THE IMPACT OF THE INTERACTIVE RADIO INSTRUCTION (IRI) PROGRAMME ON THE PROVISION OF QUALITY EDUCATION: THE CASE OF NCHELENGE DISTRICT.

BY

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LUSAKA
MARCH, 2010.
AUTHOR’S DECLARATION

I, Kasapa Smith Bweupe, do solemnly declare that this dissertation represents my own work and that it has not been submitted for any degree at this or any other University.

Signed: .................................................................

Date: 9th March 2010

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APPROVAL

This dissertation of Kasapa Smith Bweupe is approved as fulfilling part of the requirements for the award of the degree of Master of Education in Education Administration of the University of Zambia.

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ABSTRACT

The Post Jomtien Conference of March 1990, in Thailand, has seen the Zambian government directing its efforts to providing quality education to all, for economic and social reasons. However, these efforts have been constrained by problems such as lack of qualified teaching staff and teaching and learning materials in schools.

The Government has come to recognize these problems and has sought alternatives to ordinary classroom teaching methods. One of these methods is the use of Interactive Radio Instruction (IRI) programmes. This is a methodology which requires a classroom teacher to teach alongside radio instructions.

This dissertation evaluates the impact of the IRI programme on the provision of quality education in schools. Given two categories, IRI classes and ordinary classes, the study was aimed at ascertaining which of the two categories performed better than the other in terms of learning achievement. At the same time, the study was intended to establish the performance of pupils in test items three subjects, namely English, Science and Mathematics.

The research was a case study where both qualitative and quantitative methods were used. It involved administering questionnaires to the following respondents: twenty teachers, twenty head teachers and three Standards officers. Structured interviews were given to twenty parents whose children were involved in this research. Formative tests were administered to 40 pupils of which 20 were those who were learning in IRI classes and the other 20 were from ordinary classes.

This study has established that there is a marked difference in performance between IRI classes and ordinary classes. The overall ‘mean’ score in all three subjects was 68.9 percent for IRI classes, while it was 62.2 percent for ordinary classes. The study has also shown that pupils excelled in Zambian Language, followed by English Language, the reason being that a new methodology called New Breakthrough to Literacy (NBT), is intensively applied at an early age in Grade one. This methodology enables teachers to use local languages during lessons.

The study concludes that the IRI programme, if properly implemented and reception improved upon, can have tremendous positive impact on the provision of quality education in schools.
DEDICATION

This dissertation is dedicated to my wife Yvonne, for understanding my quest for more knowledge, my children, Kaputo, Ngosa and Kasapa who endured my absence from them with a lot of patience, and also my parents, brothers and sisters who gave me encouragement so that I could achieve my desire for a Master of Education in Educational Administration.
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Many people gave me their help. I extend my thanks to all of them.

I would like to thank the Provincial Education Officer of Luapula Province, and the Ministry of Education Headquarters in Lusaka for having given me an opportunity to go for further studies at the University of Zambia.

In particular, I am very grateful to my Supervisor Dr. Fenson Mwape for his acute insights and patience during my study. Many thanks also should be extended to my Lecturers – Mr. Henry Msango (the Head of the Department in Educational Administration and Policy Studies), Dr. P.J. Banda, Mr G. N. Sumbwa, Dr. E.C. Lungu, Dr. J.R. Luangala and Dr. P.C. Manchishi. All these helped to shape me in my research methods.

I am also grateful to the Irish Aid (Development Cooperation Ireland) who gave me the fellowship to read for the Masters degree at the University of Zambia.

Most of all, I should like to express my profound gratitude to the Lord God Almighty for the gracious opportunity to enable me to bring this dissertation to completion.
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ABBREVIATIONS AND ACRONYMS

DEBS: District Education Board Secretary
DESO: District Education Standards Officer
EBS: Educational Broadcasting Services
EMT: Educational Management Training
DRCC: District Resource Centre Coordinator
EFA: Education For All
ER: Educational Radio
GRZ: Government of the Republic of Zambia
HIV/AIDS: Human Immunodeficiency Virus/ Acquired Immune Deficiency Syndrome
IRI: Interactive Radio Instruction
LTM: Learning at Taonga Market
MDG: Millennium Development Goal
P.E.O: Provincial Education Officer
PTDDL: Primary Teachers Diploma by Distance Learning
MoE: Ministry of Education
USAID: United States Agency for International Development
LLE: Lifelong Education
CHAPTER ONE

INTRODUCTION

1.0 BACKGROUND TO THE STUDY

The 1990 Jomtien Conference created a very broad definition of basic learning needs for children, youth and adults. It was from that Conference that Zambia embraced an expanded vision and renewed its commitment to providing Education For All (EFA). Hinzen (2006) observed that EFA goals required every individual to be given an opportunity to learn literacy, numeracy and problem-solving as instruments for further education and learning necessary for survival and successful management of life and work. Furthermore, in the year 2000, at the World Education Forum in Dakar, Senegal, most African States promised to ensure that by 2015 all children, particularly girls and children in difficult circumstances had access to, and complete, free, compulsory and good quality primary education (Hinzen, 2006). This was reinforced later in the year by the adoption of the United Nations Millennium Development Goals (MDGs), which put both gender and education as high priorities.

In order to reach the benchmarks set forth by these conferences, the Zambian Government needed to level the playing field so that education was easily accessed by every citizen. That need was necessary because the fundamental goal of the Ministry of Education (MoE) was, and still is, to ensure that every eligible individual has access to good and quality education (MoE, 1996). This goal, however, cannot be achieved through the already known conventional or regular classroom methods alone. This is so because of many challenges confronting the education sector in
Zambia today, such as teacher shortage and lack of teaching and learning materials (MoE, 1977). Therefore, in order to achieve the fundamental goal of the MoE, other alternative methods of delivering education such as Distance Learning Programme (DLP) and Educational Broadcasting Services (EBS) were needed. Fortunately, both these methods were and are being used in Zambia. The mode of DLP is currently being offered to pupils in High Schools through Supervised Study Group (SSG), while EBS is offered to Basic School pupils. EBS requires pupils to interact with the radio teacher as they learn in a classroom situation.

Zambia is not the only country in Africa which is offering education through radio. Besa (2006) observed that there were many other countries that were using the medium, such as South Africa, Guinea, Niger, Tanzania, Ethiopia and Malawi. Worldwide, education through radio is increasingly becoming an Indispensable mode of educating the masses. For instance, in Somalia where there are armed conflicts, pupils have difficulties going to schools due to the fears they have of being short at by combatants. The Government in Somalia is using shortwave radio to broadcast Instructional segments on basic reading, mathematics and life skill (http://www Education Development Centre, 2009:1). In that way the Somalia Government is helping thousands of pupils learn from the radio right in their homes. Similarly, in Taiwan, the Ministry of Education had set up the Educational Broadcasting System to offer the opportunity of education to the large unschooled population (http://www Lu Min- Chun, 2003:1). In Ivory Coast, Educational Television was introduced in 1971 as a major means of reforming the primary school system which was plagued with many problems, the major ones being: shortage of qualified teachers; high wastage in form of dropouts and irrelevant curriculum.
In Zambia, the use of radio for educational purposes was first introduced in 1939 (Snelson, 1974). The program continued to run until it was halted in 1993 due to high cost of air space which was being charged by EBS. However, after a lapse of seven years, the program was re-introduced in the year 2000 with renewed commitment to sustain the programme from key stakeholders such as the United States Agency for International Development (USAID) and the Educational Development Centre (EDC). Since then, over 75,000 learners have benefited from its use countrywide (MoE, 2006). Currently, more and more children are listening to radio programmes as part of their daily basic education. This is a very good cost-effective methodology of providing distance education to learners (http://www.Sitali/2005). The Directorate of Distance Education (DODE, 2006), hypothesized that education delivered by radio could help a child complete 7 years of education and be prepared for the Primary School Leaving Certificate Examinations, just like those in regular Schools did.

Educational radio is called by different names in different countries. In Argentina, it is called Education of the Air (Williams, 1950), while in Zambia, it is known as Learning at Taonga Market (LTM). LTM is aimed at delivering the Zambia Basic School Curriculum that infuses methodologies such as “New Break Through To Literacy”(NBTL) and “Step into English” (SITE), with Interactive Radio Instruction methodologies. Learning at Taonga Market (LTM) lessons are written and recorded by the Educational Broadcasting Services (EBS) of the Directorate of Distance Education (DODE) of the Ministry of Education in collaboration with EDC, and cooperating partners such as the USAID.

In the recent past, EBS has been doing very well as far as education delivery is concerned because the quality of programmes has greatly
improved. However, educational radio is not immune to problems. MoE (1992) indicated that EBS had difficulties of radio reception in some areas as well as the absence of radios in the majority of schools. It suffered from erratic production of mentors' guides, lack of adequate learning and teaching materials and lack of trained teachers to handle educational radio programmes.

Siaciwena (1980) conducted one of the earliest studies on educational radio in Zambia and one of his recommendations was that there was a need to re-orient and re-train teachers in new methodologies of using the radio for educational purposes. However, the Zambian Government, in trying to sustain educational radio, had tried to address most of the concerns which had been raised by Siaciwena and others. For instance, DODE in 2005 decided to re-orient all teachers in using radios and employing of new methodologies in teaching. Furthermore, Government has also acquired the latest gadgets called ipod Mp 3, so as to improve on the quality of educational radio especially in rural areas.

Since most of the problems which affected educational radio have been attended to, a further research study is need to establish the impact of Interactive Radio Instructions (IRI) programme on the provision of quality education in Zambia. It was on this premise that the present study was conceived.

1.1 STATEMENT OF THE PROBLEM

The Interactive Radio Instruction (IRI) programme has been designed to let a child complete seven years of education through the radio lessons and, at the end, to be able to write the Primary School Leaving Certificate
Examinations. Stated as a question, the problem under investigation is: What is the impact of the IRI programme on the provision of quality education in Zambia?

1.2 PURPOSE OF THE STUDY

The purpose of this study was to investigate the impact of Interactive Radio Instruction (IRI) programmes on the provision of quality education in Nchelenge District.

1.3 OBJECTIVES

The proposed study had the following objectives:

(i) To establish class teachers' abilities to follow Instructions from the radio teacher during lesson delivery.
(ii) To establish the effectiveness of educational radio with respect to delivery of education.
(iii) To establish the performance of IRI pupils in different subjects.
(iv) To explore the extent to which quality education was received by pupils in IRI classes.

1.4 RESEARCH QUESTIONS

The main questions considered in this research were:

(i) Were class teachers able to follow Instructions from the radio teacher during lesson delivery?
(ii) How effective was educational radio in the delivery of education?
(iii) How well did IRI pupils perform in different subjects?
(iv) To what extent did pupils in IRI classes receive quality education?

1.5 DELIMITATIONS OF THE STUDY

Only one district – Nchelenge - and eight Basic Schools therein, were picked in this study. Of the schools that were sampled, four had IRI classes while the other four had regular classes only. The researcher was well aware of the presence of Community Schools, and that was why one, with a well qualified teacher, was picked.

1.6 LIMITATIONS OF THE STUDY

The researcher encountered a few challenges in the study such as translating the questionnaire from English to Bemba-Lunda, the local language of the area. That was so because there were some parents who could not read in English. The other challenge was that during the data collection period between January and March 2009, teachers in Luapula province were on strike. They were pressing Government to pay them their rural and remote hardship allowances. Hence, it became difficult to collect data from abandoned schools.

1.7 SIGNIFICANCE OF THE STUDY

It was hoped that this study might help to identify the extent to which IRI programmes impacted on the provision of quality education. Such information might help the Provincial and District Education Offices to sustain IRI centres and classes through human resource and material support. Furthermore, it might also help policy makers in establishing
CHAPTER TWO
REVIEW OF LITERATURE

2.0 INTRODUCTION

The existing research on educational radio has been based on:

a. Distance education in Zambia
b. Large survey studies of educational radio in America, the United Kingdom and Africa.

The literature is therefore limited in that it fails to:

a. Pinpoint the impact of educational radio in rural areas of Zambia
b. Offer in depth study of Interactive Radio Instruction (IRI) programme in Zambia.

My research will, therefore, provide a detailed case study of the impact of the IRI programme on the provision of quality education with a focus on Nchelenge District.

2.1 BACKGROUND TO THE USE OF RADIO FOR EDUCATING THE MASSES

2.1.1 GENERAL

In order to increase accessibility to education, the entire world had in the past thought of using both Radio and Television as modes of supplementing the regular or conventional methods of teaching and learning. Developed countries were pioneers in that new alternative
method of delivering education to the masses. Maddison (1974) observed that the first national educational radio broadcasts were transmitted by British Broadcasting Corporation (BBC) in 1924. The broadcasts were aimed at educating the illiterates and semi-illiterates in Britain. However, most countries only became aware of the need to modernize their educational system during the 1950s. In America, for example, the use of radio and television for educational purposes came much later in the 1970s, and at first, proved to be very successful and effective. However, within a few years, the influence of Educational Television (ETV), despite being effective, started to wane rapidly. The reason why that happened was that ETV proved to be more costly to run than Educational Radio (ER). Jenkins (1988) remarked that though Educational Television was effective, the cost of producing filmstrip projections was quite high. Therefore, in America, ETV was discarded while ER was given preference such that most teachers overwhelmingly accepted its use in their classrooms. Schramm (1967) observed that ER was and is the most powerful and often the cheapest and quickest means of communicating with and educating the masses.

Broadcasting forms part of the essential telecommunications systems of all countries in the world today. Its purpose is threefold, namely, to educate, to inform and to entertain people. Out of these three, the first one will be discussed briefly below.

