

**THE ROLE OF INTERACTIVE RADIO INSTRUCTION (IRI) IN
INCREASING ACCESS TO EDUCATION: A CASE OF LUSAKA
AND CHIPATA DISTRICTS**

BY

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A dissertation submitted to the University of Zambia in partial fulfillment of the
requirements for the award of the degree of the Master of Education in
Sociology of Education

THE UNIVERSITY OF ZAMBIA

LUSAKA



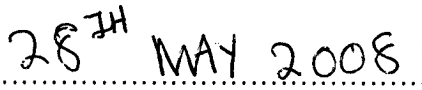
March, 2008

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AUTHOR'S DECLARATION

I WENDY W.B. NYANGU do hereby declare that this dissertation is my own original work and that it has not previously been submitted for a degree at this or any other university.

SIGNED:

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DEDICATION

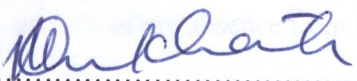

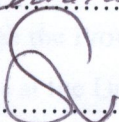
This dissertation is dedicated to my husband Joseph, my children, my late mother and father who introduced me to the beauty of life and school.

I would also like to dedicate it to those hard-to-reach and marginalized children and adults.

APPROVAL

This dissertation of Wendy .W.B. Nyangu is approved as a partial fulfillment of the requirements for the award of the degree of the Master of Education in Sociology of Education at the University of Zambia.

EXAMINERS

1.  Date 28th May, 2008
2.  Date 28/05/08
3.  Date 28/05/08

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I acknowledge with immense gratitude the contributions my late parents made to my life, in training me with tenacity which I have always treasured. I also exalt them for instilling in me the disciplined independence of mind with which, I have been sailing through every aspect of life.

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Lastly, but definitely not the least, I would like to thank Mrs. M.C. Zulu for typing this dissertation.

ABSTRACT

This study set out to examine the role of Interactive Radio Instruction (IRI) methodology in increasing access to Education, in selected IRI centres in Lusaka and Chipata Districts.

The objectives of the study were to; assess to what extent quality education takes place using the Interactive Radio Instructions; determine how many children were accessing education through Interactive Instruction (IRI); establish whether this open system of learning could be the alternative mode of learning for even out-of school population, and establish what the intended curriculum was, and whether that curriculum was being implemented.

Data were collected using questionnaires, interviews, documentary review and focused group discussions. A sample of 183 respondents was selected for the study. There were twelve (12) Ministry of Education officials under the Directorate of Open and Distance Education, three (3) officials at the Education Development Centre, eighty (80) parents, eighty (80) pupils and eight (8) mentors.

The results showed that parents, pupils, communities and education officials believe in and are keen on using IRI to reach and extend education to the hard to- reach-children. It was also found that IRI overrides the problems that are associated with accessing of education, participation, retention and achievement. Over-aged children and push- outs, for example, had been given a second chance to attend school.

The findings revealed that when IRI just started on a small scale in 2001, the older children who wished to follow an accelerated learning programme were greatly helped since IRI programmes covered two grades in a single year.

Further results showed that since IRI inception, about 56 000 pupils had accessed education with the help of mentors who had received necessary skills to mediate the radio programmes. It was also discovered that quality education was being achieved in IRI centres. Differences in both attendance of classes and reading abilities of children who went to IRI centres and those who went to conventional schools were reported. But the mentors who were volunteers stated that an allowance should be given to them to sustain their livelihood. In this report communities which they served were not doing enough.

The study found that the curriculum as intended, was the curriculum that all the centres under the IRI methodology were following. This was the same curriculum which was also followed by regular schools in the MoE , and it consisted of six core subjects namely; Mathematics, English language and Literacy, Science, Social studies, Moral and Spiritual education, and Zambian language. In addition to the above core subjects, the study learnt that information on HIV/AIDS was taught in view of the challenges it posed to the teaching fraternity

The revelations from this study point to one thing, that factors determining primary education, access and enrolment in Zambia, especially in remote and rural areas, is

the proximity of the school to school going age—children population. The implication is that MoE should place schools within walkable distances of children, because parents do not want schools that expose their children to physical hazards in the name of schooling. The other implication is that when people's poverty levels are too high, the government should provide compensatory education to help people meet their childrens' educational needs.

The conclusions drawn from this study also point to the fact, making education accessible to today's children is not a waste of the country's meager resources but is a strategy for breaking the shackles of poverty, ignorance and disease. It would be an investment that would increase their productivity. Increased access to education would lead to an end of wasted human resource and accelerate the meeting of Millennium Development Goals (MDG) for Education by 2015.

Arising from the findings of this study, the following recommendations were made:

1. There should be redistribution of resources towards alternative forms of education like IRI.
2. These alternative forms of education should run alongside conventional schools because of their flexibility and extended reach to many children.
3. MoE should hasten to develop radio lessons for grades six (6) and seven (7) since there is a gap that is created, since currently radio lessons end in grade five (5).
4. Lessons for junior secondary classes should be introduced to enable children continue learning and not regress into illiteracy and street-kidding and other vices.
5. MoE should consider paying allowances to the mentors in IRI centres to boost their morale and help them lead decent lives.

ABBREVIATIONS

DODE	Directorate of Open and Distance Education
EBS	Education Broadcasting Services
EDC	Education Development Centre
EFA	Education for All
DODE	Directorate of Open and Distance Education
IRI	Interactive Radio Instruction
JCTR	Jesuit Centre for Theological Reflection
LTM	Learning at Taonga Market
MDG	Millennium Development Goals
MOE	Ministry of Education
NBTL	New Break Through To Literacy
OVC	Orphans and vulnerable children
PUSH	Programme Urban Self Help
QUESTT	Quality Education Services Through Technology
ROC	Read On Course
SITE	Step Into Teaching English
ZANEC	Zambia National Education Coalition
ZATEC	Zambia Teachers' Education Course

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CHAPTER ONE: INTRODUCTION

1.1 BACKGROUND TO THE STUDY

This chapter gives the background of the study on “The role of Interactive Radio Instruction (IRI)”. In this chapter, issues of little access to education among Zambian children has been given prominence, to draw attention to the consequences of illiteracy. It cannot be imagine to expect people living without education either because there is shortage of school infrastructure or shortage of trained teachers. Today there are many alternatives open to people to access education without being in a formal school. One of such alternatives is IRI provided by the Ministry Of Education in collaboration with Education Development Centre (EDC). Schools help a society to pass on values, norms and beliefs upon which the larger society (country) depends, as well as prepare children for their future roles. The rationale for providing education to all has been outlined as well as the objectives for this current research.

Education is the corner stone for every nation’s development. It also enhances the individual’s quality of life and enables him/her to contribute effectively to his macro-community at societal and national levels. In this sense, education, in particular, can act as leverage for significant improvements in the lives of all children. Besides imparting knowledge and life skills, schooling can contribute to a child’s psychosocial development and provide a safe, structured environment, in turbulent times (UNESCO 2003).

Education therefore, even for its sake is more important than wealth. However, many people doubt whether the world’s children are accessing this education. The right to education is a universally established right. In addition, efforts to improve access to education for all school-going age children have been echoed in all international conferences since the Jomtien Conference of 1990 (UNESCO, 2003).

It cannot to be over emphasized that education is an instrumental resource for acquiring other resources, and denying anyone this important resource, is a sure way of denying them the means of survival.

