educational bureau.

“Listening the programs on the air may seem simple,” says one of the focus group discussion participants to show that there are ups and downs to reach there as the following sub-title will discuss.

4.2.1. The Steps of Program Production

Radio program making is unavoidably a technical craft. It calls for a special way of developing ideas, a special approach to writing and a technique for translating ideas and scripts into workable radio terms. In agreement with this idea and to add more necessary logical flows, Bates (1982) argues that it is important to identify clearly the primary target audience in order to select appropriate production styles and transmission arrangements which are best suited to that audience. He reviews some research which "...supports the use of dramatization for reaching the disadvantaged" (p. 48).

To this end, familiarity with the technical facilities for production and knowledge of their operation is an essential part of the training of a radio producer. This is particularly necessary for more complex production work or where senior technical staff is scarce, as is often the case on small stations and in developing countries like Ethiopia. Someone is responsible for every program that goes out on the air whether it is a simple record program, a talk or discussion, the news, an outside broadcast, a musical performance or a drama. In the broadest sense, the man or woman responsible for the program that organizes it and brings it into the studio is a producer.

According to the editorial policy document of the radio station and the individual in-depth interview participants' responses, Bale Robe educational radio has three sectors: Administrative, production and technical ones. All of the sectors have different jobs though they are inter-dependent. Regarding the production processes and steps, the production sector, which has three panels called language, natural and social sciences takes the responsibility. For the question about the program production, almost all of the producers have similar understandings, but some who produce local informal education (Daawwitii Ummataa) were seen reluctant to discuss the steps in detail as the latter mostly produce informal programs.

The following steps of formal education program production are what the individual in-depth interview participants told the researcher and agreed up on by the focus group discussion informants, too. These are: First, the process is planned by Oromia educational bureau (OEB) considering the studios of the region. Secondly, radio teachers, education and media experts are invited by the bureau to discuss the issue.

During this time, syllabus is prepared and topics are selected to be supported by radio instructions. After that, radio teachers take the proposal and go back to their respective radio stations studios to produce scripts. Following the plan of the OEB, scripts are taken to the bureau and evaluated there for further improvements and, still go back to the regional studios to be changed to the audio forms. Again, the prepared audios are sent to the OEB and evaluated for further improvements.

After passing all these steps, the final audio is prepared, multiplied (dabbed), labeled and horizontally distributed for all Oromia educational radio stations that ends up in transmission. The educational program production steps are also evaluated at regional studio levels. The program distribution process is to get all the programs that are not produced at one's studio. For informal education, the steps are not as complex as the formal one.

The producers of this local program can go to the community and observe the reality there and come back, prepare the script and produce audio to be evaluated and transmitted. The production of the programs at regional studio levels is by the respective experts of the fields for formal education, but at OEB level, interest and chance are the two mechanisms by which the regional studios get access to the programs, says one experienced producer who participated in the individual in-depth interview. The key participants in the program production process are program producers and also production technicians to follow the recordings in the studios.

4.2.2. The Qualities of Bale Robe Educational Radio Transmissions

For the produced and transmitted programs, there should be additional qualities to be evaluated. Those are the qualities of the transmissions because they can be disturbed by different factors. Among the factors that can hamper transmissions are the materials used for production and transmission in addition to the external one like other radios' waves. Bale Robe educational radio is not exceptional to this problem as almost all of the focus group discussion participants agreed to the reduction of the quality of the transmissions due to the nature of the materials used and the external factors.

In agreement with this idea, one of the individual in-depth interview participants says:

The contents of the programs are good. Unfortunately, our studio is analogue. We are not using digital one. Our materials are old. There is no good quality of transmission. There is distortion on air. Oromia and Ethiopian radio waves are also disturbing our radio as they have powerful transmitters. The audiences are blaming us. Quality depends on materials we use. It is frustrating. I think to compete with other educational radio studios in the country; digitalization should be a priority for us (Personal interview May 17, 2015).

This narration shows that the radio station has different problems-internal and external. Some schools are using additional antennas for the radio transmissions and the researcher confirmed as the quality of the transmissions is being reduced over the years because the location of the radio station is not far from the researcher's woreda- Agarfa. During the observation, the researcher further confirmed as the recording and playing materials in the studio are old.

4.3. Types and Contents of Bale Robe Educational Radio Programs

4.3.1. Formal Education Programs

Formal education is institutionalized, intentional and planned through public organizations and recognized private bodies and – in their totality – constitutes the formal education system of a country.

Formal education programs are thus recognized as such by the relevant national education authorities or equivalent authorities, e.g. any other institution in cooperation with the national or sub-national education authorities. Formal education consists mostly of initial education. Vocational education, special needs education and some parts of adult education are often recognized as being part of the formal education system.

Communication is always at the center of existence for any society, developing or developed and where the flow of information and the channels of communication are not adequate for the tasks of national needs, they must be built up to meet such needs as educating, informing, teaching, entertaining and changing the behavior of the masses. Modern media especially radio has been used due to its mass appeal to bring knowledge to millions of people all over the world.