Maddison (1974) observes that there are many countries which use broadcasting for educational purposes. Some of them are Cuba, Kenya and Congo (Brazzaville) which, in the early 1970s, made broadcasting, an important contribution to the literacy campaign. In Iran, Isfahan radio has been particularly used for in-service training of inexperienced teachers
and those who need to be refreshed in their teaching strategies. This is done through various methods such as in-door workshops and short courses. Another country where ER is widely being used is Ivory Coast. Siaciwena (1980) observed that in that country, ER was introduced as a major means of reforming the primary school which had been plagued with many problems such as relatively low enrolment, shortage of qualified teachers, high wastage in form of drop outs and irrelevant curriculum in schools. Schramm (1967) observed that in Jamaica, the initial radio programme was launched in order to try and reach large numbers of the population and also to guide teachers in their fields and accelerate pupils’ learning process. Another country where ER is greatly being used is Sudan. Tom-Tilso (2009) observed that, “the Southern Sudan Interactive Radio Instructions (SSIRI) programme complements and accelerates learning in core curriculum areas including initial literacy and numeracy” (http://www.ttilso.edu.org. 2/02/2009:i). According to International Education System (IES), the Sudan IRI programme has had an impact on teachers’ behaviour and has helped to foster community support for education.

2.2 HISTORICAL DEVELOPMENT OF EDUCATIONAL RADIO IN ZAMBIA

The use of radio for educational purposes, as earlier alluded to, is not a new concept in Zambia. Snelson (1974) observed that as early as 1939, Northern Rhodesia foresaw the need to exploit radio as a medium of education. During colonial days very few young Zambians were privileged to enjoy listening to educational radio programmes because most of them could not understand the English language due to lack of formal basic education. Mytton in Ohannessian and Kashoki (1978) observed
that the colonial educational radio programme targeted adults only and
was aimed at mass literacy.

However, soon after independence, the programme was re-designed so
that it could cater for the needs of the newly independent Zambia.
Siaciwena (1980) observed that the re-designed educational radio started
as an experiment in 1964. In the following year 1965, the first transmissions
went on the air with the main objective of improving the quality of
instructions in both primary and secondary schools.

Government introduced educational radio in schools in order to provide
‘basic learning needs’ of a child. That was necessary because every child
was, and is, able to acquire knowledge simply by listening attentively to
the radio. The scope of basic learning needs is set out clearly in Article 1.1
of the World Declaration on Education For All which declares that:

“Every person – Child, youth and adult – shall be able to benefit from
educational opportunities designed to meet their basic leaning
needs.” (Kelly, 1999: 192).

Governments’ desire to continue improving the delivery of educational
radio was reflected in the Draft statement on Education Reform (1970:33)
which states that, “a nation committed to education for development
must use its costly radio and television facilities for educational purpose in
which both the school and the continuing education system are given
their due weight.”

Following the declaration of the Draft statement on Education Reform of
1970, a number of steps were taken to revolutionize educational radio. By
1972, there were 60 lessons per week which were being broadcast for
fifteen minutes per lesson (Mytton in Ohannessian and Kashoki, 1978).
programme was quite effective and many people were able to get the benefit of educational radio.

Unfortunately, the transmission of educational radio programmes was greatly affected when the price of copper began to fall on the world market in the mid 1970s. Therefore, the Ministry of Education found it difficult to continue paying for the air space at the Zambia Broadcasting Services (ZBS). Eventually, according to Carmody (2004), educational radio was finally halted in 1993 due to financial problems.

2.3 EVOLUTION OF INTERACTIVE RADIO INSTRUCTION (IRI) PROGRAMME IN ZAMBIA

As earlier alluded to, after a lapse of seven years, the Zambian Government saw the need to re-introduce educational radio in 2000. Before that, the Government had carried out a survey and discovered that there were many children who were not in school, others lived in hard-to-reach areas and some, were Orphans and Venerable Children (OVC) who could not afford to buy school requisites. Therefore, educational radio was seen as an alternative mode of providing basic education to such children.

Carmody (2004) observed that when educational radio was re-introduced, it was initially designed to cater for Community schools. These were schools established by parents in far places where Government schools were not available. Government gave such schools radios so that teachers and mentors could plan and teach effectively. Unlike in the past where communication on the radio was one way, from the presenter to the learner, the new approach provided an opportunity for interaction
between the presenter, the learner and the classroom teacher. That was why the programme was called Interactive Radio Instruction (IRI). Therefore, community schools where IRI programmes were being offered eventually became IRI centres.

The IRI programme started as a Pilot project in Lusaka, Kafue and Chikuni. When the results proved to be encouraging, the programme was extended to all IRI centres in the country. The enrollment rate in those centres kept on increasing such that by 2003, there were 18,179 pupils in IRI centres (Carmody, 2004). It is against this background that the Government decided to roll out the IRI programme to all Government schools throughout the country in 2006.

The IRI programme is also known as Learning at Taonga Market (LTM). LTM programmes follow the Zambian National Basic Curriculum. The programmes are designed to teach the subjects that are taught in lower and middle basic schools, (ED, YoutNet, USAID, 2000). LTM provides the teacher with a tool to promote a child-centered learning environment. The IRI relationships are clearly illustrated on the figure below.
Activities in LTM, take place just as they do in a regular classroom. The only difference is that in LTM, the mentor gives guidance and organises learners to respond appropriately to the radio teacher’s instructions. LTM is aimed at increasing access to basic education for all learners of school going age. It is also framed in such a way that the quality of education in schools is improved.

2.4 THE EXPANSION OF INTERACTIVE RADIO INSTRUCTION (IRI) PROGRAMME

Besa (2006) observed that ever since the IRI programme was launched, it has performed extremely well in terms of educational growth. The tables below show a progression of the distribution of IRI centres in Zambia.
Table 2.1  Distribution of IRI Centres, from 2000- 2005

<table>
<thead>
<tr>
<th>Year</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Centres</td>
<td>22</td>
<td>251</td>
<td>366</td>
<td>516</td>
<td>647</td>
<td>893</td>
</tr>
</tbody>
</table>

Source: DODE/QUEST (2005 IRI enrolment bulletin:15)

TABLE 2.2  Learners’ enrolment distribution in IRI centres, from 2000 – 2005

<table>
<thead>
<tr>
<th>Year</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of learners</td>
<td>Male</td>
<td>-</td>
<td>3,994</td>
<td>7,104</td>
<td>11,561</td>
<td>10,412</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>-</td>
<td>3,788</td>
<td>6,989</td>
<td>11,202</td>
<td>19,101</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7,000</td>
<td>7,782</td>
<td>14,093</td>
<td>22,763</td>
<td>38,513</td>
</tr>
</tbody>
</table>

Source: DODE/QUEST (2005 IRI enrolment bulletin:16)

As it can be seen from the tables above, the use of radio in schools has been steadily increasing because of many benefits derived from its use.

2.5  SUPPORT TO EDUCATIONAL BROADCASTING SERVICES (EBS)

Ever since the EBS was re-introduced in 2000, it has been supported by the United States Agency for International Development (USAID). Educating Our Future Newsletter of 2007 pointed out that the aid from USAID is channeled through an agent called Educational Development Centre (EDC). Usually, the aid is in form of printing educational materials, supply of IRI radios and giving financial assistance to train IRI mentors. Apart from USAID, there are other Cooperating partners who have been working in conjunction with EBS. Some of them are World Vision, World Food
Programme (WFP) and Community Radio Stations (CRS). All these have been helping to supplement on the work of EBS in as far as education delivery is concerned. MoE (1996) observes that local CRS help in transmitting pre-recorded IRI programmes in their areas. WFP on the other hand has been involved in transmitting agricultural radio programmes to farmers.

2.6 IMPORTANCE OF RADIO FOR EDUCATIONAL PURPOSES

A radio is a very important tool in today’s educational setting. Aspinall (1991:19), declared that an, “Instruction from a radio can leap across distances and jump the barriers of illiteracy.” A radio can educate someone who is far away in the forests, valleys, dambos or on top of mountains where there are no schools.

Radio provides a very cheap means of conveying knowledge and information to learners. When the use of radio is properly implemented, it can contribute towards the achievement of national developmental projects. On the other hand, people who work in studios are skilled and well trained in mass communication, and because of this, they make a significant contribution to the educational sector.

There are two broad types of teaching methods, namely, Teacher-Centred methods and Child-Centred methods. In teacher-centred methods, the teacher is more active than the learners. The teacher is seen doing almost every activity while learners only listen and observe. This type of teaching is what is commonly seen in most ordinary classes. On the other hand, in child-centred teaching, learners are more active than the teacher. In this case, the teacher does very little work on the board, but
instructs pupils to do most of the class activities. This is what is mostly seen in colleges and universities. Castle (1965) observes that the best of all teaching is seen when these two methods of teaching, that is, teacher-centred and child-centred, are pleasantly combined. The combination of these two methods works well especially through educational radio.

Educational radio is the basis for lifelong education (LLE). This enables pupils to learn even at their homes where there is no teacher. Hinzen (2008) observes that lifelong education is a comprehensive and visionary concept which includes formal, non formal and informal learning throughout the life-span of an individual to attain the fullest possible development. LLE views education in its totality, and includes learning that occurs at home, school, community and through mass media. Clearly, those who are willing to learn, have an opportunity to do so at their own time and place without any interference, because there is no age limit for serious students who want to learn through radio.

2.7 HOW THE IRI PROGRAMME HELPS TEACHERS

During lesson delivery, the class teacher teaches simultaneously with the radio teacher. In that way, the teacher is guided on salient points of the lesson so that by the end of the programme, the lesson becomes a success. Both old and new teachers tend to appreciate lessons delivered through radio because these lessons are well planned and coordinated right from the point of broadcast.

Teachers also tend to learn good techniques from the radio teacher. Techniques such as constructing new songs which keep pupils active during lesson delivery are also kept in view during radio lesson delivery.
MoE (2005) observes that the radio teacher also helps classroom teachers cover difficult subjects such as mathematics and science. It is because of this that most teachers tend to appreciate IRI programmes. Generally, it is a requirement that all teachers prepare their lesson plans every day before they deliver lessons in their classes.

The mentor’s guide assists teachers to effectively plan for lessons on how to use local materials to prepare teaching aids. The guide also helps teachers to prepare for activities which should be done before and after the broadcast. Specific lessons are broadcast at the same time every day, promoting a good daily routine for the teacher and the pupils. This process promotes good time management for teachers for each term and in that way enables teachers to complete syllabuses on time.

2.8 HOW THE IRI PROGRAMME HELPS PUPILS

During lesson delivery, mentors use active learning techniques where pupils are kept busy through songs, activities and drama. In that way, pupils tend to concentrate on their daily lessons and do not experience boredom. Furthermore, lessons have interesting characters that motivate pupils to listen carefully. Sometimes natural sounds of animals and birds are heard from the radio during lesson delivery. Such sounds tend to promote modeling and this in turn makes situations appear alive and real. Elliott and Charles (2000) indicated that modeling had also been found to have a deep impact on the behaviour of pupils and their learning process. It therefore follows that the interesting activities, characters and sound effects promote pupils’ regular attendance. Pupils who might miss
a lesson are encouraged or attracted to go to school simply because the lessons are interesting.

Besa (2006) observes that the radio teacher is well-trained and equipped and thus it is a privilege for children to hear a good model of spoken English from such a teacher. This teacher pronounces words correctly and encourages children to think and respond quickly.

The LTM programme enables pupils to get daily practice in each subject because this is how the lessons are tailored. Lessons are driven in such a way that pupils retain most of what they learn in classes. Pupils are kept busy through individual and group work before and after lessons. Group work acts as remedial lessons for slow learners because they are afforded a chance to learn from their friends during such activities. Kawwanka (2005) observes that whenever there is a new skill introduced in the lesson, it is reviewed several times so that pupils get the required skill. It is that repetition of concepts that enhances learning achievement of pupils.

2.9 USE OF THE TEACHER’S GUIDE AND THE RADIO

It is a requirement that a teacher teaching IRI classes should have a teacher’s guide. This is a book which contains all the lessons that are broadcast on the radio. The guide helps the teacher to prepare and conduct pre- and post-broadcast activities, to learn the words of songs, and to conduct assessments. Radios which are designed for LTM classes are made in such a way that they do not need electricity or batteries. They are ‘freeplay’ radios, with self-powered batteries that can be recharged by solar energy or by winding. (EDC, YouthNet, USAID, 2005).
2.10 CHARACTERISTICS OF A GOOD IRI TEACHER

Besa (2006) observes that the IRI teacher should be one who is befitting the Taonga class. Such a one should be able to conduct activities which the radio broadcaster announces each time during lesson delivery. The teacher is expected to arrive at school on time and get the radio ready before broadcast begins. The teacher should ensure that the radio is in a good working condition and should check that the reception is good. (EDC, YouthNet, USAID, 2005).

Taonga classes are required to sing the opening song together with the radio teacher and a mentor should be able to participate in the singing.

Sometimes the class teacher is required to dance depending on the instructions from the radio teacher. The teacher should be able to translate from English into local the language especially if the lesson is for grade ones.

2.11 KEY PLAYERS IN TAONGA PROGRAMME

LTM (2005) observes that Government has appointed special officers to ensure that the Taonga programme succeeds. Some of them are:

i. District Resource Centre Coordinator (DRCC): This is a very important figure who has been assigned duties of organizing materials for workshops, and to distribute Teachers' Guides and any teaching materials.

ii. Zonal In-service Provider (ZIP): This person is charged with responsibilities of selecting appropriate teachers to attend training
and give information to the Education Standards Officer for Open and Distance Learning (ESO-ODL). The ZIP also coaches new teachers and monitors school operations.

iii. Education Standards Officer for Open and Distance Learning (ESO-ODL): This is a Standards Officer who has been appointed with the sole duties of organizing all Distance Learning Programmes (DLP).