One technology that holds promises for extending and improving education for many marginalized, hard-to-reach-children is ‘Interactive Radio Instruction’ (IRI). IRI is a teaching methodology which is conversational in nature in which the radio teacher interacts with learners through giving instructions and questions to which learners react (Hartenberger and Bosch, 1996). Dock and Helwig (1999) describe IRI, as interactive lessons in which an external teaching element, delivered by a distant teacher through the medium of radio or audio cassette, is carefully integrated with classroom activities carried out by the classroom teacher and pupils.

IRI was first developed in the 1970 by the Nicaraguan Radio Mathematics Project with the help of USAID. In the early 1970s some US educators took a new look at the radio as a possible inexpensive and universal means of redressing mounting educational problems world wide, such as; too few trained teachers, too many people with no access to education, and few resources (Fossard, 1994).

At the World Education Forum in April 2000, the Dakar Framework for Action, “Education For All” (EFA) was adopted with the major goal: to ensure that all children, particularly girls and children in different circumstances and those belonging to ethnic minorities have access to and complete free and compulsory primary education of good quality (UNESCO, 2003).

This kind of education was to be achieved by 2015. Five years after the Dakar Forum, commonly referred to as “Dakar + 5”, it was found imperative to re-look at the EFA commitment in Africa. The was need to recast the commitments which led to a Regional ‘EFA’ Forum to the Dakar + 5 which was held in Dakar, Senegal in June 2005 (Times of Zambia, June 2005). This was to revisit the strategies of the earlier commitment, analyze the constraints or obstacles that hinder access to education.

In Zambia, an initiative called the IRI methodology, was introduced as “Learning at Taonga Market” in 1999. The main aim for the introduction of IRI was to respond to the MoE’s goal of increasing access to education after it was learnt that many vulnerable children, orphans and hard to reach children were not in school due to poverty and other related ills. To date, increasing access to education and providing

“Education For All” remains a compelling goal for all nations; Zambia included (MoE, 2005).

1.2 STATEMENT OF THE PROBLEM

Against the background of a nation that has committed and reaffirmed itself to the world commitment of achieving “Education for All” (EFA), and the Millennium Developmental Goals (MDG) by 2015, about 800 000 Zambian children of school-going- age are not in school. The task of delivering education to all, may remain a daunting one, and may not be realized even by 2015, if the only delivery method of education is the traditional ‘Classroom mode’, or the face to face mode.

It was for this reason that this study attempted to ascertain the role of “Interactive Radio Instruction (IRI), in increasing access to Education For All (EFA). The study was aimed at finding out whether the Interactive Radio Instruction (IRI) could be that alternative form of education meant to increase access to all children that can not be absorbed by the conventional school system.

1.3 PURPOSE OF THE STUDY

The purpose of the study was to assess the role of Interactive Radio Instruction (IRI), as an alternative form of education in increasing access of quality education to many out off school children. It was also meant to find out what kind of approaches and mechanisms were being used in this alternative education.

1.4 OBJECTIVES OF THE STUDY

The study’s objectives were to :

1. access to what extent quality learning takes place using radio instructions.
2. determine how many children were accessing education through Interactive Radio Instruction (IRI)
3. establish whether this open system of learning can be the alternative mode of learning, even for the adult-out-of-school population, and
4. establish what the intended curriculum is and whether it was being implemented.

1.5 RESEARCH QUESTIONS

The following were the research questions:

1. to what extent do children in IRI centres gain meaningful learning?
2. how many children are accessing basic education through the Interactive Radio Instruction (IRI)?
3. *to what extent have the Ministry of Education /parents /and the public at large accepted IRI as a means of learning for hard-to-reach learners?*
4. what curriculum is being implemented in IRI centres?

1.6 SIGNIFICANCE OF THE STUDY

It was hoped that this study would provide some information to the government, the Ministry of Education in particular, and to other partners, in the area of Open and Distance Learning, with the hope of improving delivery of education. It was also hoped that the information from the study would highlight on the different useful ways in which IRI could enhance quality of education to even regular schools. The study hoped to provide more alternative opportunities for children to access education using relatively flexible and cheaper means.

1.7 THEORETICAL FRAME WORK

Reaching out to people to offer them education is not a waste of resources of a country or consumption of the meager resources, according to the “Human Capital Theory” popularized by Schultz (1961). This theory tries to explain that education increases people’s productivity. Education empowers people with various skills and knowledge, and broadens their scope of dealing with their environment. For these reasons, many nations provide free or subsidized education. Notable proponents of the Human Capital Theory are; Theodore Schultz (1961), and Becker (1964). However there is a misunderstanding on the Human Capital concept that investment should only refer to expenditure on assets which will produce income in future and increase productivity like investing in physical capital (Woodhall in Halse et al. 2003). However many sociologists have looked at investment and have come up with an analogy that investing in physical capital was the same as investing in human capital.

Psacharopoulos (1981), in his studies stated that the social returns or private returns are the highest among less developed countries and these help to raise people's chances of employment and increase their lifetime earnings. Offering children access to education, through "Learning at Taonga Market" where properly trained teachers and real situations are used, is ensuring a deliberate equality of opportunities. Achieving education for all, where you include marginalized populations, can only be achieved through offering compensatory education, such as the one offered by the IRI methodology. Not all the children can attend the same school because of some groups of people in society who seek and pay for 'preferential education'. However, education should be provided by the government, because education has potential to equip pupils with skills, values, attitudes and knowledge which will increase productivity of the future work-force, and should not be considered as a mere consumption.

1.8 LIMITATIONS OF THE STUDY

The study was limited to Lusaka and Eastern Provinces of Zambia only on few selected IRI centres, because of the limited resources on time and funds. The two areas were selected because they provided a good comparison since one of them was in the urban, while the other was in the rural and they had been very active since the inception of IRI.

1.9 DEFINITIONS OF OPERATIONAL TERMS

Human Rights: universal and fundamental freedoms and basic rights that every human being is entitled to in the constitution of Zambia and International human rights treaties to which Zambia is a party (Ministry of Health, 2004).

Interactive Radio Instruction: a form of learning by distance education, where lesson instructions are delivered through the radio using a radio teacher.

Illiterate: inability to read, write and do simple arithmetic; (researcher's definition)

Learning at Taonga Market: A name given to IRI learning in Zambia, to differentiate it from other IRI initiatives in Africa and other parts of the world (Mentor's Guide, 1999).

Mentor: A person who guides and interprets what the radio teacher teaches. He/she also marks pupils' written work and gives homework to pupils learning at Taonga Market- IRI Centre; (MOE, 1999).

Socialization: The process of learning by which persons acquire the knowledge, skills and dispositions that make them more or less integrated members of their society (Ezewu, 1993).

CHAPTER TWO: LITERATURE REVIEW

2.1 INTRODUCTION

This chapter discusses relevant literature on accessing education through Interactive Radio Instruction (IRI). This literature provided a deeper understanding of the subject matter under study. Education even for its own sake has always been sought by people of all ages. Before IRI was introduced community schools were used to reach children in remote areas with the support of community based initiatives. But these initiatives were founded on a poor foundation and could not capture all the out- of school and age-going children, and offer quality education (Mwansa, 1998).