For example, on his assessment of the role of mass media communication in developing country, Diobu (1964) said that media communication is the prime mover of national development. On a worldwide scale, it is the medium of radio that has been man's most potent communication innovation since the development of writing. This is the reason why radio is good if not the best, communicating medium to interact with the masses. It is clear that twenty-first century teaching learning skills emphasize the need to shift from the traditional teacher-centered pedagogy to more learner-centered methods. Active and collaborative learning environments facilitated by ICT contribute to the creation of a knowledge-based student population. It is due to several factors that attitude and motivations are strongly implicated in all modes of learning and behavioral change.

Silverman (1978) defines attitude as a general term that refers to driven behavior that seeks to fulfill a need. He adds that motivational traits involve needs, attitudes and interest. Raffini (1993) agrees with Silverman that attitudes and motivation are crucial element in all learning and behavioral changes, including those learning attained from mass media. Gardener et al (1994) opined that effort, desire and affect are three elements of motivation. Effort refers to the time spent studying the language especially, through media and the drive of the learner/listener.

Desire indicates how much the learner wants to become proficient in the language, and affect illustrates the learner's emotional reactions with regard to the language being studied. As said by Díez (2009), the media are instruments of public service, proving, at the same time, to be very useful in stimulating debate and in making easier for the students to understand the contents transmitted in the classroom. It is also reasonable to argue that teachers' new space and time perceptions, as well as those of the teaching and learning process as a whole, are of a crucial importance in establishing a school under new paradigms, achievable through the application of electronic age concepts, such as E-learning, Open School . This is especially advisable during formal education programs.

4.3.1.1. Subjects Transmitted and their grade levels

Odera (2008), writing on the use of school radio program in schools, noted that radio technology is viewed by teachers as a useful tool for teaching and learning languages like English, French, German and Kiswahili at all levels of education. Accordingly, Language programs on radio helps to increase the students' mastery of vocabulary and pronunciation as students learn to imitate the radio presenters. She further noted that if this learning resource is carefully selected and used, then learning becomes more interesting, effective and meaningful (Ibid).

As to the Bale Robe educational radio station, the subjects transmitted to the grades from 1 to 8 are the following ones. These are: Afan Oromo from grades 1 through 8, English from grades 1 through 8 even though it is produced at the center/EMA. The radio is only responsible to transmit, Environmental Science for grades 1 through 4, coordinated Science for grades 5 through 8, Biology for grades 7 & 8, Civics and Ethical Education for grades 5 through 8 and Social Science for grades for grades 5 through 8. According to the individual in-depth interviews and focus group discussion participants, too, there is no point of disagreement on the subjects taught by Bale Robe educational radio. The researcher, too, took the audio of the subjects and grade levels taught and confirmed the claim of the respondents in addition to observing the schedule of the station.

Similarly, a comprehensive look at the system in Thailand was reported by Schramm (1967). Educational radio which began in Thailand in 1958 has been favorably received. At that time, the programs were broadcast for grades one through ten for teachers, and there was a home program aimed primarily at parents. Teachers were supplied with scripts of the programs and instructional guides. In the case of Bale Robe educational radio, there are no scripts which are given to the learners and this issue was one of the questions raised by the researcher even though no one agreed on the use of different formats that could help the community learn more. Moreover, if used, it might have been supplementary in bridging the gap of radio disadvantage, too. On the other hand, according to the manager of Bale Robe educational radio, English Language is produced at the center, but he insists as why the regions don't produce it as far as the structure is available.

The question related to the subjects transmitted and to which grades was also answered in this discussion. It is fact that if the educational technologies are well-selected for the set objectives in advance, they can bring the needed results. The students react depending on the program contents and the quality of production. Moreover, the use of radio lessons motivates the learners, if they are used in such a way as to stimulate learning (Bates, 1984). As radio script is for the ear, it is highly advisable to use experts in program production and engaging all learners should be a priority.

One of the individual in-depth interviewees says:

Radio is a teacher in hurry. There is no time to collect feedback on the spot. Even though this can be the drawback of radio, experienced radio teachers must overcome these setbacks by appealing to the imaginary minds of their students to be part of the programs (Personal interview April 25, 2015).

In support of the researcher's argument, studies conducted by the Open University UK have demonstrated that, when used as a supplementary learning tool, radio benefits weaker students (Trippand Roby, 1996). Moreover, radio can be easily available for most of the people at low-costs and but suitable for instruction.

In agreement with this idea, the Agency for International Development has shown radio to be more cost-effective and capable of exerting greater learning effects than textbooks or teacher education (Tripp and Roby, 1996). It is possible to argue further as radio has the advantage of permitting the teaching of subjects in which classroom teachers are untrained or lacking certain knowledge sets.

Another benefit for multi-grade classroom use is that radio can provide instruction for one group of students, whilst the teacher is occupied with another. It can also bring new or previously unavailable resources into the classroom, in this case to help the students, thereby greatly enhancing student teaching (Muller, 1985).

4.3.1.2. Medium of Instruction

Radio increases access to and improve the quality of instruction to the listener/audience, and access to these modern mass media (radio, television, films) is also linked to individual modernity, hence, behavioral change of the audience (Anzalone, 1997). This is possible if the instructional language can be acceptable to the target of the messages both verbally and through one's culture. To this end, all children, irrespective of their location, should have teachers who understand their language and culture so that they can improve their learning. Yet, in many countries, children are taught in languages they do not speak at home.