This includes coordinating IRI activities, training and monitoring teachers. The ESO-ODL works closely with ZIP and DRCC, and is the link between the district and the Senior Education Officer— for Open and Distance Learning (SEO-ODL) who is stationed at the Provincial Education Office. The ESO-ODL makes sure that all information about IRI activities is collected from ZIPs and then relays such information to the SEO-ODL.

iv. Senior Education Officer for Open and Distance Learning (SEO-ODL): This officer is based at the Provincial Office. All planning and implementation of IRI activities within the Province are undertaken by this officer. This officer works closely with the Senior Education Standards Officer for Open and Distance Learning (SESO-ODL).

v. Senior Education Standards Officer for Open and Distance Learning (SESO-ODL): The main role of this officer is to monitor and inspect all IRI centres and schools in the Province. This officer is also answerable to the Principal Education Standards Officer for Open and Distance Learning (PESO – ODL). The SESO – ODL also works closely with the District Education Board Secretary (DEBS) and the District Education Standards Officer (DESO).
vi. The Program Development and Production Officer (PDP): This is an officer based at the mass media complex in Lusaka who ensures that all IRI programmes are on the air.

The officer is charged with responsibilities of producing Teachers' Guides and all related activities to IRI programmes.

Furthermore, evaluation of all materials' effectiveness is done by this officer.

vii. The Provincial Outreach Coordinator (POC): This is the officer based at the Provincial Office. This officer collects and distributes all enrolment forms and attendance registers.

The job description of this officer is so wide that he or she forms a link between collaborating partners and the Government, in seeing that Taonga programmes run effectively in the Province.

Taonga programmes are well coordinated and implemented simply because all the officers involved work as a team. They are focused on implementing the National Policy of “Educating our Future.”

IRI programme focuses on two thematic areas. First, to provide basic education to out-of-school children. Second, to increase access to Basic education for all eligible school going children. These two thematic areas have been well expounded by the MoE in the Infrastructure Operational Plan (2008). The Operational Plan (2008) underscores the desire of providing equitable and accessible education and skills training opportunities for sustainable livelihood and development. Accessibility to basic education is seen as one of the best ways of dismantling the vicious cycle of poverty. This is clearly articulated in both the National Policy on
Education of 1996 and the Vision 2030 which is to ‘Attain education for all’.

Using IRI methodology in regular classrooms has been shown to improve learners’ English and numeracy skills, and to motivate the learners and to increase learner participation (Kafwanka, 2005). It also provides an excellent teaching resource for the trained and untrained teachers. Furthermore, it helps to supplement and energize the teaching that is already taking place in schools.

2.12 PROSPECTS FOR EDUCATION FOR ALL (EFA).

Education is one of the fundamental human rights and is also contained in the Millennium Development Goals (MDGs) targets for the year 2015. The Government of Zambia has made tremendous effort in making sure that every child above 7 years of age is in school by 2015. Not only should the child be in school but he or she should also receive quality education. Quality education can only be achieved if all the necessary benchmarks are put in place. However, Zambia has an uphill task of achieving and providing quality education for all by 2015.

Besa (2006) observed that quality education could not easily be achieved due to two major reasons. Firstly, there was a declaration of Free Basic Education by Government in 2002. Since then, there has been a lot of community schools which have been established throughout the country. Secondly, the increase in the number of schools, unfortunately, was not matched with the same momentum in the supply of teachers and text books. Therefore, Government was left with no other way but simply to introduce educational radio as a way of supplementing
conventional education. That approach was adopted as the basis of achieving EFA goals by 2015.

2.13 Policy Direction

In order to achieve EFA goals by 2015, MoE had put up its Policy direction which should be followed by all stakeholders. This Policy direction is anchored on the vision of achieving quality education which is equitable and accessible to all children in the country (Lungwangwa, 2008). The Policy goals through which the education vision has to be realized are: Access, Equity, Quality, Efficiency and Effectiveness. These attributes of policy goals are briefly discussed below.

2.13.1 Access to Education

Access to education refers to the ability and capacity of the system to provide opportunities for the learners to acquire education (MoE, 2008). The policy of MoE is to provide quality education that is equitable and accessible to all. Good quality education brings many personal, social, economic and educational benefits (MoE, 1996). It is because of this understanding that Government decided to be supplementing formal education with IRI initiatives so that as many children as possible were afforded an opportunity to access basic education. However, girls in rural areas continue to face a lot of challenges. For instance, poverty levels are high and the most affected are girls. As if this is not enough, girls are also haunted by the traditional customs of early marriages. Furthermore, most rural parents are ignorant about the importance of girls’ education. The other de-motivating factor to a girl child is the shortage of girl-friendly schools, especially in rural areas. By nature, girls need a lot of water at
their learning environment, and once this commodity is absent, then few of them would be able to attend lessons.

2.13.2 EQUITY ISSUES

Every individual in Zambia has a right to education. MoE (1996:3) observes that, "It is a matter of fairness or justice that access to, and participation in the education system be available to all." It therefore requires that those who are greatly disadvantaged such as the Orphans and Vulnerable Children (OVC) are well catered for. These children are specifically targeted to equitably benefit from opportunities that are provided in the educational system. The IRI programme is aimed at providing education to such people. It is also important to note that the promotion of the equity programme is a means to achieving the EFA and MDGs.

In 2000, about 23 percent of Children under 15 years had lost one or both parents due to HIV and AIDS (http:// www.Sitali, 2005: 1). Double orphans in most cases, if not cared for, tend to become street kids and for such, schooling is lost there and then. Fortunately, the coming of educational radio has helped many orphans to acquire basic education. MoE (2008) observes that Government has put in place policy interventions to address these equity concerns which include the following:

i. The bursary scheme to support the OVCs more especially girls who cannot afford the basic school requirements.

ii. The Re-entry Policy that supports the girls that fall pregnant to return to school.

iii. The Free Basic Education Policy with its package.
2.13.3 EFFICIENCY

Efficiency in educational terms means how well the education system guarantees continuity in completing school once children enter school (MoE, 2008). There are two dimensions of efficiency. The first is internal and the second is external efficiency. Kelly (1999) observes that internal efficiency is the ability to achieve the set goals with minimum use of resources. For instance, government may plan to maximize the use of little resources available so as to reach the masses. A case in point is the use of radio through LTM. Over 75,000 children are benefiting from this educational radio every year (Sitali, 2005). External efficiency on the other hand, has to do with the education which helps prepare people for their future jobs. An example of this is the Fastele!-Fastele! radio programme. This programme tends to enhance teacher skills and also supports Continuing Professional Development (CPD) for teachers.

2.13.4 EFFECTIVENESS

School effectiveness can be seen if teachers are preparing their lesson plans daily. They should also prepare teaching and learning materials, including apparatus and radios. Teaching methodologies need to place greater emphasis on self-initiated and self-sustained learning models (MoE, 1996). In order to have self sustained learning, there is need for Government to broaden the base of educational provision such as providing alternative education including educational radio. Similarly, on the part of pupils, for example, effectiveness could mean how well the system enables those who complete at least Grade 4 to master the basic learning competencies such as reading and writing (MoE, 2008). One of
the reasons why Government thought of re-introducing educational radio was to promote school effectiveness and efficiency. This required the integration of the following three educational items: support systems, enabling conditions and teaching and learning processes.

2.13.4.1 SUPPORT SYSTEMS

In order for Educational radio to be effective, it requires strong parent and community support. This requires that parents help their children with homework given to them through child-parent interaction. In fact, parents need to encourage their children to be listening to Taonga lessons even at home, because these educational radio programmes are broadcast even in the afternoon when some pupils have already knocked off from schools. This is very important because the first responsibility of educating a child lies on the parents and in the community where the child lives (MoE, 1996).

2.13.4.2 ENABLING CONDITIONS

IRI Programme needs a concerted effort from all stake holders. The programme needs effective leadership which should give high morale to teachers despite their low salaries. The head teachers should avail to teachers all required teaching and learning materials including IRI radios. There should also be effective communication between teachers and parents and this should be organized by school head teachers. The enabling conditions at school level should comprise also the teaching staff which is capable to deliver knowledge to pupils (Kelly, 1999). Furthermore, teachers should have mastery of what they do including preparing lesson plans, following radio instructions and be able to
motivate their pupils. It is also important to have a stable teaching staff. This means that there should be minimum transfers of teachers from one school to another, because instability of teachers tends to impact negatively on learners. ECZ (2006:58) observed that, “Stability of teachers in a school is one of the factors that have a bearing on pupils’ learning achievement.”

2.13.4.3 TEACHING AND LEARNING PROCESSES

Taonga classes are designed in such a way that classroom learning time is used efficiently. There are 50 lessons for each grade per term and the Radio teacher makes sure that all these 50 lessons are taught by the end of each term (LTM, 2005). Homework policy forms part of the requirements for IRI classes, because it has a bearing on learners’ academic achievement. Kelly (1999:313) observed that, “Homework would become effective when it is given more than once per week to pupils in Grades 4 and above.”

2.14 QUALITY OF EDUCATION

The term quality is very important in the delivery of education. Borg (2006) pointed out that it was not easy to get consensus on the meaning of the word quality. In defining quality education, it is therefore important to relate it to the very ultimate purpose for providing education, which is to prepare the learner for the after school and adult life. In this regard, quality education is one which works to achieve the fulfillment of a learner’s adult life. That is, education should allow children to reach their fullest potential in terms of cognitive, emotional, social, spiritual and
creative capacities. MoE (2008:44) observes that quality education should be seen through the following desirable characteristics:

i. **Learners: Healthy and motivated.**

ii. **Processes: Competent teachers using active teaching and learning methods.**

iii. **Content: Relevant curriculum**

iv. **Systems: Good governance, management and equitable resource allocation.**

Therefore, quality can be measured by learners’ achievement in the examination and the rate at which pupils pass the examinations. It can be argued that, the issue of quality education is closely related to teachers’ effectiveness, academic education and professional training. On the other hand, quality can also be negatively influenced by the lack of teaching and learning materials and relevant teaching equipment. Over the years, many factors have contributed to the undermining the standards and quality of education in Zambia. For instance, there has been a rapid expansion of school infrastructure due to mushrooming of community schools in many parts of the country, coupled with a decline in real funding to the education sector. MoE (1996) observed that there were indications of low educational quality at the lower and middle basic levels because of double, triple and quadruple sessions that have reduced the class learning time. This state of affairs is as a result of overcrowded classrooms and physical infrastructure which had remained dilapidated for some time. These problems are compounded by shortage of teaching staff in schools. This situation meant that the education system was not providing pupils with the standard of education to which they were entitled.
In order to provide educational support to EFA goals, Government and stakeholders need to have an 'expanded vision' and renewed commitment. Kelly (1999) observes that the expanded vision encompasses universalizing access and promoting equity and broadening the educational base. The most important and urgent priority need is to ensure access to education and improve the quality of education.

2.15 QUALITY IMPROVEMENT STRATEGY

It has been Government's desire to improve on the quality of education. The government has also identified educational radio as a key strategy. Kelly (1999:188) declares that the quality of education will be improved through the following:

(i) Increasing Instructional materials,
(ii) Upgrading teaching staff,
(iii) improving educational management administration and supervision,
(iv) Improving education broadcasting services.

It is hoped that with a lot of support from Government and other stakeholders, radio reception might improve in rural areas.

2.16 CHALLENGES

The IRI programme is riddled with a lot of challenges which tend to erode its potential of liberating the masses from illiteracy. For instance, there is inadequate funding to this programme such that printing and distributing of support materials is delayed (Besa, 2006). This problem in turn leads to
lack of reading materials in learning centres, and this leads to abnormal pupil-book ratios.

The use of radio for educational purposes requires mentors to be kept abreast of the latest methodologies of teaching. However, this is not the case now due to lack of training and workshops for mentors and teachers. Another problem is lack of finances. Besa (2006) observes that one of the challenges which impedes smooth running of LTM is high cost of air time which is required to be paid to ZNBC termly. Similarly, the equipment which is being used at Mass Media Complex needs urgent replacement because it has become old.

The radio teacher is well qualified, but unfortunately most class teachers in basic schools are not. Zaken (2008) observed that the introduction of Zambia Teacher Education Course (ZATEC) in the 1990s had reduced the number of years from two to one for teacher training. That strategy unfortunately brought about ‘half’ baked teachers who were graduating from colleges. The problem was further compounded by lack of incentives for rural teachers who were already demoralized due to nonexistent payment of rural and remote hardship allowances.
CHAPTER THREE

METHODOLOGY

3.0 INTRODUCTION

This chapter describes the sampling and data collection methods used. The study was designed to give reliable information on the impact of Interactive Radio Instruction (IRI) on the provision of quality education in Nchelenge District.

3.1 SAMPLING

The respondents that were involved were those with interest in seeing that the quality of education at district level was upheld. These were the District Education Board Secretary (DEBS), District Education Standards Officer (DESO), Standards Officers (SO). Head teachers, teachers, parents and pupils. Their contributions to the study were based on their varied responsibilities and experiences such as the following:

i. The District Education Board Secretary was involved because he or she is one who is charged with the responsibility of ensuring that educational activities are executed in an efficient and effective manner,

ii. Standards Officers are the ones who ensure that high quality standards are maintained in the delivery of education to pupils. These officers, inspect teachers, schools and pupils. They are sometimes referred to as ‘Quality Assurance Officers’ as immediate supervisors of teachers.

iii. Head teachers were involved because they make sure that teaching and learning processes take place in schools. All the
responsibilities of coordinating educational activities in Schools lie on the shoulders of head teachers.

iv. Teachers and mentors are the channels in schools in whose hands government and parents entrust school going children. Since teachers in Schools look after children from diverse backgrounds, they are therefore expected to teach learners in the best interest of the child.

v. As direct beneficiaries of education, pupils were involved as the ones who experience the impact of good or poor educational delivery. They were therefore expected to have a good understanding and participation in the learning process.

vi. Every parent would like to see that his or her children get good education. They know that education is a key to the road of success for their children. It is because of this that parents were also interviewed.