2.2 ZAMBIAN EDUCATIONAL POLICIES ON ACCESSING EDUCATION FOR ALL

In 1965, soon after independence, the new Zambian government proclaimed the 'Free Education Policy'. The policy did justice to the many years of injustices inflicted on the Africans by the colonial masters who had been denying Africans equal access to education. They levied Africans education fees which were not proportionate with their earnings. The 1966 Education Act revisited the policy of fees and addressed issues of equity. 'Fee-paying' schools became 'scheduled' schools and 'non-fee-paying' schools became 'non-scheduled' schools. This resulted in an increase of about 30% of Zambian children, youths and adults entering well equipped schools.

The declining economy in the 1980s however, precipitated a reversal of things and more and more Zambian children could not access education (Kelly, 1991). In between 1966 and the multiparty system of 1991, a number of educational policies came up, to improve on the narrowing trends on access to education. The first major education policy, contained in the Educational Reform Document (MoE 1977) emphasized education, as an instrument for personal and national development.

The second major educational policy was 'Focus on Learning' (MoE,1992) and stressed that every person; child, youth and adult shall be able to benefit from educational opportunities designed to meet their basic learning needs". The 1992 Education policy in a nut shell, stressed mobilization of resources to educate 'all

people’. For some unknown reasons, the policy was hardly implemented. The third educational policy, ‘Educating Our Future’ (1996), was even more explicit as it emphasized the need to take power to the people, to the grassroots so as to capture all school going children. Basic education, holds promise for the reduction of poverty, ignorance and disease especially HIV/AIDS (MoE, 2001). In spite of the articulation of policies in education and their strategies Zambia is still fighting with a huge backlog of children and youths who cannot access education.

2.3 DAKAR FRAMEWORK FOR ACTION AND EDUCATION FOR ALL

The Dakar Framework for Action conference on education was meant to re-visit the earlier strategies made, and analyze the constraints or obstacles that hinder access to education. This was in view of the high illiteracy levels that were exposed both in Africa and elsewhere. All children especially those in deprived states were a priority to get some free and compulsory basic education.

People’s concerns for calling for increased access to education are well founded. In 2001, about 81 percent of the Zambian population was reported to be poor and living below the poverty datum line. This poverty was widespread, but it was more pronounced and severe among the rural populace (MCDSS, 2003). This level of poverty was aggravated by, among other things, high levels of illiteracy, more especially among women, girls, children and people with disabilities. Illiteracy is a major contributor that leads into other offshoots like disease, poverty, continuous ignorance and protracted marginalization. According to the Central Statistical Office, the 1990 illiteracy figures were as shown below:

	Urban	Rural
Literates	72.9%	45.4%
Illiterates	27.1%	54.6%

Commenting on the huge number of children that are not in schools, Zambia National Education Coalition (ZANEC), in the Times of Zambia (Times of Zambia 2005 June) states that, if today’s children do not get access to education, they will become tomorrow’s illiterate adults, and this would be a regression on the promise of the Dakar declarations of sending all children to school. This will make Zambia

continue sitting on the proverbial bomb of unskilled, unemployed and a discontented populace. Therefore, the means must be found to address access to education, such as distance education.

2.4 LEARNING BY RADIO

Learning by radio is not a recent development in Zambia and elsewhere. Snelson (1974) shows how the need to exploit the radio as a medium of educational instruction was foreseen even as early as 1939. Snelson (1974) citing the African Education Department Annual Report of 1939, reveals that experimental broadcasts were first made from Kitwe and Luanshya in the Copperbelt through an installation they named 'the public speech apparatus'. Snelson further states that, a small Government broadcasting station was set up in Lusaka in 1940, where the first schools broadcasts were made the following year in 1941, when Geography, civics, History, English and Hygiene supplements were aired.

The main objective of setting up the Department of Broadcasting Services was to *offer supplementary formal education to both primary and secondary pupils*, thereby improving the quality of education. This was done by providing information and materials, which were not available to the classroom teacher (MoE, 2005).

Elsewhere radio broadcasting began on a large scale in the 1920s, and has proven to be a universally popular and adaptable form of mass educator and communication. Across the globe, states Mayo, in Dock and Helwig (1999: 1) that "no other media has gained so much audience and acceptance because of its low production and distribution costs, as well as its credibility". He further indicates that radio broadcasting is the only medium that is usually locally owned and operated, and that community broadcasters were in a position to provide information in mother tongue. The use of mother tongue facilitates in meeting the needs of both the illiterates as well as those with little form of education, in areas like health, agriculture, politics, and so on. The last three issues are not adequately addressed on air. The above is an illustration of how potent the radio can be as an information-sharing medium and for enhancing literacy and basic education more especially in the remotest areas.

Over half a century ago many nations and policy makers have been attracted to the radio and the television, as a way of curbing the poor quality of education in schools. Third world countries have tried in recent years to redirect their education efforts towards the rural poor, recognizing the short comings of the colonial inheritance. Giddens (1993) cites countries like India that have promoted self help education, with communities's own resources to provide education. Those who were able to read and write were called upon to teach others.

Giddens, (1993) states that western nations know that the printed word and electronic communication, combined with formal teaching, have become fundamental to our way of life. He further states that you cannot afford to go back to pre- industrial societies, where schooling was available only to the few influential people who had time and money. Some of these were religious leaders or priests who were often the only fully literate groups to read and interpret sacred texts.

In modern societies, the media of mass communication are playing an increasingly important part in the socialisation process. Datta (1984) argues that of the television, motion picture, the press and the radio, the radio has perhaps the most pervasive influence, especially after the introduction of the battery-operated set. He further states that the radio has penetrated remote corners of every country of the continent. It is cheap to operate and programmes in many indigenous languages are available. Datta (1984) mentions surveys done in 1967 in Africa, which indicated that people in Tanzania, Nigeria, Ghana, and Zambia highly recommended the radio as the primary source of local, national and international news. As such, use of the radio, indeed has been seen to give more access of listening and undoubtedly reaches more people than any media.

O'Donnel (2002) states that, school does not only prepare people for world of work, but is also concerned with socialisation, which is passing on societal norms and values. In addition to the above concerns, is the issue of patriotism. Children who do not gain access to school grow up being alienated from a country's values and norms.

2.5 MAKING A CASE FOR ALTERNATIVE EDUCATION

Mumba (2002) observes that although there was a general expansion in the provision of education during the period after independence around the 1960s and 1970s, not all school-age-going children managed to enter school. Due to Zambia's declining economy of 1980s there was a high level of illiteracy among children and youths. In the following years, it was estimated that the highest illiteracy levels were among youths of 14–20 years and this was higher than that of older persons between 21–30 years and 31–45 years (Lungwangwa, 1999). Lungwangwa further states that according to a study carried out, the proportion of school age children in rural areas that did not attend school was 40%, while 20% was for those in urban areas.

Lungwangwa (1999) and Mumba (2002) advocating for the need to increase access to education, states that, although education in Zambia was free, it went only up to grade seven (7). From grade eight (8) to grade 12, all pupils paid for their education, dearly. Most pupils fail to access secondary education, hence more and more Orphans and Vulnerable Children, and other disenfranchised children are thrown back in the streets where they are relegated into illiteracy.

Mumba (2002) argues that limitations to formal schooling have been increasing over years. Many children country wide, have been growing up with compromised opportunities to access education, least to achieve it. In 1991, 498,000 school age-going children were not in school compared to 1,494, 817 who were in school, in Zambia. This number by 1996, according to Lungwangwa (1999), increased by 650,000 for those not in school compared to 1,506,560 who were in school.