The ability of students in explaining complex concepts and understanding is also related to language and Koike (2000) asserts that the use of radio programs on indigenous language has implications for curriculum development, course construction, teacher training in a correctly balanced teaching system. He further explains that radio programs, however, will be used to improve knowledge when they have a unique contribution to the learning process. Most importantly, using radio programs to teach will no longer be isolated from the conventional methods having to justify its use and its own merits (ibid). Regarding instructional language, Bale Robe educational radio uses Afan Oromo for grades from 1-8 as this is a constitutional rights of the regions. From grade 5 to 8, according to the individual in-depth interview and focus group discussion participants, Amharic is given only as a language.

Even if this is the case, as the manager of the radio station says, this language stopped now due to lack of human resource- the information he got from Oromia educational office. But, according to the focus group discussion participants, all subjects are being given in some Oromia towns (even though not by radio yet) depending on the questions raised by non-native ethnic groups to Afan Oromo. Explaining the situation of instructional language in the radio station, one of the focus group discussion participant remarks:

Our radio uses Afan Oromo as the main instructional medium. Amharic was only on air as a language. English language is not produced here; our role is only transmitting it. The condition which may be confusing is when we are told to transmit all the subjects in Amharic because the schedules are occupied by the subjects produced in Afan Oromo and English language. Curriculum is by Afan Oromo. I do not know how this issue will be solved. We have one old transmitter. So, how can we do that? As to me, something must be done at curriculum level and this is the mainly the job of the government.

As this narration suggests, even though Afan Oromo is the main instructional medium of the radio station, the role of Amharic language in the near future is unknown to the participants and this issue was the topic of hot debate during the focus group discussions, too. Moreover, Oromia educational bureau now ordered this radio station to produce Biology for grades 7 and 8 in Amharic, as the manager of the station told the researcher during individual in-depth interview.

Apart from this, to facilitate learning, the radio program producer should have: a good grasp of the language in which he works so that the person can edit scripts and advise speakers on correct pronunciation, a manner which wins the co-operation of artists, a skill in instructing and directing other people at the microphone. By supporting the use of one's language in learning, Atamane (2006) suggests that if appropriately exploited, radio can bring authentic content to the classroom especially in the environment where it may not be easy to meet and communicate with native speakers of the language.

Additionally, a good general knowledge and an interest in community affairs, a sense of responsibility, the ability to take the initiative and the enthusiasm to experiment, a creative turn of mind and a flair for showmanship, an ear for sound and the ability to conceive ideas in terms of sound, a thorough knowledge of the technical facilities and of the techniques of radio, a specialist interest are all very important kits.

Narrative and dialogue are the two ways we have to tell a story regarding educational radio programs; whether it is a story of fact or a story of imagination. The narrative is a monologue-one person talking-while dialogue involves two people or more. Both narration and dialogue have their places in radio story-telling. Dramatic scenes involving dialogue can be used to good effect in some documentary and educational broadcasts; they can lighten the load on the narrator and help to hold interest in what may otherwise be dull messages.

There is an inter-relationship between the media (radio) and the society. As the society impacts on the media – their nature and content – so do the media reflect the society and impact on it. The educational messages are also well accepted if the language used is culturally attached to the target audiences. McNamara (cited in Salawu, 2006) opined that there are myriad studies which confirmed the effectiveness of radio programs using indigenous language for instructional purposes. So, it does not matter the level of corrosion or corruption a native language has suffered as a result of the influence of a foreign language, the native language still remains the language that speaks in the idiom of the people. Thus, without using the language of the people, development will only be communicated at the people, not to the people, and not with the people (Salawu, 2006). Bale Robe educational radio instructional medium appeals to the community and the material aspect of the studio must be thought over as the quality of transmission depends on the production material, too.

4.3.1.3. Informal Education Programs

In the age of computers and the Internet, we tend to forget about simpler and less expensive technologies. But, radio, almost universally available, has the potential to expand access to education.

All countries have radio stations, and almost all households in developing countries like Ethiopia have at least one radio. It is an inexpensive, reliable technology; it is easy to use and maintain, and it can be used where there is no electricity infrastructure.

In Africa, probably the most useful mass medium next to simplified forms of print and the poster is radio and it is portable, accessible without electricity, relatively economical and almost universally available (Onabanjo, 2002). It can deliver both formal and informal education types depending on the objectives for which it is established. Likewise, Bale Robe educational radio is delivering both types of education. Informal learning, which is the result of informal education, is a form of learning that is intentional or deliberate but not institutionalized. It is consequently less organized and structured than either formal or non-formal education. Informal learning may include learning activities that occur in the family, workplace, local community and daily life, on a self-directed, family-directed or socially-directed basis.