### 3.2 RESEARCH DESIGN

The research design which was used was a case study of Basic schools which have IRI classes in Nchelenge district. Borg (2006) defined a research design as the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to that research purpose with economy in procedure. Following this understanding, a research design will differ depending on the purpose of the research. In this study, both methods of qualitative and quantitative design were used. A combination of the qualitative and quantitative researches made a good approach because of the application of data with statistics of pupils’ marks which they got in three subjects, namely, Mathematics, English and Science.
3.3 STUDY SAMPLE AND POPULATION

The study was conducted in Nchelenge district. It was based on eight basic schools, four of which had IRI pilot classes and the other four did not have IRI classes. Schools which did not have IRI classes were used as 'control' groups while the other four which had IRI classes, were taken as 'free' target schools.

Twenty parents, selected by random sampling were involved in the study. The purpose of this procedure was to ensure that each individual had equal probability of being selected from the population and that the sample would be representative of the population (Keeves, 1988). 40 Pupils were selected by the use of random numbers, whereas 20 teachers were selected by the use of the lottery method. Head teachers were included on purposive selection by virtue of their positions in schools. The same method was applied at the district level where the DESO was selected. Similarly, only four out of eight Schools were selected by purposive sampling and that was done in order to ensure that only schools with IRI classes were picked. The remaining four schools were selected by random methods from the schools which had no IRI classes.

3.4 PILOT QUESTIONNAIRES

Before the questionnaires were administered, they were piloted in Mwense district. The decision to do that was reached at so that some problems associated with questionnaires might come to light during their test-application.
3.5 DATA COLLECTION TECHNIQUES

Face-to-face interviews were conducted especially to the twenty parents who could not read in English. Therefore, the interviewer was able to explain questions and thus ensured uniformity to respondents' interpretations. Techniques also ensured a high response rate and enabled the interviewer to help if respondents had problems of interpreting questions.

Questionnaires were administered to twenty teachers or mentors. These were intended to get a general understanding about educational radio. 40 pupils were sampled. Out of these, 20 were taken from four Basic Schools which had an opportunity of learning through IRI programme in addition to formal learning process of a classroom situation. On the other hand 20 pupils from the other four classes of grade 4 pupils were taken as a 'control' group. These never had an opportunity of learning through the IRI programme but instead had undergone only the ordinary learning process. These two comparative studies were done so as to ascertain whether there was any difference between pupils who had an opportunity of learning through the IRI programme and those who never had that chance. In order to discern the difference, all pupils under the study, were tested in three subjects, namely, English, Mathematics and science. All the test items before being administered underwent systematic evaluation and validation. Mathematics and Science tests assessed pupils on the three levels of cognition: Knowledge, comprehension and application. Separate questionnaires were administered to the District Education Standards Officer, District Resource Centre Coordinator and three Standards Officers. The main reason why
that was done was to incorporate and gauge their views regarding the educational radio.

3.6 DATA ANALYSIS

Data were carefully grouped by arranging responses into themes. Questionnaires were collected from respondents and then analyzed. After that, they were then interpreted in line with the research objectives. The research objectives acted as themes for this study. Prior to analysis, data were coded and verified. The researcher analyzed the data manually and tallied the responses in order to view patterns among the respondents before using the Statistical Package for Social Science (SPSS).

3.7 VALIDITY AND RELIABILITY

Triangulation is the application and combination of several research methods in the same phenomenon (Keeves, 1988). Interviews, observations, and questionnaires help to achieve this. These methods of data collection were used to get a true picture of the reality. The use of different approaches and methods tend to bring about reliability and validity of responses from the respondents.
CHAPTER FOUR
PRESENTATIONS OF THE RESEARCH FINDINGS

4.0 INTRODUCTION

This chapter presents the findings of the study with detailed interpretations. The results are presented using major and minor themes in line with research objectives.

4.1 PERSONAL AND PROFESSIONAL CHARACTERISTICS OF RESPONDENTS

These characteristics helped to give an in-depth understanding of the respondents the researcher was dealing with. These, according to ECZ (2003), have a bearing on the quality of education to be delivered or received. The findings of these characteristics are presented below.

4.1.1 GENDER AND AGE OF TEACHERS

There were 20 teachers who were sampled of which 12 were male, which translate into 60 percent and 8 were female translating into 40 percent. Table 4.1 below shows this.
Table 4.1  Gender of Teachers Sampled

<table>
<thead>
<tr>
<th>Gender</th>
<th>Number</th>
<th>percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>12</td>
<td>60</td>
</tr>
<tr>
<td>Female</td>
<td>08</td>
<td>40</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>100</td>
</tr>
</tbody>
</table>

Figure 4.1  Gender of Teachers Sampled (by percentage)

From the table and figure above, it is clear that there were more male than female teachers who taught IRI classes in Nchelenge.

On the other hand, the age distribution showed that 20 percent of teachers were aged between 18 and 23 years, 45 percent were between 26 and 30 years, 25 percent were between 31 and 40, while those above 41 years were 10 percent. This is shown in table 4.2.
Table 4.2 Proportion of Teachers by Age.

<table>
<thead>
<tr>
<th>Age (in years)</th>
<th>Number of Teachers</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-25</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>26-30</td>
<td>9</td>
<td>45</td>
</tr>
<tr>
<td>31-40</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>41-55</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>20</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

From the table above it is clear that most (65%) grade 4 teachers were below 30 years. On the other hand, those nearing retirement were 10 percent.

4.1.2 GENDER AND AGE OF PUPILS

Grade 4 pupils in the sample taken were aged between 10 and 14 years. The majority (30%) of them were 11 years old, while those who were 12 years were 25 percent. Those who were 13 years were 20 percent and 10% was of those who were 14 years. This is shown in Table 4.3 below.

Table 4.3 Proportion of pupils by age

<table>
<thead>
<tr>
<th>Age(in years)</th>
<th>Number of pupils</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>2</td>
<td>15</td>
</tr>
<tr>
<td>11</td>
<td>6</td>
<td>30</td>
</tr>
<tr>
<td>12</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>13</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>14</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>20</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>
In as far as gender was concerned, 58.3 percent of pupils were girls while 41.7 percent were boys. This is shown in figure 4.2 below.

**Figure 4.2** Gender compositions of grade 4 pupils (by percentage)

4.1.3 GUARDIAN/PARENT - CHILD RELATIONSHIP

During structured interviews, the researcher discovered that most (55.0%) of parents lived with their real children. 25 percent guardians lived with children who were just relatives, 15 percent indicated that the children they lived with were step children and 5 percent revealed that the children they lived with were their nieces or nephews. Table 4.4 below illustrates this.
Table 4.4  Guardian-child relationship

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Number of Children</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real Children</td>
<td>11</td>
<td>55</td>
</tr>
<tr>
<td>Step Children</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>Niece/Nephew</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Other Relatives</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>20</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

4.2.0 IRI TEACHERS’ ABILITIES TO FOLLOW INSTRUCTIONS FROM THE RADIO TEACHER

Teaching is an art and requires teachers to have special interest in their profession, and to be consistent to all teaching methods according to the training they received from their Colleges of Education. Teachers’ abilities to follow instructions from the radio teacher can be established from the following.

4.3 LESSON PREPARATIONS

In order for a lesson to be a success, an IRI teacher needs to prepare adequately for a lesson. The teacher should have lesson plans, teaching and learning materials and also have a radio.

During this study, it was discovered that 90 percent of the teachers do prepare their lesson plans every day before they go to teach. Table 4.5 below shows lesson preparations by teachers. Of the 90 percent teachers who were preparing their lesson plans, 50 percent were male while 40
percent were female. The remaining 10 percent of the teachers indicated that they never prepared their lesson plans before they went to teach.

Table 4.5  Lesson Preparations by Teachers.

<table>
<thead>
<tr>
<th>Teachers</th>
<th>Teachers who Prepare Lesson Plans</th>
<th>Total Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>Female</td>
<td>08</td>
<td>40</td>
</tr>
<tr>
<td>No Lesson Plans</td>
<td>02</td>
<td>10</td>
</tr>
<tr>
<td>TOTAL</td>
<td>20</td>
<td>100</td>
</tr>
</tbody>
</table>

4.3.1 SIMULTANEOUS TEACHING WITH THE RADIO TEACHER

Teaching using IRI methodology requires that the class teacher should be able to teach simultaneously and in harmony with the radio teacher. Table 4.7 below shows that most (85%) teachers did not have problems following radio instructions. Only 15 percent indicated that they found it difficult to be in unison with the radio teacher.
Table 4.7  *Simultaneous teaching with the radio teacher*

<table>
<thead>
<tr>
<th>Description</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers who teach simultaneously with the radio teacher</td>
<td>08</td>
<td>09</td>
<td>17</td>
<td>85</td>
</tr>
<tr>
<td>Teachers who do not teach simultaneously with the radio teacher</td>
<td>03</td>
<td>00</td>
<td>03</td>
<td>15</td>
</tr>
<tr>
<td>TOTAL</td>
<td>11</td>
<td>09</td>
<td>20</td>
<td>100</td>
</tr>
</tbody>
</table>

4.3.2 THE SUPPORT TEACHERS RECEIVE FROM THEIR HEAD TEACHERS

School head teachers have tremendous influence over teachers’ and pupils’ performances. Head teachers who give support to teachers usually tend to do well in their administrative work. Support to teachers could be given in form of boosting their morale, delegating certain duties to them or providing in-door training workshops. Table 4.8 shows that 60 percent teachers received good support from their head teachers, while 30 percent received fair support. On the other hand 10 percent indicated that they never received any support from their head teachers.
Table 4.8 The support Teachers receive from their Head teachers

<table>
<thead>
<tr>
<th>Amount of support</th>
<th>Number of Teachers</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good Support</td>
<td>12</td>
<td>60</td>
</tr>
<tr>
<td>Fair Support</td>
<td>06</td>
<td>30</td>
</tr>
<tr>
<td>No Support</td>
<td>02</td>
<td>10</td>
</tr>
<tr>
<td>TOTAL</td>
<td>20</td>
<td>100</td>
</tr>
</tbody>
</table>

4.4.0 TEACHERS' GENERAL CHARACTERISTICS AND EFFECTIVE EDUCATIONAL RADIO DELIVERY

The Ministry of Education, in its Sector Plan for 2003 to 2007, had set goals for increasing access and improving the quality of education provision at basic school level. It had identified the teachers and the environment in which they operate as key factors in achieving these goals. The findings related to the IRI teachers' professional characteristics, condition of service and classroom environment in which teachers operate are presented below.

4.4.1 IRI TEACHERS' QUALIFICATIONS

The table below shows the qualifications of basic school teachers who use IRI methodologies. These categories were: Primary Teachers' Certificate; Primary Diploma; Secondary Diploma, Advanced Primary Certificate (APC) and Primary Teachers Diploma by Distance Learning (PTDDL). Data collected revealed that 80 percent of the teachers had Primary Teachers' Certificates, while 20 percent had Primary Diplomas.
However, 60 percent of them had indicated that they were also studying through Primary Teachers' Diploma by Distance Learning (PTDDL).

Table 4.9  IRI teachers’ qualifications

<table>
<thead>
<tr>
<th></th>
<th>Teachers’ certificate</th>
<th>Primary Diploma</th>
<th>Secondary Diploma</th>
<th>Advanced Certificate</th>
<th>PTDDL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of teachers</td>
<td>80%</td>
<td>20%</td>
<td>0%</td>
<td>0%</td>
<td>60%</td>
</tr>
</tbody>
</table>

4.4.2 TEACHERS TRAINED IN IRI METHODOLOGIES AND IN-SERVICE TRAINING

IRI methodology was introduced in community schools in 2000, but it was later rolled out to all Government schools in 2006. It was therefore, Government’s plan to train all teachers who were to use this type of methodology. At first, all teachers of grade 1 pupils in Luapula province were trained in IRI methodology for one week. In subsequent years, other teachers were also given similar training. However, the training which teachers for grade 4 pupils attended was school-based.

Table 4.10  Teachers Trained in IRI Methodologies and In-service Training

<table>
<thead>
<tr>
<th>Type of in-service workshop</th>
<th>No. of teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>School-based.</td>
<td>90%</td>
</tr>
<tr>
<td>Out-of-school workshop</td>
<td>10%</td>
</tr>
</tbody>
</table>
Zaken (2008) observed that workshops and In-Service training have been rated as important tools in up-grading skills of teachers. This is very critical to enhancing quality in the education system. This is why government has put up a strategy of orienting teachers each time there is a new methodology introduced in the school system.

4.4.3 LENGTH IN TEACHING SERVICE

Teaching experience depends upon length in service of a teacher. The study reveals that most (70%) teachers’ teaching experience fall in the category of 5 to 10 years. This has an influence over their teaching skills and for such, teaching using IRI methodology was not a problem. 20 percent of the teachers were quite young in their work experience and only 10 percent had 11 years and above in teaching experience.

Table 4.11 Length in Teaching Service

<table>
<thead>
<tr>
<th>Length in service (years)</th>
<th>Percentage total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 4</td>
<td>20</td>
</tr>
<tr>
<td>5 to 10</td>
<td>70</td>
</tr>
<tr>
<td>11 and above</td>
<td>10</td>
</tr>
</tbody>
</table>

4.4.4 STABILITY OF TEACHERS

Teachers who stay at one place for a long period of time tend to gain experience and enhance continuity in the teaching and learning processes. Studies which were carried out elsewhere had shown that stability of teachers at one particular school is one of the factors that
have a positive bearing on learning achievement of pupils (ECZ, 2003). Unfortunately, this research discovered that most schools do not have staff stability.

Nchelenge, Kambwali and Mubamba Basic schools had had more than three teachers who were transferred away from their schools during the previous year. Most of those teachers who were transferred from Nchelenge were female teachers. The attrition rate of teachers in this area is quite high.