The importance of accessing education by all cannot be under played. The MoE officials point out that apart from learning rudiments of 3Rs, education also plays a crucial role in the fight against HIV/AIDS pandemic and poverty. "Education helps to improve people's health and economic status," (Times of Zambia, 2006). "Non-formal education especially in Zambia should be encouraged because it derives its importance from limited capacities of the formal school system" (Mumba 2002:5). Supporting the above, Lungwangwa (1999) observes that due to the limitations in offering basic education and learning opportunities to all children, paths to basic

education are varied depending on the target group and circumstances prevailing in each environment and country.

Prior to the establishment of IRI in Zambia, there were community schools supported by UNICEF. These schools were set up to respond to needs of the less privileged children and OVC, around the 1990s. Durston (1996) identifies three types of community schools: those wholly owned by communities, those that began as community initiatives but now have assistance from MoE; or have been taken over by MoE; and Government schools with effective community participation.

By 1997, there were 120 such schools with total gross enrolment of 19,050 pupils (Mumba, 2002). However, Mwansa (1998) observes that these community schools had professional weaknesses in that, the staff were mostly untrained and had no supplements to enhance teaching. Supply of learning materials was also poor and of poor quality. It was this realization that community schools were not capturing all school-age-going, hard to reach children, that IRI was launched in July, 2000.

2.6 INTERACTIVE RADIO INSTRUCTION

IRI projects have now been launched in many countries, since the Nicaraguan IRI methodology launch, in 1974. The application can be found in Asia, Latin America and Africa, with the support of national and international agencies like USAID (Mayo, in Dock and Helwig, 1999). “The original model was developed for teaching mathematics in Nicaragua, by a team from Stanford University in collaboration with Nicaraguan educators during the early 1970s” (Dock and Helwig, 1999:7). The team looked at combining the low cost and broad reach of the radio medium and a clear understanding of how people learn. Since then, many countries, Zambia included, have developed IRI programmes for a variety of subjects, audiences and learning environments such as early childhood development, and adult basic education for learners of all ages.

The use of technology to deliver direct instructions for educational purposes has been one of the most compelling and forward- looking ideas on accessing education and attaining educational development. Chapman, in Hartenberger and Bosch

(1996) argues that interactive radio instruction offers a means of reaching large numbers of learners with quality education at a relatively low per-student cost. Not only does IRI offer the above, but also the learning resources that are not immediately available or not in the classroom, like sounds of animals, waterfalls, people, cars and many more, plus any additional and latest information are presented, and helps the teachers in their preparations and delivery of knowledge.

Experiences are abounding in the use of the radio as a tool for providing more access to education. Mayo cites the Australian case, in which around 1951, extending primary education to isolated rural children was achieved through “Schools of the Air” initiative. The programme was a form of home schooling, augmented by regular radio contacts between distant teachers and students. In this initiative, parents checked the work and the feedbacks were maintained among pupils, radio teacher and parents.

Dock and Helwig (1999) in making a case of experiences that are offered by IRI, note that IRI is distinct from most other forms of distance education, in that its goal is two fold, namely; it is designed to address the access issue as well as improve educational quality. They further argue that IRI was initially used as a classroom tool to counteract low levels of teacher training, poor achievement among learners and limited resources. However, IRI has also demonstrated that it can be used to expand access and increase equity in formal and non- formal educational setting.

O’Donnel (2002:81), supporting the use of media or TV, states that “watching particular television programmes becomes an important method of acceptance. . . and the role models are instantly available”. He further states that “the use of television and other forms of electronic media means that mass communication, both verbal and visual, are made more pervasive and persuasive than ever before”. Jackson, and Marsden in O’Donnel (2002:84) in their study “*Education and the Working Class*” add on as they state that “children from lower manual working class, and subsistence farmers come to school already disadvantaged and this disadvantage normally continues”. Because the children come disadvantaged, they are greatly helped when they learn in an ‘elaborated code’ which is often used by the media.

Indhira Gandhi National Open University (IGNOU) made humble beginnings of broadcasting radio programmes for its students in 1990 (IGNOU, 1998). Khan and McWilliam (1998), stress that radio is not a new generation technology, for most learners, as it has existed for a long time. It has the power to capture interest, hold interest and persuade the masses, as it transmits facts and information. In India, for example, IRI has been used for the last four decades.

Awake (June 8, 2005), shows that, the use of electronic media is replacing the green or black board. In America, Mexico, over 21,000 primary schools use it. The article indicates that, “this helps children to pay more attention, learn and participate more”.

Several times people argue that building more schools and training many more teachers is the solution to increasing access to education. However, available statistics show that urban schools are over staffed because they get a big share of trained teachers and this leaves rural schools yawning for teachers (MoE 1993, circular ME/101/3/21). Badcock (2001) also adds that, the HIV/AIDS epidemic was a challenge to the education sector.

2.7 CASE STUDIES OF IRI INITIATIVES IN OTHER COUNTRIES

LESOTHO

Prior to 1980s, it was observed that many children in Lesotho did not continue past fourth grade. The children dropped out while struggling, or failed grade four because they had not mastered enough English which was the medium of instruction. Then by some stroke of luck, the United States Agency for International Development/Lesotho invited a group of Basotho educators to attend a conference to celebrate completion of the Radio Language Arts project (RLA), an IRI initiative in Kenya.

There after, the Basotho developed their own IRI methodology between 1985 and 1991, which they called “Lets Learn English”, with funding from United States Agency for International Development/Lesotho. The technical assistance was

provided through United States Agency for International Development's Basic and Non-Formal Education Systems (BANFES) project. The programme of "Lets Learn English" was aimed at improving the English language in schools. It was estimated that 200,000 learners listened to that programme each year.

The sustenance of this programme has been done with the help of the Lesotho Government which imposed a tax levy and created loyalty for it by introducing the programme as part of the national curriculum sustained by regular staff. School supplies are delivered on time to schools and air-time paid for by government to ensure students are ready to learn.

Some of the lessons learned from the Lesotho IRI, which has been running over one and half decades now, are that:

1. When you plan for institutionalisation, learn to learn from strategies developed by other countries.
2. Sustaining a long programme has its own problems like not involving teachers.
3. Planning recurrent costs to cover contact with teachers in the classroom is essential if continued commitment and evolution of the programmes is to be continued (Dock and Helwig, 1999).

SOUTH AFRICA

In South Africa, the IRI took on the name "Increasing the Role of the Teacher". This began in early 1990, when South Africa began the process of dismantling apartheid and it became clear that the importance of English language literacy would assume greater prominence in the anticipated democratic dispensation (Dock et al. 1999). It was further noted that English would enable the then marginalized/minority groups to considerably increase their social mobility, a viable livelihood, and lessen their isolation to strengthen, and create the new South Africa.

The USAID, through its support of South African NGOs, provided a lot of data on projects that used the IRI methodology elsewhere as a means to language

acquisition. The Open Learning Systems Education Trust (OLSET) an educational NGO in Johannesburg, was given funding from USAID/South Africa and Norwegian Aid for Development (NORAD) to develop IRI English in Action (EIA) programme, partially adapted from the original Kenyan programmes. A pilot was developed and implemented in 1991 and 1992 with support from Education Development Centre of USA.