Theoretically, educational radio programs should be produced by specialists, well-designed educational packages like sound effects, drama, and other audio-enhancement mechanisms are used and Programs are aired more than once without additional development costs. As to the Bale Robe educational radio, the informal education being delivered is called Daawwitii Ummataa, which roughly means public mirror and has the following four components: Language and Culture, Our society, Science and technology as well as the messages of our customers. As almost all of the individual in-depth and focus group discussion participants, this Daawwitii Ummataa program is based on social, health, economic, culture, scientific and the reactions of the audiences. Its contents are produced and evaluated depending on the interests of the society within which the producers live. It is possible to aware community by using informal education on the issues of interest to them and this was what the researcher got during the focus group discussions and also in agreement with Sitram (1969), who completed a study on whether radio increased the awareness level of the rural Indian population. He found that awareness of political, cultural, religious and family issues was greater in villages with radios than in those without radios.

The Bale Robe informal education program is produced and aired by Afan Oromo. It is produced at local level and transmitted on Saturdays and Sundays from 4:30 in the morning to 7:00 at the mid-day. As to the individual in-depth interview participants, this program was first based on the audience profile before 20 years when its name was 'Soorata Dilbataa' and 'Mijuu Sanbataa'- but now, producers produce by thinking what the community needs due to lack of budget and logistics. The researcher also followed the program on air and concluded as something must be done to more upgrade its attractiveness. There are also other factors and more will be discussed under the title 'challenges of the radio station.'

4.3.1.4. Days and Times of Transmission

It is clear that radio is a means not only for information and entertainment but also for education. It is being used for educational purposes all over the world and schools like Interactive Radio instruction (IRI) may be used for effective teaching learning process in rural areas like Bale zone where the research was conducted. Moreover, radio may be used to provide basic education to disadvantaged adults in a community.

It can be understood that fixed days and times of transmission has both advantages and disadvantages. Apart from its advantages, the demerits can be related to the development level of countries like lack of infrastructures, electricity and radios among others. These factors cannot be exceptional to Ethiopia and Oromia and Bale radio, specifically. To evaluate the success of educational radio, Brazil was engaged in a project (Minerva Project) to supplement the work of the regular educational systems by providing education for adolescents and adults (Medici, 1972). The project was designed to reach all levels of education, and has a broad pedagogical and professional orientation. In addition to individual use, the project has organized groups of 25 to 30 students under the direction of a monitor and had provided supplementary written materials for group use which finally proved to be effective (ibid). Unfortunately for Bale Robe radio, according to the majority of the participants in all discussions, there are no additional materials given to learners to support the audio format.

According to the question raised to the individual in-depth interview participants and the schedule of 2007 E.C. document analysis by the researcher, Bale Robe educational radio transmits five days per-week, from Monday to Friday regarding formal education. The transmission time is 1: 45 in the morning to 10: 45 in the afternoon and 15 minutes are allocated for one period. All of the respondents agreed to this idea and the researcher also confirmed the claim from the documents of the radio station during the observation.

According to the 2007 E.C. program schedule and the manager of the radio station, 24 programs are transmitted daily for different grades. Bale Robe educational radio has two transmitters of 1 and 10KWS even though the 1KW has been broken as the respondents told the researcher during individual in-depth interviews. The 10kws transmitter has also been reduced to 5kws due to its age according to the production technicians' responses and the remark of the manager of the station. Regarding the coverage of the radio, when the transmitters were new and the other radio waves were not as today, it even reaches southern Yemen, according to the respondents to the question during the focus group discussions.

Additionally, Bale, Arsi, Hararge, Borena, Guji, Walayta and Ethiopian Somalia region were covered even if the capacity of the radio now limited to some parts of the regions due to the ages of the materials and the disturbances of the waves of other radios as the respondents told the researcher during the individual in-depth interviews. In connection with this, the manager of the radio told the researcher as the Ethiopian Air Lines once wrote a warning letter to the station due to the disturbance of the old antenna that disturbed the flight.

Even if most of the respondents claimed that the radio coverage reaches all waredas of Bale zone, some of them have reservations and even told the researcher as some of the waredas cannot fully covered by the transmission due to the elevation of Bale Mountains. They even mentioned Dallo Mena woreda as an example. Apart from formal education, Bale Robe educational radio also transmits informal education called 'Daawwitii Ummataa'-roughly translated as mirror of the people on Saturdays and Sundays from 4:30 in the morning to 7:00 in the afternoon. This informal education began in 1987 E.C. as the manager of the radio station told the researcher.

Document analysis is a form of qualitative research in which documents are interpreted by the researcher to give voice and meaning around an assessment topic. Analyzing documents incorporates coding content into themes similar to how focus group or interview transcripts are analyzed. As to Bale Robe educational radio, the program schedule of 2007 E.C shows that the radio station transmits formal education from Monday to Friday and new programs of English Language is transmitted for grades 1 to 6 from Monday to Thursday. The schedule further adds that first semester transmission is from September 26 to January 1/2007 E.C. The second semester is from February 16 to May 21/2007E.C. According to this document, there are no transmissions during public holidays.

According to the focus group discussion respondents and the documents of the radio station, there are short messages from Monday to Friday between transmissions. These messages are about health, education nutrition, women's affairs and the rights of children, breast feeding and traffic safety.