Table 4.12  Transfers of Teachers from Schools

<table>
<thead>
<tr>
<th>Name of school</th>
<th>None has been transferred out</th>
<th>One has been transferred out</th>
<th>Two have been transferred out</th>
<th>More than three have been transferred out</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nchelenge Basic</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kambwali Basic</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kambwali IRI</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Mubamba Basic</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>
4.4.5 EFFECTIVENESS OF EDUCATIONAL RADIO

Table 4.13 below shows responses of teachers over the effectiveness of educational radio on the provision of quality education. 40 percent of the teachers said that the effectiveness of the IRI programme was good, while the other 50 percent indicated that the effectiveness was very good. 10 percent indicated that it was fair.

On the other hand, most teachers talked to indicated that the effectiveness could have been excellent if only the radio reception was good. It must be pointed out that radio reception in Nchelenge is sometimes very bad.

Table 4.13 Effectiveness of Educational Radio

<table>
<thead>
<tr>
<th>EFFECTIVENESS</th>
<th>Number of teachers</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fair</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Good</td>
<td>8</td>
<td>40</td>
</tr>
<tr>
<td>Very good</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>Excellent</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>20</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

4.4.6 MONITORING OF TEACHERS BY STANDARDS OFFICERS

Teacher monitoring by Standards Officers is cardinal in order to have quality education delivery in schools. The findings reveal that 50 percent of the teachers were monitored twice in 2008. 20 percent of them were
monitored once and those who were monitored thrice were also 20 percent. Only 10 percent of the teachers were monitored more than four times in 2008.

From this revelation, it is clear that Standards Officers are not doing enough in their monitoring schedules. Actually they are supposed to monitor teachers at least twice per term or at least six times in a year (MoE, 1996). However, if this state of affairs is let to continue, then the quality of education might be compromised. In this restructured MoE, the Standards Officers are found at every level of education delivery right from the Ministry Headquarters, Provincial Education Office and up to the District level. Table 4.14 shows the frequency of monitoring of teachers by Standards Officers.

Table 4.14 Monitoring of Teachers by Standards Officers

<table>
<thead>
<tr>
<th>Number of times per year</th>
<th>Number of teachers monitored</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Once</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>Twice</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>Thrice</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>More than four times</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>100</td>
</tr>
</tbody>
</table>

4.4.7 SUPERVISION BY DISTRICT RESOURCE CENTRE COORDINATOR (DRRC)

In as far as teachers' supervision by DRRC was concerned, 80 percent of the teachers were supervised once per term, while 10 percent were supervised twice and those who were supervised thrice were also 10 percent. Table 4.15 below shows frequency of supervision by the DRCC.
Table 4.15 Frequency of supervision by the DRCC

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>-</td>
</tr>
<tr>
<td>Once per term</td>
<td>80</td>
</tr>
<tr>
<td>Twice per term</td>
<td>10</td>
</tr>
<tr>
<td>Thrice per term</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
</tbody>
</table>

During face-to-face interviews with DRCC, it was revealed that there were other monitors who monitored IRI teachers and these were Provincial Outreach Coordinators (POCs) and the Senior Education Officer for Open and Distance Learning (SEO- ODLs).

4.4.8 STATUS OF FURNITURE AND TEACHING AND LEARNING MATERIALS

Of the total number of teachers in the sample, 80 percent said that desks in schools were not enough. The problem of inadequacy of desks appears to be common in most schools in Nchelenge. Only 20 percent of the teachers said that they had enough furniture in their classrooms.

On the other hand, with the supply of teaching and learning materials, 50 percent of the teachers indicated that they had enough text books while 40 percent said that textbooks were inadequate, and 10 percent said that the number of textbooks was fair. Tables 4.16 and 4.17 would help to illustrate the status of furniture, teaching and learning materials in schools.

Table 4.16 Status of Furniture

<table>
<thead>
<tr>
<th>Status of furniture</th>
<th>Number of teachers</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enough desks</td>
<td>04</td>
<td>20</td>
</tr>
<tr>
<td>Not enough desks</td>
<td>16</td>
<td>80</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>100</td>
</tr>
</tbody>
</table>
Table 4.17  Status of Teaching and Learning Materials

<table>
<thead>
<tr>
<th>Status of teaching / Learning materials</th>
<th>Number of teachers</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enough</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>Not enough</td>
<td>8</td>
<td>40</td>
</tr>
<tr>
<td>Fair</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>100</td>
</tr>
</tbody>
</table>

4.4.9 HOMEWORK POLICY

Homework policy is an important element in any teaching or learning process. In this study, table 4.18 shows that 50 percent of teachers indicated that they gave homework to their pupils thrice per week, while 30 percent said that they gave them homework twice per week, 10 percent indicated that they gave homework only once per week and the other 10 percent indicated that they never gave homework to their pupils but only gave remedial work to those who were not doing well academically.

Table 4.18  Frequency of Home Work given to Pupils

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Number of teachers</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Once per week</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Twice per week</td>
<td>6</td>
<td>30</td>
</tr>
<tr>
<td>Thrice per week</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>Specify other (remedial work)</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>100</td>
</tr>
</tbody>
</table>
4.4.10 TARGETS FOR IRI METHODOLOGY

The IRI initiative is supposed to target certain groups of pupils. These are pupils who should greatly benefit from the educational radio. The findings show that 50 percent of teachers indicated that the targets for this programme should be pupils who are in grades 1 to 4, while 40 percent of teachers said that the targets should be for grades 5 to 7. Only 10 percent indicated that targets should be for grades 8 and 9.

Table 4.19  Targets for IRI Programme

<table>
<thead>
<tr>
<th>Targets</th>
<th>Number of teachers</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grades 1-4</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>Grades 5-7</td>
<td>08</td>
<td>40</td>
</tr>
<tr>
<td>Grades 8-9</td>
<td>02</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
<td>100</td>
</tr>
</tbody>
</table>

4.5.0 PERFORMANCE OF PUPILS IN DIFFERENT SUBJECTS

At a lower basic school level, there are eight ‘learning areas’, and these are: English, Literacy, Mathematics, Zambian Languages, Science, Social studies, Life Skills and HIV/AIDS, and Spiritual and Moral Education (SME). Table 4.20 below shows subjects where pupils excelled as they learnt through the radio. 40 percent teachers indicated that pupils had greater gains in Zambian language, 20 percent teachers said pupils excelled in English, 10 percent said that they excelled in Literacy and 5 percent
indicated that pupils did well in Science, Social Studies, Life skills, HIV and AIDS and Spiritual and Moral Education (SME).

Table 4.20 Performance of Pupils in Different Subjects

<table>
<thead>
<tr>
<th>Subject</th>
<th>Number of teachers</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zambian Language</td>
<td>8</td>
<td>40</td>
</tr>
<tr>
<td>English</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>Mathematics</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Spiritual/Moral Education</td>
<td>1</td>
<td>05</td>
</tr>
<tr>
<td>Literacy</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Science</td>
<td>1</td>
<td>05</td>
</tr>
<tr>
<td>Social Studies</td>
<td>1</td>
<td>05</td>
</tr>
<tr>
<td>Life skills and HIV/AIDS</td>
<td>1</td>
<td>05</td>
</tr>
</tbody>
</table>

4.6.0 THE EXTENT OF QUALITY EDUCATION RECEIVED BY IRI PUPILS

In order to ascertain the extent to which pupils in IRI classes receive quality education, a comparative study was instituted. This involved giving tests to 40 grade 4 pupils in eight schools. The tests were aimed at examining the 'Learning achievements' of pupils in English, Mathematics and Science.

The first twenty pupils came from four schools which had IRI classes and the other twenty pupils were picked from the other four schools which were taken as 'control' schools. It must be noted that both categories did not know what was happening concerning this research. The main aim for this assessment was to find the "mean" (average) scores of pupils in the three subjects mentioned above. The tests consisted of 20 questions in English, 12 for Maths and 24 in Science. (See appendices 6, 7 and 8).
4.6.1 REASONS FOR THE TESTS WHICH WERE GIVEN

Tests play a vital role in the evaluation of pupils' learning process. They provide relevant measures of many important teaching and learning outcomes. It must be pointed out that there are many types of tests. Some of them are: Formative, Placement, Diagnostic and Summative tests (Gronlund, 1981). These tests are briefly discussed below:

4.6.1.1 PLACEMENT TESTS

These are tests which are given at the beginning of the course. The reason these tests are given is to ascertain whether pupils possess the pre-requisite skills needed to succeed in a course or not (Matiru, 1995). Such tests help to place pupils in proper classes through a screening process.

4.6.1.2 SUMMATIVE TESTS

These are tests which are given at the end of the course of instructions. The reason these tests are given is to give certificates to the learners and to show the grades which learners obtained at the end of the course.

4.6.1.3 DIAGNOSTIC TESTS

These are tests which are constructed in the light of the most common sources of error encountered by pupils. The reason these tests are given is to find out the difficulties which pupils encounter during the learning process. In these tests, there is no specific time needed, but could be given as they are needed during the school term.
4.6.1.4. FORMATIVE TESTS

These are tests which are given periodically during the instruction period. The reasons these tests are given is to monitor pupils' learning progress and to provide on-going feedback to both pupils and teachers. For the purpose of this study, formative tests were given to grade 4 pupils in the sampled schools.

4.7 PERFORMANCE OF PUPILS IN ENGLISH, MATHEMATICS AND SCIENCE

The mean performances of pupils in IRI classes were as follows: in English it was 63 percent, in Maths 75 percent, while in Science it was 59.7 percent. Clearly, this reveals that the highest score was in Mathematics and the least was in Science. Table 4.21 shows the mean scores of each subject which was assessed for IRI classes.
Table 4.21  Mean Scores for Grade 4s in IRI Classes

<table>
<thead>
<tr>
<th>School</th>
<th>English</th>
<th>Maths</th>
<th>Science</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nchelenge Basic</td>
<td>48</td>
<td>75</td>
<td>54</td>
<td>59</td>
</tr>
<tr>
<td>Kambwali Basic</td>
<td>76</td>
<td>70</td>
<td>50</td>
<td>65.3</td>
</tr>
<tr>
<td>Kambwali IRI</td>
<td>60</td>
<td>83</td>
<td>49</td>
<td>64</td>
</tr>
<tr>
<td>Mubamba</td>
<td>70</td>
<td>75</td>
<td>56</td>
<td>67</td>
</tr>
<tr>
<td><strong>Mean score</strong></td>
<td>63</td>
<td>75</td>
<td><strong>59.7</strong></td>
<td><strong>65.9</strong></td>
</tr>
</tbody>
</table>

Table 4.22  Mean Scores for Grade 4s at 'Control' Schools

<table>
<thead>
<tr>
<th>School</th>
<th>English</th>
<th>Maths</th>
<th>Science</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kasumpa Basic</td>
<td>45</td>
<td>73</td>
<td>50</td>
<td>58</td>
</tr>
<tr>
<td>Tokotoka Basic</td>
<td>58</td>
<td>70</td>
<td>65</td>
<td>64.3</td>
</tr>
<tr>
<td>Kenani Basic</td>
<td>60</td>
<td>71</td>
<td>45</td>
<td>58.6</td>
</tr>
<tr>
<td>Lukoresha Basic</td>
<td>62</td>
<td>70</td>
<td>55</td>
<td>62.2</td>
</tr>
<tr>
<td><strong>Mean score</strong></td>
<td><strong>56.25</strong></td>
<td><strong>71</strong></td>
<td><strong>55.75</strong></td>
<td><strong>60.33</strong></td>
</tr>
</tbody>
</table>

Table 4.22 above, shows mean scores for grade 4 pupils who were taken as a control measure. These pupils did not have an opportunity of learning through the IRI programme. The mean score in English was 56.25 percent, in Maths 71 percent and in Science 55.75 percent.

It must be noted that in both cases of IRI classes and Ordinary classes, the highest mean score was Mathematics followed by English. This is in consistence with what the Examination Council of Zambia observed in
Learning Achievement at the Basic School (2006). The figure below shows the distribution of mean scores of English, Mathematics and Science.

Figure 4.3  Mean scores by subjects in IRI classes
As far as results were concerned, there was a marked difference in the mean performance between IRI classes and Ordinary classes. The results indicated that in all three subjects, IRI classes performed much better than Ordinary classes. Table 4.23 shows these results.
Table 4.23  Mean difference in performance of IRI classes and Ordinary classes

<table>
<thead>
<tr>
<th>Subjects</th>
<th>School type</th>
<th>Mean score</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGLISH</td>
<td>IRI pilot classes</td>
<td>63</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ordinary</td>
<td>56.25</td>
<td></td>
</tr>
<tr>
<td>MATHEMATICS</td>
<td>IRI pilot classes</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ordinary</td>
<td>71</td>
<td></td>
</tr>
<tr>
<td>SCIENCE</td>
<td>IRI pilot classes</td>
<td>59.7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ordinary</td>
<td>55.75</td>
<td></td>
</tr>
</tbody>
</table>

The same measures above are presented below using the bar chart.

As it can be seen from table 4.23, it is clear that the overall performance of pupils in IRI classes was higher than that in ordinary classes. This is well illustrated in figure 4.5. In this figure, the mean scores from English, Mathematics and Science are shown graphically using IRI classes and Ordinary classes.
4.8 GENDER DIFFERENCES

The researcher wanted to find out if there was a gender difference in terms of performance between boys and girls from IRI classes and those from regular classes. The study revealed that boys performed much better than girls in Mathematics and English while girls excelled in Science. Table 4.24 and figure 4.6 shows this.