The OLSET is well organised and the EIA programme enjoys enthusiastic reception in schools located in historically disadvantaged areas of Kwa Zulu Natal. It is documented that by 1997, there were 2,154 classroom units enabling over 100,000 children to participate in 'English in Action' (EIA) programme, double the number for 1996. Class teachers are given more latitude for example, to translate into mother tongue throughout the programme. The IRI has spread to the entire junior primary and are broadcast by the South Africa Broadcasting Corporation (SABC) free and by the Community Radio Stations.

On means of sustainability, a research project done by Cobbe (1995), proposed that a minimal approach to teacher training would jeopardise the sustainability of the programme, indicating that more in-services and pre-service trainings were important. "Schools receiving EIA received all IRI ingredients; radio, broadcasts, materials, and regular supervision and training" (Dock and Helwig et al. 1999:23).

Lessons learned from South Africa's IRI are that:

1. Programmes like OLSETS and EIA can benefit enormously from experiences of other countries.
2. Training and contact with the classroom teachers are vital to life and sustainability of the programme.
3. It is important to identify hidden and free services (such as air time) that may be part of initial start-ups support package but may have financial implications in the long term.(Helwig et al.1999).

OTHER COUNTRIES

Other IRI programmes have been developed in Bolivia in 1986 for Radio maths; In Kenya it was developed in 1980 for Radio Language Arts–English; In Nicaragua Radio Maths was developed in 1974, and had been successful. The Venezuela case has been unique in that it developed and was “implemented for six years almost entirely by Venezuelans themselves with a loan from World Bank” (Dock and Helwig 1999:23). The Venezuela MoE established the semi-autonomous centre for upgrading Science and Mathematics Education (CENAMEC) in the 1980s, in response to national concern over low student performance in maths and science. The pilot project done among few schools in poor neighbourhood of Caracas, proved to be very successful. “A full scale 140 half hour lessons for second- grade and 135 lessons for third- grade, reached 300,000 students in 12,000 classrooms in 15 of the 23 Venezuelan states by 1996/97” (Dock and Helwig 1999:23). In 1997/98, the pilot was expected to reach 600,000 students, making the Venezuelan programme “Maths Is Fun”, the largest current IRI project then.

2.8 THE EFFECTIVENESS OF IRI

Evidence produced from Honduras, showed that “Basic Education for All students involved in IRI showed lower attrition rates than did students in traditional classroom (Carrels, 1995).

What started as an experiment in Nicaragua in the early 1970s to teach Mathematics to primary school age pupils has spread to include subjects such as health, environmental education and teacher training. It has also spread to audiences as distinct as adults and to children under the age of six. After thirty years of experience with thousands of listeners, IRI can claim to be a broad educational tool which has the ability to adapt its methodology to needs of its recipients. Compared with other educational interventions in developing countries such as textbooks and in service training, researchers found that IRI consistently ranked among the highest in effectiveness (Lockhead and Hanushek, in Dock and Helwig, 1999). With such successful stories, Zambia undertook the development of an IRI version named “Learning at Taonga Market”. The studies on IRI done in other countries were carried out to advocate for increased information sharing and for education.

These studies proved a success as there was adequate funding from donors or through loans from World Bank. In many of the countries where IRI was introduced, there came a general concern that mentors needed to be formerly trained, and that local radio stations needed to be partners in airing lessons for increased reach.

This study was aimed at finding out whether the IRI methodology could hold the same dreams for Zambia. It was also aimed at finding out the Zambian experiences and how many children have accessed education through the IRI mode of education delivery, after six years of launching the IRI programme in Zambia.

CHAPTER THREE: METHODOLOGY

3.1 INTRODUCTION

This chapter outlines the methodology used in this study. It describes the processes used in collecting data and analysing it. Justification for employing various quantitative and qualitative approaches has been shown. In so doing the chapter has shown how different paradigms have complemented each other. The chapter also includes the challenges and limitations met in the study.

This study was set to find out whether IRI (Interactive Radio Instructions) methodology can increase access to education and thus contribute to meeting the second Millennium Development Goal of 'Education for All' (EFA). It focussed specifically on access at primary school level in two districts of Lusaka and Eastern provinces, namely; Lusaka and Chipata.

3.2 RESEARCH DESIGN

This study used both quantitative and qualitative approaches in the data collection processes and analysis. The two approaches were employed as a guide for collecting data. The qualitative approach was to help in obtaining the insiders' view, and to understand the felt experiences of respondents.

The quantitative approach was used to get statistical information and to measure the magnitude of the acceptance of the IRI methodology among communities, mentors and the MoE/EDC officials. as shown in the ensuing paragraphs.

3.3 POPULATION

The population of this study was 566 subjects. It comprised of 320 pupils in 8 IRI centres, 200 parents, 30 education officers providing the IRI programmes and 16 mentors in Lusaka and Chipata Districts.

3.4 SAMPLE POPULATION

The study sample population consisted of 80 pupils, 80 parents, 15 Education Offices, and 8 mentors from 8 IRI centres.

3.5 SAMPLE SELECTION PROCEDURE

A sample of four (4) IRI centres was selected from Lusaka District and another four (4) in Chipata District using simple random sampling method. IRI centres in Lusaka and Chipata Districts were clustered into either urban or rural. From each cluster under each district, two (2) centres were randomly selected from the urban areas, while the other two (2) were from the rural areas. These two districts were selected on the basis on their location, namely; that one was in (Lusaka) the cosmopolitan area, while the other was in (Chipata) the rural area. This was to come up with a balanced view.

A sample of fifteen (15) education officers from MoE were picked as a sample from a population of 30 officers, using one of the non-probability sampling procedures called “purposeful technique” to participate in the research. These officers had unique characteristics of being strategic or critical officers in the development of learning and teaching materials, lessons, and in the funding and the implementation of the IRI programme.

Another sample of eighty (80) pupils was selected from the eight (8) simple randomly selected IRI Centres with the help of mentors. The pupils selected were given pieces of papers on which “YES” or “NO” were written. Five (5) papers written “YES” were meant for girls and the other five (5) written “YES” were meant for boys, the rest of the pieces of papers had “NO” written on them. All those who picked “YES” became the sample among girls and boys. The same process of selecting pupils was applied at all the eight (8) centres where 10 pupils were selected at each of the IRI centres. Chipata District had a total of 40 pupils from four (4) IRI centres. Lusaka district also had a total of 40 pupils from four (4) IRI centres, making a total of 80 pupils selected as the sample for pupils.

Parents who were selected as part of the from the eight (8) simple randomly selected IRI Centres were eighty (80). The parents were chosen through their children who were pupils in the centres. All the 80 pupils who were picked as the sample were told to go and tell their parents or guardians to attend the focused group discussion. Each of the eight (8) centres had 10 parents (that included the two members of the Coordinating Committee), for the Focus Group Discussion, making

a total of eight (8) Focus Group discussions. Parents were involved in this study because they are major stakeholders or partners in the provision of education to children in their communities.

A sample of eight (8) mentors at each of the selected IRI centres, were picked as part of the research. The mentors selected were those teaching grade ones and twos at each centre. These mentors were picked using one of the non-probability sampling called ‘convenience or purposeful technique, to participate in the research because all centres have only one mentor teaching or mentoring grade ones and twos. They are also in charge of IRI classes and manage centres to deliver and help increase access to education.