4.3.1.5. Special Need Learners

In the developing world, ICTs (specially, radios) are used largely to increase access to and improve the relevance and quality of education. They have demonstrated potential to increase the options, access, participation, and achievement for all students. It is also important to keep in mind that ICTs in education are a potential double-edged sword—while they offer educators, tools to extend education to hitherto inaccessible geographic regions, and to deprived children and empower teachers and students through information, there is also the danger that such technologies may further widen the gap between the educational haves and have-nots. Moreover, students with disabilities can also be part of the excluded groups of learners, if not care is not given. However, technology is only a tool and the success of ICTs in enhancing the delivery of quality education to the needy, without widening the gap, will depend largely on policy level interventions that are directed toward how they must be deployed in school education.

As to the Bale Robe educational radio, since the producers write for the ear (as they claimed), there is no room for the students who cannot hear the radio programs. For the question raised regarding these special need learners, most of the informants responded that there are no strategies the radio station is using to address them, but this job must be done by the government is their final agreement. Though the majority of them said this, still some argue that as some schools in Bale zone are helping those students through class teacher and they mentioned the Galama School in Robe town. To explain the issue of special need learners and the challenges related to them, one of the focus group discussion participants says:

Special need learners are also our citizens and they deserve educational equity. Radio is for the ear. We do not have specialists to help them. But, the government must train some class teachers in signs and brail to help them understand the contents of the radio education. These students may see and touch. So, they have options to learn and the government should give attention during curriculum design (Personal interview April 27, 2015).

Accordingly, Scholars, Heininch, Russell, Molenda, and Smaldino (2002) noted that the value of radio technology and recommended its use to increase and improve learners imagination and listening skills. They recognized the importance of radio as a medium that relies on a single sense (hearing) and with which listening is the only method of learning (Ibid). Unfortunately, radio cannot be for all as there are students who cannot hear. For the question to both the individual in-depth interviews and focus group discussion participants, about what the radio station is doing to help these special need students, the researcher got related answers, but with hesitation to confidently think the radio is of various formats by the respondents. On this issue, one of the focus group discussion participants says:

This question is related to the rights of every citizen to get equal opportunity to education fairly. Our radio does not have the mechanism to help them. But, these students may see by their eyes. I believe they must be supported to get the concepts of radio education. For now, we simply write for the ear and the government must train some class teachers to help them. Additionally, different formats of radio programme must be implemented at national level by policy.

This narration shows that the participants are ready to help these special need earners as they believe in addressing and relating the issue to human rights. According to the idea of the researcher, the government should include in to the curriculum to support these students who cannot hear on the radio to be helped by the alternative formats they can afford because the radio has the power to support education if well-designed in advance to reduce the problems that may emanate from lack of educational equity.

It is from this angle that hearing-impaired students in one learning circle class wrote to another class about what it is like to be deaf and how they are often treated as stupid (Riel, 1992). It is of great concern for any concerned body to be part of the solution for these students of hearing disability. Students with hearing-impairments are those who have a hearing loss that interferes with their ability to process linguistic information through auditory channels with or without amplification. These days, thanks to technology, there are different ways of assisting people with disabilities and the case of hearing problem is not exceptional. Therefore, it is possible to adhere to the device that is used to help these students.

That is why the researcher is recommending one device which has been used since the 1800s. It is called an Assistive Listening Device (ALD)-any device that is used to enhance a person's residual hearing. Beyond ALDs, telecommunications devices have been created to assist students with severe hearing impairments by making use of other abilities, such as sight and touch. The Assistive Listening Devices at early time was working in such a way that horns were held to the ear to collect and focus sound waves. Certain pitch ranges were amplified, depending on the dimensions of the horn, and no external power supply was used.

4.4. Feedback collection Mechanisms of Bale Robe Educational Radio

It is fact that radio is one of the most affordable educational technologies available for the use in education and development in developing countries. It is the most accessible of all the media for open and distance learning. In even the poorest countries like Ethiopia, most people can be reached through radio, at relatively low cost.

It broadcasts words, music and other sounds, and in the case of digital radio, it can also be used to transmit data in the form of text and graphics.

Bale Robe educational radio is giving both formal and informal education types for the Bale zone and beyond. This radio uses analogue studio to serve its audiences as the researcher saw it during observations and the informants also confirmed this. According to the individual in-depth interviews and focus group discussion participants' responses, the radio has the mechanisms of collecting feedbacks even though any formal audience research was not conducted so far on its practices and customer satisfaction level.

Feedback is very important for any instructional medium and the issue of radio cannot be exceptional, if not more important. Accordingly, Satyanarayana and Sesharatnam (2000) found that radio is useful in providing remedial tutorials, or some other forms of tutorial based-feedback; providing corrections, alterations or updating of material, where print remake budgets are limited, or where print cannot reach students quickly enough; recordings of naturally occurring events.

The popularity, availability, and low cost of radio made it a convenient and practical medium for use in programs for learning at a distance and is mostly used in combination with other media, such as with print medium followed by face-to face teaching to be effective in its instructional careers. It should also present materials in a dramatized form, enabling students to identify with the emotions and viewpoints of the main participants providing an alternative view to that presented in the correspondence text and/ or television programs; and enabling students to perceive the different points of view that exist, and observe ideas being challenged, through discussion and interviews. Since both audio and text are broadcast simultaneously, the learner at the receiving end gets high quality and low cost teaching. It is also used for peer group discussion at the receiving end after the broadcast, which indicates radio-text could be used for varieties of objectives (Chaudhary, 1996). To achieve its instructional objectives, Bale Robe educational radio, according to the manager of the station, uses the following strategies to collect feedbacks:

Letters written to the radio station from the audiences through P.O.Box. 09 Goba, even though letters are less these days, according to the majority of the respondents, phone call and even the audiences come in person to the station. These feedback collecting strategies are from the individual in-depth interviews and focus group discussion participants' responses, but the researcher did not see many audiences who came to the radio station during the observation times. In educational interactive radio programs, feedback covers questions, answers, and/or commands about the sessions taught.