Table 4.24 Mean scores by gender from IRI classes

<table>
<thead>
<tr>
<th>Gender</th>
<th>Subjects</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys</td>
<td>Maths</td>
<td>85%</td>
</tr>
<tr>
<td></td>
<td>Science</td>
<td>58.3%</td>
</tr>
<tr>
<td></td>
<td>English</td>
<td>83.3%</td>
</tr>
<tr>
<td>Girls</td>
<td>Maths</td>
<td>70.8%</td>
</tr>
<tr>
<td></td>
<td>Science</td>
<td>66.6%</td>
</tr>
<tr>
<td></td>
<td>English</td>
<td>68.1%</td>
</tr>
</tbody>
</table>
The results which were earlier seen in IRI classes were repeated when ordinary classes were taken as well. This is illustrated in table 4.25 and figure 4.7 below.

<table>
<thead>
<tr>
<th>Gender</th>
<th>Subjects</th>
<th>Scores percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys</td>
<td>Maths</td>
<td>78</td>
</tr>
<tr>
<td></td>
<td>Science</td>
<td>58.30%</td>
</tr>
<tr>
<td></td>
<td>English</td>
<td>83.30%</td>
</tr>
<tr>
<td>Girls</td>
<td>Maths</td>
<td>70.80%</td>
</tr>
<tr>
<td></td>
<td>Science</td>
<td>66.60%</td>
</tr>
<tr>
<td></td>
<td>English</td>
<td>68.10%</td>
</tr>
</tbody>
</table>
4.9 CONCLUSION ON THE FINDINGS

Generally, it was established that using radio for educational purposes can help improve the quality of education delivered to learners. It can also help reach large numbers of pupils as quickly as possible at the same time. The improvement in quality of education delivered is much higher when educational radio is taken side by side with regular class teaching. Educational radio helps teachers to prepare adequately for their lessons and enables them to use concrete examples or models which otherwise would be missing from classrooms if the services of a radio were absent. It is therefore clear that the impact of educational radio on the provision of quality education is very good and encouraging.
CHAPTER FIVE
INTERPRETATION AND DISCUSSION OF FINDINGS

5.0 INTRODUCTION

This chapter deals with the interpretations and discussion of the research findings presented in the previous chapter.

5.1 PERSONAL AND PROFESSIONAL CHARACTERISTICS OF RESPONDENTS

Gender and sex affect the way that we see ourselves, the way we see others, the manner in which we think about things and prioritize them, and the manner in which we deal with stress (EDC, YoutNet, USAID, 2005). In Nchelenge district, there are 564 teachers of which 60 percent are male while 40 percent are female. Clearly, this shows that there are more male than female teachers. This higher percentage figure of male teachers has a positive bearing on the impact of the IRI programme in the district. MoE (2008) observed that male teachers have a tendency to persevere and stay longer in rural areas than their female counterparts. Interestingly, one female teacher during face-to-face interviews openly declared that women in most cases would like to go and work in urban areas where they think they would get married easily than in rural areas.

As far as age was concerned, the study revealed that the majority (45%) of the teachers was aged between 26 and 30 years, and 20 percent were between 18 and 25 years. Therefore, the total percentage of teachers who were below 30 years was 65 percent. This clearly shows that IRI programmes in this district are being handled by youth who are mostly
vibrant and ready to adapt to new methods of teaching using the radio. An example of this is the latest gadget of the iPod Mp3 which is currently being piloted in Nchelenge and in some few other districts in the country. This instrument has been overwhelmingly accepted by most young teachers in schools. Therefore, it is clear that young teachers are an asset to the teaching fraternity. However, it is this same group of people which is highly susceptible to HIV and AIDS.

Over the past decade, the educational system has been confronted with the problem of HIV and AIDS. It has been estimated that 20 percent of the population is infected (Carmody, 2004).

During face-to-face interviews with pupils, it was discovered that most of them had an idea about the HIV and AIDS pandemic. It is argued that in today’s understanding of the health status, no one can claim that he or she is quite ignorant about the pandemic. The study shows that 70 percent of the pupils indicated that they became aware about HIV and AIDS through their class teachers. 62 percent indicated that they became aware about the pandemic through radio. Clearly, it can be seen that educational radio also plays a tremendous positive influence on sensitizing pupils about this deadly disease. There were very few (33%) of pupils who said that they had heard about this pandemic from their parents or guardians.

On the issue of guardian-child relationship, the study revealed that 55 percent of parents lived with their own children, while 15 percent lived with their step children. It must be noted that a good guardian-child relationship is pivotal in boosting children’s morale at home and later on at school. It is that good relationship which helps to build a child’s self-will.
Castle (1956:31) observes that, "To break a child's self -will is to damage a large part of his personality, because self-will is the foundation of self confidence which in turn develops strength of character." Since most children indicated that they lived with their parents, it is hoped that that revelation impacts positively on pupils' performance in these IRI classes.

The level of education reached by parents or guardians also plays a role in pupils' willingness to study. 90 percent of parents or guardians indicated that they had been to school and had reached at least grade 7 levels. 40 percent parents revealed that their highest academic level reached was grade 9 (Form 2). These findings help to point out the fact that parents who have been to school are likely to send their children to school and also be able to help them at home with tips on how to answer homework given to them.

5.2 IRI TEACHERS' ABILITIES TO FOLLOW INSTRUCTIONS FROM THE RADIO TEACHER

The ability to follow radio instructions during IRI lessons largely depends on the preparedness of a teacher for a lesson. A teacher needs to put together all teaching and learning materials before radio lessons begin. Table 4.5 revealed that 90 percent of teachers sampled were actually preparing their lesson plans, each day before they went to teach. Consequently, they were able to follow instructions from the radio teacher without any problem. Furthermore, teachers made sure that radios were operational and pupils punctual for their daily lessons. It is argued that most teachers stop preparing their lesson plans soon after they are confirmed in their appointments as teachers. However, this was not the case with Nchelenge teachers. During face-to-face interviews with
teachers, one of them revealed that he had been preparing lesson plans since he was employed as a teacher eight years ago. He declared that he will continue with that habit as long as he remained a teacher.

The ability to follow radio instructions largely depends also on teachers' readiness to use mentors' guide during lesson delivery. This study shows that 95 percent of the teachers had been sensitized on the importance of using mentors' guides and that teachers were actually making use of it. Mentors' guides have been designed to help teachers strictly adhere to already set procedures of radio lessons. It must be noted that teachers need to use teachers' guides every day to prepare themselves for each broadcast, to help conduct pre- and post- broadcast activities, to conduct assessments, and to remind them of things that they were taught during training. Table 4.7 showed that most teachers talked to, used to conduct both pre- broadcasting and post-broadcasting exercise. This exercise is necessary because it provides checks and balances for a mentor. It may be argued that a mentor is supposed to be a person who should be patient and committed to duty. Commitment to duty requires a class teacher to have high concentration on tasks ahead, because a class teacher should teach simultaneously with the radio teacher. It is this unison in teaching with the radio teacher that makes Taonga lessons very interesting. In fact, most (60%) of the pupils who were talked to explained that they enjoyed their lessons because of songs, games and stories which they were able to practice during their learning period. These findings are consistent with what was discovered when LTM was first piloted in 2005. The findings from the pilot project showed that: Firstly, LTM motivated learners and promoted good time and class management. Secondly, girls and boys using LTM had equal learning gains (EDC, USAID, QUESTT, LTM, 2005).
In order for schools to be effective, there is need to have strong working relationships between teachers and School Administrators. Given the low incentives which rural teachers get, it is necessary that teachers are given strong support at all times by their head teachers. The support can be in form of giving them morale or simply by organizing indoor workshops for them. MacBearth and Myers (1999: 2) declared that, “Many people, that is, teachers, governors and parents have agreed that the head teachers should encourage and motivate staff to keep up to date professionally in their careers.”

In this study, the highest (70%) support which teachers received was in form of teacher morale. That was then followed by indoor workshops which accounted for 60 percent. One teacher at Nchelenge Basic School commented that workshops were a welcome activity because they were usually accompanied with food and monetary value. When schools keep motivating teachers with material things like this, then they are being consistent withMaslow’s hierarchy which Evans (1984: 94) noted that, “The lower needs in the hierarchy must be at least partially satisfied before the higher needs are fully met.” Similarly, 65 percent of head teachers talked to indicated that they supported their teachers who were teaching IRI classes.

Motivation is a very important and effective key element in making teachers work as high achievers. Mbamba (1992: 247) observed that, “With proper motivation of workers, productivity can easily be raised as high as 90 percent.” Therefore, the only way to ensure that teachers are working well is to offer incentives to them. As far as IRI programme is
concerned, teachers are being motivated and that in turn, enhances learning achievement of pupils.

In the same vein, when workshops are being initiated such as the case might be for IRI programmes, the initiators usually cater for school managers as well. The study reveals that 90 percent head teachers of IRI pilot schools were also trained in that new methodology of the IRI programme. The reason why that was done was because school management also contributed to improving quality education delivery in Taonga classes. Zaken (2008:145) noted that, “A head teacher with well-developed management skills, creates a stimulating learning enrolment, holds the teachers accountable and reduces teacher and pupil’s absenteeism.” The study also discovered that most (90%) of the head teachers were not only trained in IRI methodology, but also had undergone training at Chalimbana, in Educational Management Training (EMT). Clearly, this shows that both IRI teachers and their head teachers are being motivated in one way or the other through training and in that way help to impact positively on good teaching and learning environment.

5.3 EFFECTIVENESS OF EDUCATIONAL RADIO

When the IRI programme was rolled out to all Basic Schools in 2006, it became obvious that those pupils who were to be taught through Taonga methodology were to receive double portion of learning where there was going to be both a class teacher and radio teacher. These teachers were to teach learners simultaneously. The equation below illustrates this point:
Following this equation, it is clear that pupils in an ordinary class, and learning through the IRI programme will have many advantages when compared to those who are learning just through an ordinary class.

Table 4.12 revealed that 50 percent of the teachers expressed satisfaction that the educational radio was very effective and enhances pupils' learning achievement, and promotes good quality education. During face-to-face interview with Besa, a Program Development and Production Officer (PDPO) at Educational Broadcasting Services Headquarters, in Lusaka, it was revealed that the radio teacher was a well qualified person in Teaching and Mass Media Communication. Perhaps that could explain why educational radio lessons are well planned and coordinated. Moreover, the lessons are not just well coordinated, but also are accompanied by games and plays.

 Quite naturally, play brings together many of the essential growing points of a child's development. For this reason it is of immense importance in education. Playing, on the part of children have many returns such as:

(i) It provides relaxation from difficult tasks which enables children to refresh themselves and prepare for further work.

(ii) It helps children to adapt themselves to other children easily and naturally.

(iii) It helps children to discover themselves. For example, a child who is weak in Mathematics may acquire self-respect in being successful in games.
Another reason why the IRI programme has greater impact on provision of quality education is this that, unlike in the past where communication was one way, from teacher to learner, this new approach provides an opportunity for interaction between the class teacher, the learner and the radio teacher. Thus the programme is called Interactive Radio Instruction (Carmody, 2004).

All IRI teachers are supposed to prepare teaching and learning aids for every lesson they teach. This is so because teaching aids tend to give meaning to words, and they are needed especially in rural areas such as Nchelenge because few pupils have seen modern objects such as trains and aero planes. Therefore teaching aids become essential for understanding real meaning.

Good lesson delivery largely depends upon how well qualified a teacher is. Staff development for any school is necessary, if there could be meaningful teaching and learning process. Castle (1956:75) observed that, “The good teacher will remain a student all his life time. Only in this way can he become an educated person, which is what every teacher should wish to become.”

In this study 80 percent of teachers sampled had Primary Teachers' Certificates. And only 20 percent had Primary Teachers' Diplomas. However, most (90%) teachers talked to indicated that they were studying through distance learning with the University of Zambia, the Zambia Open University or the Zambia Adventist University. It must be noted that staff development at any particular school is cardinal. This is so because of fast changing world where technology is improving daily. Davies and West-Burnham (1997: 74) observed that, “With such a fast rate of change, the
need for extensive staff development should be continuous over a lengthy period of time."

In the Fifth National Development Plan (FNDP), Government has identified clear Strategic Priorities that focus on qualitative and quantitative aspects of educational services delivery. On the issue of Staff development or Teacher training, FNDP puts it this way:

"... In this respect, MoE will strive to expand learning facilities for trainee teachers, expand enrolment of student teachers; increase the number of teachers that are degree holders through up-scaling and/or initiating enrolment of teachers' courses at existing public and private training institutions; elevating two teacher training colleges to university college status and offer degrees; expand distance teacher education programme; and facilitate diversified training that include distance learning and part-time courses" (MoE 2008:63).

Clearly, it is the Policy of Government to make sure that as many teachers as possible are availed further studies so as to enhance quality education delivery in schools. Unfortunately, some teachers, after obtaining their advanced certificates tend to migrate to ‘greener’ pastures leaving pupils without teachers. A high teacher -attrition rate has a negative impact on the schools continuity and is therefore expected to have a negative effect on learning achievement of pupils. It might have been with this point in mind that the District Education Board Secretary for Nchelenge had indicated that he did not favour the transfers of IRI teachers from one school to another. This study however, shows that 50 percent of the teachers had been teaching for a period of 5 to 10 years,
and such were the ones who had been assigned to be teaching IRI classes. This clearly shows that stability of teachers usually promotes continuity of learning achievement of pupils.

Good performance of IRI classes also depends on the frequency of monitoring done by Standards Officers. They need to monitor IRI classes regularly. Unfortunately, the common trend which is usually displayed is where most teachers will only prepare well for their lessons if at all inspectors announce that they would be visiting schools (Wilcox, 1996).

However, this is not the case with teachers who were sampled. Table 4.14 shows that 50 percent of teachers were monitored twice during the year 2008. Clearly, this shows that the LTM programme is being taken care of by Standards Officers.