Table 1: Sample selected by category and gender

Category	Sex	
	Female	Male
Ministry of Education officials	7	8
Mentors	4	4
Pupils	40	40
Parents	54	26
Total	105	78

3.6 RESEARCH INSTRUMENTS

Various instruments for collecting data are available. However the instruments that were used in this research for gathering data were the questionnaires and Records for quantitative data; interviews, Focused Group Discussions, and observations for qualitative data. The instruments used in the research are explained below and justification given why they were chosen.

3.6.1 The Questionnaires

Questionnaires as a tool for collecting data were used on the fifteen (15) Ministry of Education officials and for the eight (8) mentors. There were two different questionnaires constructed for all education officials and mentors. The questionnaires were distributed and collected by the researcher personally after

giving the education officers ample time in which to fill in the questionnaires. The questionnaires for mentors were also given in person by the researcher. Each mentor was given a full day to fill in the questionnaire at each centre and collection was done the following day. This research used the questionnaires for their meritorious properties which outweighed the demerits for the type of respondents in this research. These properties were that, the questionnaires were economical and gave room for officers to give their perceptions freely. They also ensured anonymity especially for mentors who gave some responses which were of sensitive and confidential nature.

Further more, the questionnaires were used for the above subjects because the subjects were considered to be literate and could fill in the responses on their own. The fact that they were self – administered quickened the process than other data collecting techniques. Not only that, using standardised and same questions meant that, it was easier to yield comparative data among the groups involved. All the questionnaires that were given to the 15 Education Officers and the eight (8) mentors were all collected by the researcher.

3.6.2 Focus Group Discussion

The Focus Group Discussion was used for the parents of children that were accessing education in the selected IRI centres. The instrument used to accomplish the Focus Group Discussion, was the semi-structured interview guide. The choice for this approach was based on the considerations that some parents might be illiterate, or may not have the time to collect questionnaires and fill them in and be able to return them in good time to the researcher, since the communities consisted of either subsistence farmers or sellers in markets or those doing other odd jobs. Coupled with the above reasons for the choice, the Focus Group Discussions made it possible to informally collect data as no writing was being done.

The Focus Group Discussions were seen to be flexible and interactive; they also offered the researcher an opportunity to engage participants more closely in a frank, face to face encounter, giving the researcher access to the parents' hopes, aspirations and personal thoughts. They also made it possible for the researcher to collect invariable data from the non-verbal communication tools, such as gestures,

facial expressions, as well as verbal involvements. The flexibility of the Focus Group Discussion made it easy for clarity to be sought from either the researcher or the parents. The responses were written down during the discussions.

Eight (8) Focus Group Discussions were held, one at each of the eight (8) selected IRI centres and the turn-out was very good at all the eight (8) centres. Four (4) discussions were held at four (4) IRI centres in Chipata District, and the other four (4) discussions were held in Lusaka District at four (4) IRI centres.

3.6.3 Interview

The interviews administered to pupils were made possible through the use of a semi-structured interview schedule. The interviews made it possible to get primary data from 80 pupils, 10 from each centre. This data helped the researcher to understand the felt experiences of the pupils over learning in IRI centres. Their perspectives therefore became an important aspect of this research. Eight (8) different interviews were held, one at each of the eight (8) selected IRI centres for pupils.

The choice of this technique was based on assumptions that the pupils that formed the sample would be semi-illiterate. The Interview technique, like the Focused Group Discussion, was found to be flexible and gave room to changing the mode or style of questioning, when the mood or situation demanded. Unclear and difficult questions and responses were possible to be rephrased and put in their right perspectives. Apart from this, the interview was chosen because children in the grades stated are good at oral responses and were in a position to express their feelings in an adulterated form – thus indeed giving first hand information as they felt. The eight (8) interviews, one (1) at each centre also offered the researcher the opportunity to engage participants more closely in a frank, face to face encounter, giving the researcher access to what was pertinent from the pupils' thoughts.

3.6.4 Observation

The researcher found it imperative to physically sit and mingle with the pupils during radio lessons as the various activities went on. This was inevitable as a way of ascertaining whether the responses got from parents in the focused group discussion, education officials and mentors in the questionnaires, and pupils

themselves in an interview, correlated with the reality in the classroom situation. From the classroom observations sampled in different centres among pupils, it was noted that observations gave the researcher detailed description of how radio lessons progressed. The researcher made observations on interactions between pupils and the mentor; between the radio teacher and pupils, and among pupils themselves to ascertain how learning went on. The benefits from the radio and the role of the mentor were identified. Observations allowed the researcher to blend in the situation in unobtrusive manner, taking in all details said and unsaid. The observation technique thus became complementary to other instruments of data collection used in this research such as the questionnaire, interview and focus group discussion and documentary review.

3.7 DATA ANALYSIS

Both quantitative and qualitative techniques were used in analysing data. Quantitative data analysis mostly from questionnaires, in which data was to be represented in figures, involved use of SPSS (Statistical Package for social Sciences) in which responses were put into frequencies, percentages, pie charts, tables and graphs.

Qualitative data mostly from Focused Group Discussions involving parents and interviews administered to pupils were analysed manually by explaining and describing using narratives, and simple frequencies, tables and percentages. The same process of putting data into common themes, classifying information and giving them meaning had been followed. Some raw data was also presented in its raw form more especially the data as expressed by parents and pupils vividly, with emotional attachments. This was important to give credence to the study, also because meaning as attached by the owners often gets lost when reduced to figures.

CHAPTER FOUR: PRESENTATION OF FINDINGS OF THE STUDY

4.1 INTRODUCTION

This chapter presents the findings of the study whose aim was to ascertain the extent to which IRI increased access to education for all. The chapter has dealt with responses from questionnaires administered to fifteen (15) education officials and eight (8) mentors. This chapter has further dwelled on findings from Focused Group Discussions of eighty (80) parents and Interviews of eighty (80) pupils.

The findings in this chapter have been presented by using percentages, frequencies and in some cases tables. Salient points have been included from the above mentioned respondents. For easy flow of the results, this chapter has been divided into sections according to the main categories of respondents who participated in the research as follows:

- 4.2 Mentors' background and responses;
- 4.3 Ministry of Education officials' position;
- 4.4 Documentary review.
- 4.5 Parents' perceptions towards I.R.I;
- 4.6 Pupils' background and characteristics;

4.2 MENTORS' BACKGROUND AND RESPONSES

The study had sought the reactions and perceptions of mentors in few selected IRI centres. These are the people employed by communities to mentor or teach children in Learning at Taonga Centres. Below are their characteristics and perceptions:

Table 2: Marital statuses of mentors

Marital Status	Total	Percentage
Married	5	62.5
Single	2	25.0
Widowed	1	12.5
Total	8	100.0

As the table shows, 62.5% of mentors were married, 25.0% were single and 12.5% widowed.

Table 3: Distribution of the mentors in the study by age

Age Range	Frequency	Percentage
21 – 25 years	2	25.0
26 – 30 years	3	37.5
31 – 35 years	-	-
36 – 40 years	2	25.0
40 years above	1	12.5
Total	8	100.0

Out of a total number of eight (8) mentors from the eight IRI centres as shown above, 37.5% were between 26–30 years old, 25.0% were between 21–25 years old, and another 25.0% were between 35–40 years old. The remaining 12.5% was above 40 years old. There was no one in the age range of 31–35 years.