Even though Bale Robe educational radio did not conduct full-fledged research about its effectiveness so far, there are some devices which are used to create interactivity with communication media in education for really effective educational radios: Telephones, telephone lines, Internet lines, emails, fax machines are some examples of these tools to create interactivity circuit. Interactivity looks like a circuit, because the messages from radio goes through learner/audiences, and feedback from learner/audiences goes through radio program (consequently, feedback reaches the instructors or program presenters of radio program). It is very important for any media institution to collect feedbacks and implement the comments of the audiences so that sound decision can be given accordingly.

Moreover, equally, if not mostly, education is easily delivered to students who do not have experienced teachers and enough materials to support the former. That is why interactivity is given more attention these days and electronic media can play important roles in this area, especially, radio can be good for developing countries like Ethiopia because it provides easier, cheaper and quicker access (Adams & Massey, 1995) to indispensable knowledge for learners than high-tech communication media does. With interactive radio programs in distance education, knowledge sharing process is changing from an emphasis on teacher-centered to learner-centered learning milieus and from lecture-based education to collaborative real life interactions. According to the individual in-depth interviews and the focus group discussions, Bale Robe educational radio has different challenges to fully collect the feedbacks in consistence way and implement them and this is the concern of the following sub-title.

4.5. The Challenges of Bale Robe Educational Radio

It is possible to argue as creative and innovative applications of information and communication technologies (ICTs) have long been seen as important potential tools to enable educational reform processes improving both access to education, and the quality of that education. Among them, radio is one. Even though there are many advantages, it is there are also some limitations of radio for educational purposes.

Among them, the following are some: it inherently lacks interaction; instructor feedback and clarification are generally unavailable; instruction cannot be interrupted or reviewed by students (unless it is tape-recorded); the pace of the lesson is fixed; note taking is difficult for some; and time for reflection is minimal. To overcome these drawbacks, preparation, supporting materials, and follow-up exercises are recommended when possible (McIsaac and Gunawardena, 1996).

Regarding Bale Robe educational radio, it is serving its learners through both formal and informal ways, but there are a lot of challenges that hinder its capability. According to individual in-depth interviews and focus group discussions, this topic was the most appealing to all of the key informants and agreed up on. All of the participated informants agreed up on the following types of challenges: financial, material, technical, wave interferences and the invisible hand interferences. To further clarify the extent of challenges, one of the focus group discussion participants' remarks:

At the first place, our studio is analogue. We are competing with other digital studios in Oromia. Bale Robe educational radio studio is the first in Oromia. Gimbi and the other five Oromia studios followed ours. Now, our studio is the last by modern facilities in Oromia, whereas Harar studio is fully digital and the first. There are also other challenges we have like lack of training, lack of budget, our salary is low and our materials are also old.

Similarly, the other informants have the carbon copy of the idea of the above informant. The manager of the radio station also adds to this by citing tangible examples of the problems.

The problems he emphasized are lack of digitalized studio, absence of control over the financial sector of the station, as it is under the zone, and the materials are also old. He even recalls that as Ethiopian Airlines wrote a warning letter to the station due to the disturbance the old antenna of the station over the flight by giving light, unexpectedly.

The invisible hands over the radio station are also some of the contributing factors, according to the individual in-depth interview discussions. Accordingly, even though this radio is responsible to the Oromia educational bureau, by practical job, it works with zonal educational office, too, and the zone itself controls the finance office of the radio station; which led the employees complain and agree up on as this is unfortunate for them. From its historical and theoretical perspectives, Jaminson and McAnany (1978) report three main advantages of educational radio: (1) improved educational quality and relevance; (2) lowered per student educational costs; and (3) improved access to education, particularly for disadvantaged groups. For Bale Robe educational radio, according to all of the participants, their job is being undermined by the materials they use. The moral of the employees is decreasing.

To highlight the challenges of the radio station, one of the individual in-depth interview participants says:

Our finance office is controlled by zone. We cannot buy any material by ourselves. We do not have any generator now as the only one that we had been burnt; no one is asking us about how the job is going; we do not have motorcycle; we do not have service except one Toyota car, Even though we are serving millions of learners, our role is being undermined.

I think something must be done to alleviate us from these challenges (Personal interview April 29, 2015).

The other problems of this radio that the focus group discussion participants raised were the distance of the studio from both the station and the finance sector as the studio is 10kms (found in Goba town) away from the radio station and the finance sector which are found in Robe town. Additionally, the researcher confirmed that the materials they are using are old and analogue.

Moreover, there are also irreplaceable analogue materials stored in the store and one of the individual in-depth interview participants told the researcher as these materials were there for more than 10 years. As the focus group discussion and the individual in-depth interview participants told the researcher, the waves of Oromia and Ethiopian radios are also disturbing their radio using the strong transmitters.

CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS

5.1. Conclusion

Several studies have shown that educational radio plays a key role in the support of formal-curriculum-based education. It can also serve in giving informal education on the issues of interest to the community through entertainment. Accordingly, it serves the community as a watchdog and holds those in power accountable for their actions. It gives chances and support for class teachers and students on some selected topics so that the possibility of the quality of education will be high. Moreover, schools in the remote areas and with limited qualified teachers and educational materials can benefit from educational radio. The findings of the study showed that the Bale Robe educational radio has been giving both curriculum-based formal education and entertainment-based informal education to the community.

Another point that the analysis of the study has revealed is that Bale Robe educational radio produces formal education programmes depending on the plans and schedules of Oromia educational bureau. It is also producing programs that promote the language and culture of the community through informal education.

According to the analysis of the individual in-depth interviews and the schedule of the Program format, Bale Robe educational radio is producing numerous entertainment Programs on the topics such as education, agriculture, health, gender, youth, good governance, language and cultural issues. According to the result of the data analysis, the radio station is using very old and analogue materials to serve the community. The result of the data analysis also shows that the radio is covering other zones beyond Bale using the only 10KW transmitter even though its quality of transmission is decreasing as a result of various factors.

Moreover, the radio station is not implementing the rare feedbacks it collects from the audiences through phone call, letters and sometimes in-person so that its being a forum for dialogue among the community is also very rare.

The findings of the study shows that the radio station has many experienced employees, but the ability of the station on serving the community did not save it from criticisms as they have not been doing any audience research to evaluate the status of the programmes from the listeners so that updating issues remained stagnant. Moreover, Bale Robe educational radio also works with different NGOs on different projects, but the motivation of the employees is low here.

The findings still show that the radio station is responsible to the Oromia educational bureau, but the digitalization process of this media institution did not get answer yet, even though it was the first established studio in Oromia. According to the analysis of the focus group discussions and the program schedule, Bale Robe educational radio has various challenges like lack of digitalization, budget, training, attention from concerned bodies, power and authority on the financial sector and logistics.

Finally, the findings of the study identified that Bale Robe educational radio is trying to compete with digital and semi-digital educational radios in Oromia by depending on outdated styles of production and editing to serve the community. In this regard, all the focus group discussion and individual in-depth interview participants agreed. Moreover, the observations conducted by the researcher and the documents in the radio station also confirm this mode of practices.

5.2. Recommendations

These days, educational radios are supporting curriculum-based formal education and informally, too, educating the communities regardless of the various challenges they face. Bale Robe Educational Radio cannot be exceptional. Depending on the findings of the study, the researcher gave the following recommendations:

1. Federal Ministry of education should provide the radio station with digital materials. This is because of the basic nature of the materials with which the employees work. This means, the Bale Robe educational radio studio is still analogue. Therefore, MoE, specifically, educational media agency, could provide the radio station with modern digital materials so that the station will use them to satisfy its customers.
2. Oromia educational bureau must address the issue of financial sector of the station and solve the budget-related challenges.
3. Bale zone must give due attention to the radio station and support it through different needed ways depending on its questions. These could be: Relieving the radio station from the financial sector which is controlled under the zone. Providing the station with logistics like motorcycles, computers, printers, new digital recording materials and, even, cars. These recommended facilities and conditions are what the station needs desperately.
4. Madawalabu University may give different community-based trainings and materials to the radio station because the findings of the study revealed that the employees lack trainings and digital materials.

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APPENDICES

APPENDIX A

Addis Ababa University

School of Journalism and Communication

Master of Arts

Addis Ababa

Questions Raised for Bale Robe Educational Radio Participants

(English Version)

Focus Group Discussions-(16 Employees).

1. What is the general objective of Bale Robe educational radio?
2. How do you manage the station? Could you explain its structure?
3. What are the subjects produced/ broadcast through this radio?
4. To which grades you produce/broadcast the programmes?
5. Does this educational radio consider special need learners? If no, why? And if yes, how?
6. Who are the participants in the production process?
7. How do you produce the educational programmes?
8. What are the languages the radio station uses?
9. Does this radio have informal education to serve the community? If yes, could you mention its name and explain how it benefits the people?
10. Do you collect feedback from learners? If yes, how?
11. How do you think about the clarity of the transmission?
12. What are the major challenges in your practices?

APPENDIX B

Individual in-Depth interviews- (7 Employees)

1. What is the main job of Bale Robe educational radio?
2. From where does the radio station get fund? Who are the shareholders and is there any problem related to its financial implementation?
3. What are the subjects produced/ broadcast through Bale Robe educational radio? To which grades?
4. Does this educational radio consider special need learners? If no, why? And if yes, how?
5. How many days does the radio station broadcast in a week? What is its coverage?
6. Who are the participants in the production and management activities of the radio station?
7. How do you produce the educational programmes?
8. Do you have mechanisms of collecting feedbacks? If yes, what are they?
9. How do you think about the clarity of the transmission?
10. What are the major challenges in your practices?