When Standards Officers go to inspect schools, they also check whether Schools have enough teaching and learning materials. Lungwangwa (2008) observes that the policy direction of the MoE is to make sure that Free Basic Education materials are available from grades 1 to 7. In this study, 50 percent teachers indicated that teaching and learning materials were enough in IRI classes. This clearly attempts to address the issue of Free Basic Education material at lower levels of Basic Schools, where the IRI programme is running.

LTM has been designed to make sure that homework is given to pupils at every end of the lesson. Of the teachers sampled, 50 percent indicated that they gave homework to their pupils thrice per week. Clearly, this shows that homework policy is upheld in most IRI classes. Some parents who were interviewed revealed that they made sure their children did
their homework each time they were given homework by their teachers. This study showed that 41.2 percent of the pupils received help from their parents sometimes. Parents or guardians who show keen interest in their children’s education usually display good guardian-child relationship which in turn produces positive bearing on children’s learning process. Zaken (2008: 200) observes that, “An important finding is that children perform better if they stay well at their homes and eat regularly.”

It must be noted that the LTM programme is seen as being more cost-effective because once a lesson is broadcast; it can be used by large numbers of pupils at the same time. However, in the Zambian curriculum, LTM targets only lower grades of the Basic Education. Most teachers talked to indicated that the IRI methodology is aimed at benefiting pupils from grades 1 to 4. This clearly shows that Government is making tremendous effort in laying a good foundation at lower basic school level. It also shows that Government’s willingness to provide free LTM at lower basic school since 2006 is a clear demonstration of its serious commitment to improving access and participation in education. Clearly, the resolutions of the 1990 Jomtien conference are being addressed by the Zambian Government through many channels including the IRI initiative.

5.4 PERFORMANCE OF PUPILS IN DIFFERENT SUBJECTS

At lower basic school level, there are eight learning areas. However, there are very few (10%) pupils who would excel in all of these areas. On the other hand, most (40%) teachers talked to, indicated that pupils excelled in Zambian Languages, followed by English and then Mathematics. The findings of this study are consistent with what Kelly (1996) observed when he concluded that literacy in a mother tongue was a necessary skill and
the foundation of other life-skills. The possible reason why pupils are excelling in Zambian Language could be due to the introduction of “New Breakthrough To Literacy” (NBTL). In this new approach, a pupil is first introduced to a local language first before learning the English Language. After that initial stage, then the child is later on taken to another stage of learning English through a programme known as ‘Step Into English’ (SITE). SITE is a course at grade 2 level which requires teachers to mix both languages- Local and English. Thereafter, from grades 3 to 7 pupils take a course called ‘Read on Course’ (ROC), which provides a basis for bilingual literacy development and consolidation. It might be argued that this broad based approach of using the Primary Reading Program (PRP) provides better all-round teaching and successful learning and a pupil-centred approach. This in turn promotes higher pupil attendance in the IRI class.

The question one can ask is this. Why is it important to teach initial literacy in the local language? There are many answers to this question, but EDC, YouthNet and USAID (2004:62) observes that:

i. Teaching literacy using a familiar Zambian Language allows children to move from the known to the un-known, so they concentrate on learning reading and writing – instead of trying to learn both the meanings of words as well as to read and write them at once.

ii. Zambian Languages have much more regular spelling than English. It is actually much easier to learn and write in Zambian Languages first.

Clearly, the IRI initiative gives pupils an opportunity to learn local languages easily right from grade 1 level.
5.5 EXTENT TO WHICH PUPILS IN IRI CLASSES RECEIVE QUALITY EDUCATION

The extent to which pupils receive quality education through the IRI programme was ascertained by administering tests in three subjects, namely English, Mathematics and Science. This was a comparative study between IRI classes and ordinary classes. Table 4.23 provides statistics on the mean difference in performance between IRI classes and ordinary classes. In Mathematics, the mean (average) score for pupils in IRI pilot classes was 75 percent while in ordinary classes it was 71 percent. In English the mean in IRI classes was 63 percent while in ordinary classes it was 56.25 percent. For Science, the mean for IRI 59.7 percent while, ordinary was 55.75 percent.

Clearly, this shows that in these three subjects, the scores for IRI classes were generally higher than the ordinary classes. Interestingly, pupils performed much better in Mathematics than in the other two subjects. “Mathematics is often a subject that people find difficult but is a subject that IRI students do very well at” (EDC, Youth net 2006: 84). It might be argued that pupils do well in Mathematics because maths segments in the Teachers’ guide are written in a way that makes mathematics fun to learn and teach.

Given gender difference, an analysis of performance between boys and girls was done in order to see if there were some disparities. The findings revealed that there were marked differences in performance between boys and girls. During ‘Focused group discussion’, some girls revealed that they were victims of home chores. After school, they were required to do a lot of work such as drawing water and helping their mothers to prepare food while their brothers were let free playing or doing their homework. It
appears the concerns raised by girls have not been addressed by communities, despite many sensitizations on gender equity and equality. Perhaps that could help explain why girls performed slightly lower than boys in Mathematics and English. However, the overall results revealed that girls in IRI classes performed much better than their counterparts in Ordinary classes.

5.6 CONCLUSION ON THE INTERPRETATION AND DISCUSSION

By using the Interactive Radio Instruction (IRI) programme, teachers and pupils are exposed to the highest possible standards of teaching available. The use of radio helps to improve discipline among teachers and pupils alike. Both groups tend to be punctual for lessons and in that way lessons become meaningful. Lesson progressions from one stage to another go at an established pace and the syllabuses are well covered by the end of each year. Educational radio tends to keep pupils motivated and in that way reduces pupil-absenteeism. It is clearly seen that classes that use IRI methodology have higher learning achievements than those who learn only through ordinary classes. The reason why that is so is because pupils learn from both their class teachers and the radio teacher at the same time. This kind of double learning enhances pupils' learning achievement.
CHAPTER SIX
SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.0 INTRODUCTION

This chapter gives a summary of what has been discussed on the impact of the IRI programme on the provision of quality education in Nchelenge District. Recommendations are also presented at the end.

6.1 INTERACTIVE RADIO INSTRUCTION (IRI) PROGRAMME

In this study, it has been revealed that when a classroom teacher teaches side by side with the Interactive Radio Instructions (IRI) methodology, pupils receive an enhanced learning achievement. This outcome is only possible if class teachers are preparing their lesson plans every day and are able to follow radio instructions as Taonga lessons are going on. The study has shown that most teachers have no problems teaching simultaneously with the radio teacher. Their pupils in fact enjoy listening from both their class teachers and the radio teacher.

6.2 EFFECTIVENESS OF EDUCATIONAL RADIO

Government's policy is that educational radio should be handled by teachers who have been trained through workshops or seminars on the usage of Taonga radios and iPods MP3. In this study all teachers who handle IRI classes have been trained in the new IRI methodologies of using the radio. On the other hand, in order to ensure quality educational radio delivery, Standards Officers have been monitoring all IRI classes,
whether Community or Government schools. In addition to this, Government together with its Cooperating partners have been supplying radios and teaching and learning materials to all basic schools which have IRL classes in Nchelenge. This clearly reveals that the quality of teaching and learning is increasingly gaining shape in all Taonga classes in this district.

However, radio reception is very poor in some places and some class teachers face problems in following closely, instructions from the radio teacher.

6.3 PERFORMANCE OF PUPILS IN DIFFERENT SUBJECTS

Of all the eight subjects (learning areas) which Taonga pupils learn, this research discovered that most pupils excelled only in five of them. Pupils did extremely well in a Zambian Language. Perhaps this could be attributed to the fact that pupils in grade one are first introduced to "New Breakthrough To Literacy" (NBTL) programme before any subject is taught to them. This requires teachers to use a local language so that pupils learn effectively. The next learning areas where pupils did well were English and Mathematics. The English language came second possibly because of the other method of teaching using "Step Into English" (SITE) approach, which pupils are exposed to in grade 2. SITE requires that teachers reduce the use of local languages and adopt the approach of using English as a medium of communication in class.
6.4 THE EXTENT TO WHICH PUPILS IN IRI CLASSES RECEIVE QUALITY EDUCATION

A comparison between IRI classes and regular classes, helped to ascertain the extent to which pupils receive quality education in IRI classes.

The study reveals that IRI classes performed much better than ordinary classes in test items of English, Mathematics and Science. Clearly, pupils in IRI classes have an upper hand over those in ordinary classes because they have what it takes to have an effective school. An effective school has supporting inputs such as strong parent and community participation; enabling environment such as availability of teaching and learning environment, stable teaching staff and having teachers who prepare their lesson plans adequately. Pupils in IRI classes have very good teaching and learning process whereby there is very good time and class management. Apart from learning from one teacher only, pupils in IRI classes have another teacher who is a radio teacher. This teacher is well trained and impacts positively on learners through good pronunciation of words.

In conclusion, it is clear that in order to address the issues of Education For All (EFA), which were raised by the Jomtien Conference in 1990, the Zambian Government decided to introduce alternative methodology of IRI in order to reach children in remote areas. Currently, almost all basic schools have incorporated this methodology into their teaching schedule although some, due to lack of staff, are still using traditional teaching methodology.
This study has revealed that there is a marked difference in learning achievement between pupils in IRI classes and those in ordinary classes. IRI pupils perform better than those in ordinary classes. Therefore, it is clearly seen that by using radio, teachers and pupils are exposed to highest possible standards of teaching available. This is because teachers in IRI classes are required to be committed and attentive during radio educational broadcast. Teachers are required to prepare for their lessons adequately and make sure that teaching and learning aids are available for each lesson. IRI lessons are also monitored by people such as Provincial Outreach Coordinator (POC), and the Senior Education Officer (SEO–ODL), in addition to regular monitoring visits by Standards Officers in the district. This makes IRI teachers to be the most monitored among all teachers and thus enhances quality education delivery.

6.5.0 RECOMMENDATIONS

6.5.1 GENERAL

(a). Establishing an efficient educational radio system will require Government giving attention to:

i. Improving radio reception especially in rural areas.

ii. Improving the mobility of Standards Officers at district level so as to supervise and inspect teachers.

iii. Continuous capacity-building in the way teachers handle IRI classes, especially with the introduction of new gadgets of Ipod MP3.
(b). There is need for Standards Officers to intensify their monitoring process to at least six times per year.

(c). There is need for head teachers to rethink their management styles of providing adequate teaching and learning materials. They should also make sure that all old skeleton desk frames are assembled and rehabilitated.

(d). Government should come up with a long-lasting solution of attracting teachers to rural areas. Incentives such as rural hardship allowances and car loans for rural teachers should be availed to deserving teachers.

(e). Government should extend the educational radio programme to high schools. This would also help enhance improved learning achievement to high schools pupils.

6.5.2 RECOMMENDATIONS FOR FUTURE RESEARCH

This research focused on the impact of interactive Radio Instruction (IRI) programme on the provision of quality education. The study was restricted to a rural area. However, the following research areas could be researched into in future:

i. An evaluation of Educational Radio on the provision of quality education in urban areas.

ii. A comparative study of the influence of interactive Radio Instruction (IRI) Programme between urban and rural areas.
iii. The role of Mass media in the provision of quality education.

These researches could be carried out in order to broaden the understanding of the importance of mass media in the educational delivery. In this way, it would help in harnessing the Interactive Radio Instructions (IRI), so that as many people as possible gain the much needed knowledge.
REFERENCES


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INTERNET SOURCES


APPENDIX 1

THE UNIVERSITY OF ZAMBIA

QUESTIONNAIRE: FOR THE TEACHER / MENTOR

Dear Sir/ Madam,

You have been selected to take part in answering this questionnaire.

SUBJECT:
THE IMPACT OF THE IRI PROGRAM ON THE PROVISION OF QUALITY EDUCATION IN SCHOOLS

SECTION A
Please tick √ the appropriate box

1. Sex □ Male □ Female □

2. Age group (in years)
   18 - 25 □
   26 -30 □
   31 - 40 □
   41 - 55 □

3. Number of years in teaching
   Less than 2 □, 3 - 5 □, 5-10 □, above 10 □

4. Rank
   Class teacher □
   Community School Mentor □

5. Tick only two from the list below:
   1. Teach pupils from the following
      a. Basic Schools □
      b. Community School □
      c. IRI Classrooms □
      d. Ordinary classes □

6. Have you ever been inspected by the Standards Officers?
Yes □ No □
7. If the answer is yes, to question 6, how many times last year? ------

8. Before you teach a class through the IRI methodology, do you prepare a lesson plan?
   Yes □ No □

9. Do you have a radio for your teaching purposes?
   Yes □ No □

SECTION B
10. What is your Professional qualification?
   1. Primary Certificate
   2. Primary Diploma
   3. Secondary Diploma
   5. Advanced Certificate (APC)

11. How often did you receive In-service training as far as the IRI program is concerned?

12. How do you rate pupils’ absenteeism?
   GIRLS
   a. below 50 percent □
   b. above 50 percent □
   BOYS
   a. below 50 percent □
   b. above 50 percent □

13. Status of School/Classroom furniture
    Enough Seats □
    Enough Desks □
    Not enough Seats □
    Not enough Desks □

14. Status of teaching / Learning Materials
15. Support from School Administration
   a. Good support □
   b. Fair Support □
   c. No Support □

16. How is the radio reception during lessons of Learning at Taonga Market?
    Please tick (✓)
   a. No Radio at School □
   b. Radio is there but poor reception □
   c. Good reception □
   d. Excellent reception. □

17. How frequent do you give Homework to your pupils?
    a. Never □
    b. Once per week □
    c. Twice per week □
    d. Thrice per week □
    e. Specify any other .............................................................

17. Does the District Resource Centre Coordinator visit and monitor your teaching process?
    □ Yes    □ No

18. If the answer is yes, how often does he/ she do it in a term..........................................................
    ..........................................................
19. How do you rate the impact of educational radio on the provision of quality education?
   a. Poor  
   b. Fair  
   c. Good  
   d. Very Good  

20. Explain briefly your answer to question 19 above.

21. (a) Do you think that the IRI program alone without additional formal education, can enable a Grade 7 pupil pass the examinations?