Table 4: Educational levels of mentors

Payment	Frequency	Percentage
Grade 9	1	12.5
Grade 12	5	62.5
ZATEC trained	2	25.0
Total	8	100.0

62.5% of the mentors had gone up to grade 12. 12.5% had gone up to grade nine. 25.0% of the mentors that had received formal training and had Zambia Teacher’s Certificates.

Table 5: Form of payments mentors received from communities

Payment	Frequency	Percentage
Food	1	12.5
Token in money	3	37.5
None	4	50.0
Farm labour	0	0
Total	8	100.0

From the above table, 50.0% said they received no payment, 37.5% said they got small tokens of money, 12.5% said that they receive food as payment. And no one indicated that they are paid through farm labour. Mentors added that they were not considered to be in full-time employment, but were considered as community volunteers.

Table 6: Challenges in the use of the IRI methodology by mentors

Response	Frequency	Percentage
Lack of permanent structures, support and readers	2	25.0
Lack of readers	4	50.0
Poor reception and lack of readers	1	12.5
Lack of permanent structures, support and lack of readers	1	12.5
Total	8	100.0

Table 6 above shows that the majority 50.0% mentors indicated lack of readers, as being a major challenge while 25.0% indicated lack of permanent structures, adequate support and readers as challenges. One mentor, 12.5% indicated poor reception and lack of readers while yet another (12.5%) said lack of permanent structures, support and lack of readers as challenges in the use of IRI methodology.

Table 7: Age- ranges of pupils that attend classes in IRI centres

Age (in years)	Frequency	Percent
5 – 10	2	25.0
5 – 15	2	25.0
5 – 20	4	50.0
Total	8	100.0

The table shows that 50% of the mentors stated that the pupils in IRI centres fell in the age range of between 5-20 years old. 25.0% of the mentors said that the pupils in IRI centres are between 5-15 years old and the remaining 25.0% said that they fell between 5-10 years old.

4.3 MINISTRY OF EDUCATION AND EDC OFFICIALS'S POSITION

The table below shows the distribution of the Education Officers in the study. The above were senior officers who were very instrumental to the development and implementation of the IRI programme as well as the production of learning materials and lessons.

Table 8: Distribution of Education Officers

Department	Frequency	Percentage
Directorate of Distance and Open Education	12	80.0
Education Development Centre	3	20.0
Total	15	100.0

Three (20.0%) officers were from Education Development Centre (EDC), while 12 (80.0%) were from DODE.

Table 9: Period of Education officers in their positions

Duration	Frequency	Percentage
1 –2 years	04	26.7
3– 4 years	08	53.3
5 – 6 years	03	14.3
Total	15	100.0

8 (53.3%) of Education officers who responded to the questionnaires, had been in their positions for about 3 - 4 years. Another 4 (26.7%) had been in their positions for at least 1-2 years. The rest, 3 (14.3%) had been in their positions for at least 5-6 years. About four officers had been in their positions for a short period.

Table 10: Length of the IRI methodology in Zambia

Duration	Frequency	Percentage
2 years	0	0.0
4 years	1	6.7
6 years	11	73.3
8 years	3	20.0
Total	15	100.0

73.3% of the Education officers said that IRI had been in Zambia for six (6) years; 6.7% of them said for four (4) years while 20% of the officials said that IRI had been in Zambia for eight (8) years. The differences in responses are due to the fact that some officers were quite new in their positions, and were not very sure of how long IRI had been in Zambia.

Table 11: Target group for the IRI Methodology

Target Group	Frequency	Percentage
OVC	9	60.0
Both adults and children	6	30.0
Total	15	100.0

The above table shows that 60% of Education officers indicated that IRI centres were for orphans and vulnerable children, while 30% officials felt that the centres catered for both children and adults in need of education.

Table 12: Quality of education offered by IRI

Response	Frequency	Percentage
Adequate	11	73.3
Not adequate	4	26.7
Total	15	100.0

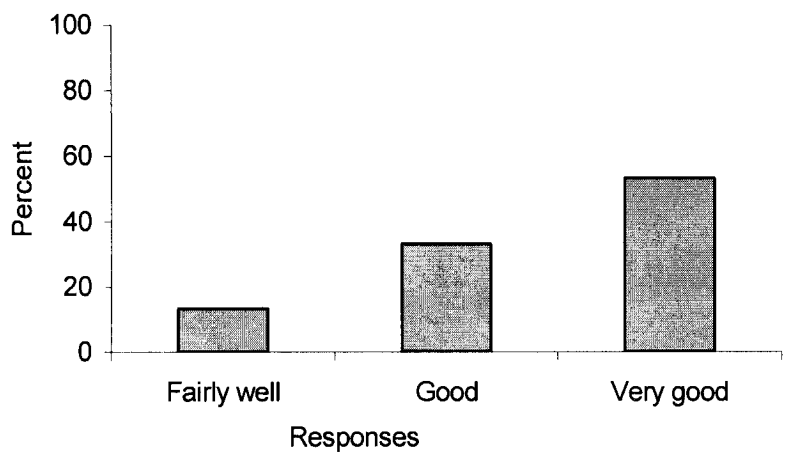
The table shows that, 73.3% of the officers from the education sector indicated that the quality of education offered in IRI programme was adequate, while 26.7% of the Education officials said the quality was not adequate.

Table 13: Cost- effectiveness of IRI methodology

RESPONSE	FREQUENCY	PERCENTAGE
Yes – cost effective	12	80.0
Not cost effective	3	20.0
Total	15	100.0

80.0% of the officers said that the IRI methodology was cost- effective as a mode of education delivery, while 20.0% indicated that it was not cost-effective.

Figure 1: Acceptance of the IRI methodology.



The figure shows that over 55.0% of the education officials said that the acceptance of IRI was very good. Another 33.0% said that the acceptance was good, while the last 12.0% said the acceptance was fairly well.

Table 14: Challenges in using the IRI methodology

Responses	Frequency	Percentage
Lack of readers and text books and other learning materials	11	73.3
Programmes not aired due to technical problems	1	6.7
High turn over of mentors	3	20.0
Lack of adequate support from communities	7	46.7
Lack of permanent structures.	4	26.7
Poor reception especially in the rain season	1	6.7
Inadequate radios	0	00.
Total	27	100.00

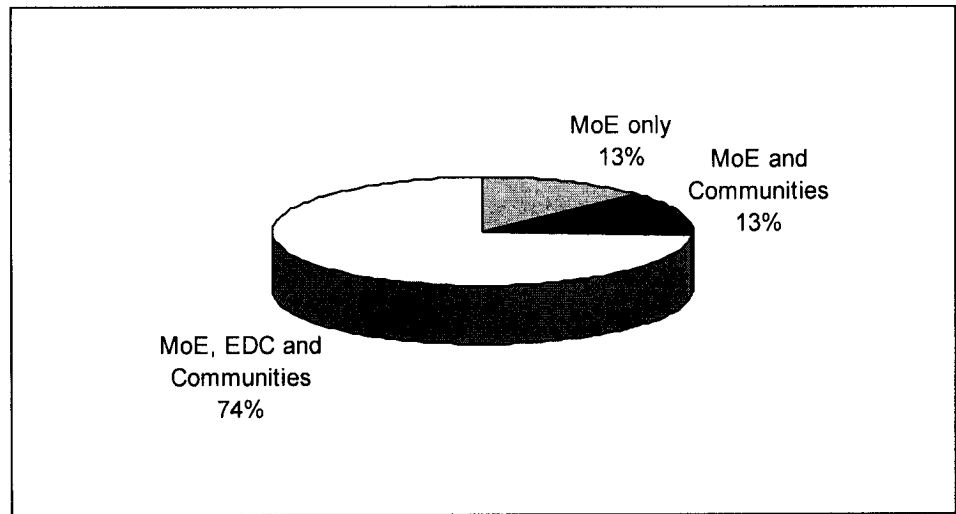
As can be seen from the table above, 73.3% cited lack of readers and other learning materials as the biggest challenge. This was followed by 46.7% of respondents who

said that there was lack of adequate support from communities. 26.7% said that there was lack of permanent structures. The next 20.0% of respondents cited a high turn-over of mentors, this was followed by 6.7% of three groups, each citing ‘programmes not aired due to technical problems, poor reception in rain season and inadequate radios respectively.