APPENDIX C

Observation Checklist prepared for Bale Robe Educational Radio Station

Date: _____

Time: _____

1. Where the location of the radio station is?
2. What do the Buildings/offices look like?
3. What does the studio condition seem?
4. When is the time of entry for employees?
5. What do the Documents of the educational radio look like?
6. Does the programmes' schedule exist?
7. Are there visible challenges?
8. Are there interruptions during work time?
9. What do the Equipment conditions look like?
10. Is there unusual employee behavior?
11. Are there body language communication types?
12. Are there suitable libraries and books?
13. Are there different Employees' category/sectors?
14. Are there human traffics/entries and exits?
15. Can Clothing, age, sex of employees identifiable?
16. What people do?
17. Who does what?
18. Who interacts with whom?

APPENDIX D

Yuunivarsiitii Finfinneetti

Mana-Barnoota Gaazixeessummaa fi Kominikeeshinii

Digrii Lammaffaa

Finfinnee

Gaafilee

Hojjattoota Raadiyoo Tamsaasa Barnootaa Baalee Roobeetiif Dhiyaatan

(Afan Oromo Version)

Gaafilee Marii Garee Xiyyeeffannoo (Namoota 16)

1. Kaayyoon gooroo barnoota Raadiyoo Baalee Roobee maali?
2. Buufata kana akkamitti hooggantu?
3. Gosootni barnootaa raadiyoo kanaan darban maal fa'a?
4. Kutaa meeqaffaadhaaf fa'a tamsaastu?
5. Sagantaan barnoota raadiyoo kun ijoollee fedhii addaa qaban ni hirmaachisaa? yoo hirmaachise akkamitti? Yoo hin hirmaachifne maaliif?
6. Warreen qopheessan eenyu fa'a?
7. Sagantaa barnootaaa akkamitti qopheessitu?
8. Afaan barnootaa buufatichaa kam fa'a?
9. Raadiyoon kun barnoota al-idilee kan hawaasaaf jecha qopheessu qabaa? Yoo jiraate maal fa'a? akkamitti hawaasa tajaajila?
10. Yaad-deebii dhaggeeffattoota irraa ni funaantuu? Yoo funaantan akkamitti?
11. Qulqullina tamsaasaa irratti yaada maal qabdu?
12. Wantoonni hojii keessan keessatti isin rakkisan maal fa'a?

APPENDIX E

Gaafilee Marii TokkoTokkoo (Namoota 7)

1. Hojiin guddaan buufata Raadiyoo Baalee Roobee maali?
2. Buufatni kun bajata eessaa argata? Qooda fudhattoonni buufatichaa eenyu fa'a?
Rakkoon fayyadama bajataatiin wal-qabatee isin mudataa jiru jiraa?
3. Gosootni barnootaa raadiyoo kanaan darban maal fa'a? Kutaa meeqaffaadhaaf fa'a dabarsitu?
4. Sagantaan barnoota raadiyoo kun ijoollee fedhii addaa qaban ni hirmaachisaa? yoo hirmaachise akkamitti? Yoo hin hirmaachifne maaliifi?
5. Buufatni raadiyoo kun torbanitti guyyaa meeqa tamsaasa? Haguuggiin isaa hammami?
6. Warreen qopheessanii fi hogganan eenyu fa'a?
7. Sagantaa barnootaa akkamitti qopheessitu?
8. Yaad-deebii dhaggeeffattootaa ni funaantuu? Yoo funaantan akkamitti?
9. Qulqullina tamsaasaa irratti yaada maal qabdu?
10. Wantoonni hojii keessan keessatti isin rakkisan maal fa'a?

APPENDIX F

Individual In-depth interview participants

No.	Names	Sex	Age	Role	Experience(Yrs.)
1.	Alemu Dawo	M	50	Manager/producer	28
2.	Gemechu Geleta	M	52	Producer	31
3.	Getechew Tefesse	M	55	Technician	32
4.	Fikadu Shibiru	M	56	Technician	32
5.	Kuba Getachew	F	35	Producer	12
6.	Habtamu Ketema	M	34	Administration	12
7.	Itagegno Belechew	F	58	Administration	36

APPENDIX G

Names of Focus Group Discussion participants

Group One

No.	Names		Sex	Age	Role	Experience(Yrs.)
1.	Siraj	Abduljelil	M	40	Producer	19
2.	Nigussie	Kebede	M	52	Producer	30
3.	Gemechu	Geleta	M	52	Producer	31
4.	Kuba	Getechew	F	35	Producer	12
5.	Getachew	Tefesse	M	55	Technician	32
6.	Fikadu	Shibiru	M	56	Technician	32
7.	Habtamu	Ketema	M	34	Administration	12
8.	Abebech	Abera	F	34	Administration	13

Group Two

No.	Names		Sex	Age	Role	Experience(Yrs)
1.	Mokonnin	Tsegaye	M	27	Technician	7
2.	Mulu	Tilahun	F	55	Technician	38
3.	Getachew	Adugna	M	42	Producer	20
4.	Fikadu	Shibiru	M	56	Technician	32
5.	Getachew	Tefesse	M	55	Technician	32
6.	Meselech	Mulugeta	F	34	Technician	14
7.	Habtemu	Ketema	M	34	Administration	12
8.	Kelela	Bekele	F	56	Producer	35