21. (b) Briefly explain your answer to question 21(a) above

22. Where you trained in the IRI methodology?

23. Do you think the training in IRI methodology was adequate?
   □ Yes       □ No

24. How do you feel teaching simultaneously with the radio teacher?
   a. Very satisfied  
   b. Satisfied  
   c. unsatisfied  
   d. Very unsatisfied  

25. (a) Do you harmonize well with the radio teacher during lesson delivery?    □ Yes    □ No

25. (b) Explain briefly your answer to question 25(a) above.


26. (a) According to your own view, the following grades should be the targets for the IRI methodology:

(a) Grades 1-4 □
(b) Grades 5-7 □
© Grades 8 – 9 □

What benefits can you cite as coming from Learning at Taonga Market programme? (Tick one)

(a) Motivates Learners and promotes good time and class management.

(b) Girls and Boys have equal Learning opportunities.

26. Learners have greater gains in all the subjects except for:

a. English □
b. Zambian Language □
c. English Literacy □
d. Mathematics □
e. Science □
f. Social Studies □
g. Life skills and HIV/AIDS □
h. Spiritual and Moral Education □

End of questionnaire and thank you very much for your time.
APPENDIX 2

THE UNIVERSITY OF ZAMBIA

QUESTIONNAIRE 2

( FOR THE HEAD TEACHER / DEPUTY HEAD TEACHER )

Dear Sir/ Madam,

You are one of those who have been selected to participate in answering this questionnaire. Your answers will be treated with strict confidence.

SUBJECT:
The impact of the IRI program on the provision of quality education in Nchelenge District.

Section A:
Please Tick ( √ ) in the appropriate box.

1. Sex □ Male , Female □

2. Age group (in years)
   a. 25-30 □
   b. 31-50 □
   c. 51-55 □

3. Number of years as Head teacher of the School .
   a. Less than 2 □
   b. 3-5 □
   c. 6-10 □
   d. Above 11 □
Section B

4. How many teachers at your School are teaching their pupils using the IRI methodologies?
   a. One □
   b. Two □
   c. Three □
   d. Specify any other number .............................................

5. Do you give any support to the Teaching / Learning process of IRI methodology in classrooms?
   □ Yes , □ No

6. How do you support the IRI Programme?
   (a) Giving morale to teachers
   (b) Giving in- door workshops

7. What problems do you experience with your teachers/ mentors.
   a. Late coming □
   b. Absenteeism □
   c. Early knocking off time □
   d. Specify any other problems .............................................

7. As a Head teacher, what characteristics have you seen prevalent in your pupils?
   a. Absenteeism
   b. Late coming
   c. Drop out
   d. Early Marriages

8. Does the community around the School support your School in any way?
   □ Yes , □ No
9. How do you describe staff stability at your school in terms of continuing in their teaching profession during the past 5 years?
   a. None has been transferred out □
   b. One has been transferred out □
   c. Two have been transferred out □
   d. More than three teachers have been transferred out □

10. Do you have any Professional Development Programmes concerning your school –teachers?
    □ Yes , □ No

11. How do you rate the quality of lessons delivered through educational radio?
    a. Very good □
    b. Good □
    c. Fair □
    d. Bad □
    e. Very bad □

12. Do you think there are any improvements needed in the way lessons are delivered through educational radio?
    .................................................................................................................................

13. How do you describe Mentors’/Teacher’ attitude toward the educational broadcasting?
    .................................................................................................................................

14. Grade 4 pupils at this school are able to: (Tick)
    (a) Read □
    (b) Write □
    (c) Do arithmetic □
15. What subjects do pupils do well in their learning process?
   (a) English ☐
   (b) Maths ☐
   (c) Science ☐
   (d) Zambia language ☐

16. On the scale from 1 to 5, with 5 being excellent and 1 being very poor, how effective, generally, do you think Learning at Taonga Market is impacting on the teaching/learning process?

<table>
<thead>
<tr>
<th>Very poor</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

End of questionnaire and thank you very much for your time.
APPENDIX 3

QUESTIONNAIRE 3

The Standards Officers

Dear Sir/ Madam,

You are one of those who have been selected to participate in answering this questionnaire.

Please help to answer this questionnaire and your answers will be treated with strict confidence.

1. During your monitoring schedule, do you also monitor IRI centres?
   ..................................................................................................................

2. How many times have you planned to monitor IRI centres this year?
   ..................................................................................................................

Have you ever observed a lesson under ‘Learning at Taonga Market’ (LTM)?
   ..................................................................................................................

3. If the answer is yes, in question 3 above, how did you assess the lesson(s)? Explain briefly.
   ..................................................................................................................

4. How do you rate the quality of lessons delivered in IRI centres?: (tick below)

   (a) Very good □

   (b) Good □

   (c) Fair □
5. Do you think there are improvements needed in the way lessons are delivered in IRI centres?

6. If the answer is yes in question 6, what are some of the improvements needed?

7. How do you describe teachers'/mentors' attitudes towards the educational broadcast?

Are the programmes transmitted to IRI centres relevant so as to contribute to the pupils' learning process?

8. Explain briefly your answer to question 9 above.

9. Grade four pupils in these centres are able to: (tick)
   a. Read  
   b. Write  
   c. Do arithmetic  

10. According to your observations, pupils are able to: (tick)
    a. Attend classes  
    b. Complete Grade 7 level  

11. How much time is spent on the teaching/learning process for grade 4s per day?

99
12. Is there home work policy in these schools?

13. How effective do you think IRI methodology is impacting on pupils learning process

   (a) very poor  □
   (b) Poor   □
   (c) Good  □
   (d) Very Good □

End of questionnaire and thank you very much for your time.
APPENDIX 4

The District Resource Centre Coordinator

Dear Sir/ Madam,

You are one of those who have been selected to participate in answering this questionnaire.

Your answers will be treated with strict confidence.

Questionnaire number 4

1. How many interactive Radio Instruction (IRI) centres do you have in Nchelenge District?

2. How often do you monitor these centres?

3. According to your view, how effective are the lessons which are conducted through radio programmes in these centres?

4. How good is the radio reception in these centres?

5. How many IRI centre Mentors have been trained in IRI methodology?

6. How do you make sure that these trained mentors are sustained and retained in their centres?

7. Approximately how many pupils are enrolled in all these centres in this district?
8. (a) Do pupils in these centre show keen interest in learning?

(b) If the answer to question 8 (a) is yes, explain briefly how

Do you think parents are happy with the way IRI centres are run?

9. How much parental involvement is seen in the running IRI centres?

10. If the answer is yes, in question 10 explain briefly how?

11. How effective do you think the IRI Methodology is impacting on pupils learning process?
   (a) very poor □
   (b) Poor □
   (c) Good □
   (d) Very Good □

12. What subjects are suitable for IRI Methodology?

13. How do you describe mentors’ attitudes towards the educational broadcast?

14. Grade four pupils in these centres are able to:
   a. Read □
   b. Write □
   c. Do arithmetic □

End of questionnaire and thank you very much for your time.
APPENDIX 5

FOR THE PARENTS/ GUARDIANS
STRUCTURED INTERVIEW

Centre / School:

Section A

1. Sex: Male □ Female □

2. What is your Highest Academic qualification
   (a) Form three □
   (b) Form Five □
   (c) Grade 7 □
   (d) Specify any other ........................................

3. What is the relationship between you and the child who goes to this School from your home
   (a) Blood Child □
   (b) Step Child □
   (c) Child of any relatives □
   (d) Child is an Orphan □

4. Do you sometimes take keen interest in assisting your child with home work?
   □ Yes , □ No

5. Do you own a radio?
   □ Yes , □ No

6. If your answer is yes in question 5 above, do you use it to help your child learn at home using the radio?
   □ Yes , □ No
7. What do you think parents should do in order to help their children improve in their studies?

8. Do you sometimes discuss your child's progress at school with teachers?

9. What would you like to see the teachers do in order to improve the learning process of children?

End of questionnaire and thank you very much for your time.
APPENDIX 6

GRADE 4 SCIENCE TEST

Name of School: ...........................................................................................................
My name is: ....................................................................................................................
Gender: Boy .......................... Girl .......................... Age .............................

=================================================================

SECTION A

In these questions, you will choose two correct answers and circle them.

Example

Circle two things that you can see at night.

a. Stars
b. Rainbow
c. Sun
d. Moon

1) Circle two changes that happen at puberty.

a. Girls start menstruating
b. Girls start school
c. Boys start working

2) Circle two ways through which a person may get HIV.

a. Having unprotected sex
b. Sharing a blanket
c. Sharing razor blades
d. Using a condom.

3) Circle two diseases which are water borne.

a. TB
b. Dysentery
c. Malaria
d. Cholera
4) Circle two ways by which you can get cholera.
   a. Drinking dirty water
   b. Washing in water
   c. Shaking hands
   d. Sleeping late

5) Circle two things you could give to help a person who has diarrhea.
   a. Water
   b. Milk
   c. Oral dehydration salts
   d. Biscuits

6) Circle two ways in which domestic animals help us.
   a. Protect us from diseases
   b. Eat our crops
   c. Source of food
   d. Means of transport

7) Circle two reasons why people need houses
   a. Protection
   b. Warmth
   c. Weddings
   d. Playing

8) Circle two things which a person who has diarrhea needs
   a. ORS
   b. Beer
   c. Fruit juice
   d. Exercise
9) Name the parts of the Plants indicated
10) Match the picture of the tool with its use. An example is shown.

<table>
<thead>
<tr>
<th>Tool</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Digging</td>
</tr>
<tr>
<td></td>
<td>Chopping</td>
</tr>
<tr>
<td></td>
<td>Walking</td>
</tr>
<tr>
<td></td>
<td>Eating</td>
</tr>
<tr>
<td></td>
<td>Writing</td>
</tr>
<tr>
<td></td>
<td>Cutting</td>
</tr>
</tbody>
</table>

Nondie took a big plastic bag. She put a hole in the bottom of the bag and two holes in the sides of the bag. The hole in the bottom of the bag was for her head. The holes in the sides of the bag were for her arms.

She put the bag over her head and put her arms through the holes in the side. She walked to school and did not get wet.

Choose the letter of the correct answer. An example is given.

Example:

The name of the girl in the story is...

a) Nondie
b) Nondine
c) Name

1) Why did Nondie make her own coat?

a) Because she did not have any pants.
b) Because she had no coat.
c) Because it was raining heavily.

2) Nondie did not get wet because

This is the end of the Science test. Thank you
APPENDIX 7
GRADE 4 ENGLISH TEST

Name of School: ____________________________________________

My name is ______________________________________________

Gender: Boy__________   Girl__________

Age: ____________________________

Task 1: Comprehension

Read this story and answer the questions that follow.

It was raining heavily, but it was time to go to school. Nonde did not have a raincoat to wear. She decided to make her own coat.

Nonde took a big plastic bag. She cut a hole in the bottom of the bag and two holes in the sides of the bag. The hole in the bottom of the bag was for her head. The holes in the sides of the bag were for her arms.

She put the bag over her head and put the arms through the holes in the side. She walked to school and did not get wet.

Circle the letter of the correct answer. An example is given.

Example

The name of the girl in the story is...

a) Monde
b) Nonde
c) Nawa

1) Why did Nonde make her own coat?

a) Because she did not have money.
b) Because she had an old plastic bag.
c) Because it was raining heavily.

2) Nonde did not get wet because...
a) She made a raincoat.

b) It stopped raining.

c) She had to go to school.

3) How many holes did Nonde make in the plastic bag?

a) One

b) Two

b) Three

4) What did Nonde use to make raincoat?

a) A paper bag

b) A plastic bag

c) A sack

5) What can you say about Nonde?

a) She likes school

b) She is careless

c) She is playful

Task 2: Completing sentences

Fill in the spaces in the sentences using the words given below. An example is given.

Example
Friends should help one another.

<table>
<thead>
<tr>
<th>Eat</th>
<th>where</th>
<th>goals</th>
<th>help</th>
<th>years</th>
</tr>
</thead>
</table>

1) David scored ___________ in the football match.

2) Wash your hands before you ___________.

3) I started school when I was eight ___________ old.

4) ___________ do you live?

Task 3: Punctuation
Put capital letters, full stops (.), commas (,) and question marks (?) in the correct places.

1) John goes to school in the morning

2) The teacher gave Mary a pencil book and a ruler.

3) Are you in grade 4

Task 4: Plurals

Write s or es in the spaces.

1) One cup; two cup ____

2) One book; two book ____

3) One mango; two mango ____

4) One brush; Two brush ______

Task 5: Writing sentences about a picture

Write one sentence about each picture
This is the end of the English test. Thank you
APPENDIX 8

GRADE 4 – MATHEMATICS

Name of School: ____________________________________________________________

My name is: ______________________________________________________________

Gender: Boy ____________  Girl ____________  Age: ____________

Show all your work on this paper

1. Put the correct symbol in the box:

   $ = e \notin \{ \}$

   $\{B, \square\} \{A,B,C\}$

2. Write the number in figures: One hundred fifty-eight

   ______________________________

3. Write the number in words:

   7 _____________________________

4. Add

   8 5 4 2
   +5 2 8 9

5. Subtract:

   7 4 6 3
   -5 7 1 2

6. Multiply:

   2 8
   \times 1 2

7. Divide:

   $\sqrt{936}$

8. Mutinta has K10,000. She buys two loaves of bread costing K3,000 each. How much is her change?
9. Write the next number in the sequence:

15, 20, 25, 30,

10. Shade $\frac{1}{6}$ of this rectangle:

![Rectangle with shaded part]

11. What is the length of the stick?

![Sticks with measurements]

12. What is the area of the rectangle?

4cm

3cm

This is the end of the Mathematics test. Thank you