NOTE: Note that the total number of responses does not equal to the total number of fifteen (15) education officers, because some respondents gave more than one response.

A question was asked to MoE, and the mentors on who monitors IRI centres to ensure that quality learning was taking place. Below are the responses:

Figure 2: Monitoring and evaluation of IRI centres.



As shown above in figure 74.0% of the Education officials said that monitoring and evaluation was conducted by MoE, Education Development Centre and the communities. Another 13.0% said it was done by MoE and the communities, while the last 13.0% indicated that it was done by MoE only.

4.4 OBSERVATIONS FROM EDUCATION OFFICIALS AND MENTORS

4.4.1 Acceptance of IRI- approach as an alternative for accessing education

All the eighty (80) parents, eight (8) mentors and fifteen (15) education officials in this research said that IRI had been accepted as an alternative mode of accessing education and contributing towards meeting “Education for All”. But in terms of degrees of acceptance, education officials responded with answers given above.

When asked how many pupils had accessed education since IRI inception, 15 education officials and eight (8) mentors all indicated that since the inception of IRI methodology in Zambia, over 40,000 children had accessed education using “Learning at Taonga Market Centres”, as the programme is popularly known in Zambia. However, the Ministry of Education and Education Development Centre documents showed that the actual number was 56000 of children that had accessed education throughout the nine (9) provinces of Zambia, at the time of this research. The MoE/EDC officials further stated that when IRI started in 2001 on full scale, 7,782 pupils had accessed education, giving a progression rate of about 86.1%. (MoE/EDC 2006)

Further data from Document review showed that although girls were systematically excluded from learning opportunity in most conventional schools, in IRI centres, it was found that there was an equal participation of both girls and boys because of the flexibility and atmospheric friendliness of the methodology. Data from the reviewed document shows that 50.5% of learners were females, while 49.5% were males by 2005.

4.4.2 Any other additional training mentors receive for handling IRI centres

Apart from the data given in the tables, mentors indicated that they had all received some training on how to handle pupils and radio lessons in IRI centres. It was heard that, the training received was in form of workshops, seminars and in-house training by radio, organised by Education Development Centre (EDC) and MoE. They mentors further stated that without the above training they would have been finding difficulties as to which methods or strategies to employ on pupils. Mentors said that

being trained and knowing the methodology had made them competent and effective mentors.

4.4.3 Mentors' motivation for teaching in IRI Centres

On the average, most of the mentors disclosed that they had been working in IRI centres for three years and above. They also stated that working in IRI centres had given them the opportunity to get rid of 80% illiteracy among school-going age children, in their communities. The mentors said that they made a decision to be mentoring in IRI centres because they wanted to help the vulnerable children, to keep children off the streets and give them some education. When asked why they were motivated to mentor in IRI centres, one Nangombe IRI male mentor said:

I was attracted because the lessons were well designed and easy to follow so I decided to start teaching since from the time I finished grade twelve I have had nothing to keep me busy.

Other mentors were motivated into mentoring in the IRI centres because they wanted to help get rid of illiteracy. They said that there was too much “umbuli” (too much ignorance and backwardness) in their areas. One young grade 12 male school leaver said;

Because of love for my community I was compelled to start teaching. It is also going to help me when I finally go into a teaching college after next year.

In answering the question on the statuses of learners that were in IRI centres, it was disclosed that most of the pupils in IRI centres were a combination of single orphans, double orphans, those who live with parents, and those who come from ordinary average families in both rural and urban areas.

4.4.4 Attitudes of parents and communities towards IRI from the mentors' view

In answering the question about the attitudes of parents and the communities, towards “Learning at Taonga Market”, all the eight mentors, stated that parents and the communities were very happy to be sending their children to the centres because

their children were performing well. They said that parents came to tell mentors that their children were able to read and write very fast and better than some of the pupils in regular schools. Mentors noted that, because of the progress parents saw in their children's performance some of the parents and communities supported the programme in the best way they could manage. Mentors further noted that, some parents were very appreciative of the work of IRI mentors, but due to their own high poverty levels, some parents' support to some IRI centres was visibly negligible.

4.4.5 Type of Curriculum followed in IRI Centres

All the fifteen (15) education officials and the eight (8) mentors in the study stated that the curriculum followed in IRI centres consisted of all the six core six (6) subjects which were also taught in conventional schools.

They said that the six core subjects taught were: Mathematics, English Language and Literacy, Social Studies, Zambian language, Science, and Moral and Spiritual Education. These subjects were the same as those that constituted the Ministry of Education official Curriculum. Education officials further mentioned that as by 2006, the MoE had incorporated 'New break Through To Literacy' (NBTL) for grade one, 'Step Into Teaching English' (SITE) for grade two and 'Read On Course' (ROC) for grades three (3), to the Curriculum of the IRI methodology.

The Education officials further said that as part of the curriculum, pupils in IRI centres were also taught HIV/AIDS and Life skills. It was mentioned that the need to include two extra subjects of HIV/AIDS and Life Skills was in view of the challenges that HIV/AIDS poses to communities and the Education system. Over the reasons for teaching HIV/AIDS and life skills in IRI centres, Education officials and mentors said that life skills prepared learners to be assertive; equipped pupils (the mentors and the communities included) with skills for meeting challenges of life posed by HIV/AIDS and other vices; gave chance to all the communities where IRI centres are to be equipped with information on HIV/AIDS; and learned psycho-social skills for survival especially that they are a vulnerable group as minors.

In table 15, page 49, (80%) of education officials had indicated that the IRI methodology was cost effective. When these Education officials were further probed, as to why they thought that learning by radio was cost-effective, the 12 (80%) officials who had said yes it was cost effective argued that; the cost of providing education for one (1) IRI centre was the same for all the IRI centres in the country; it cost 3.00 US dollars per child per year to educate IRI pupils; the infrastructures used in IRI approach were simple and cheap, but building schools is costly and takes long, and children will have to wait for the construction of the new schools to finish, before they could access education; mentors are not salaried employees, they were volunteers within their communities, an aspect which made education cheap in IRI centres; there were no user fees, nor need for uniforms in IRI centres; the cost of educating one pupil under IRI was lower than that of educating a pupil in a regular school where it cost about K500, 000 per child per year; and the radios used were self-winding and did not require electricity, nor batteries.

But those (20%) education officials who had indicated that learning by radio was not cost-effective, argued that; if the quality of learners graduating from the centres is poor, then learning by IRI was a waste of resource. They also felt that the cost of airing lessons was expensive.

4.4.6 Issues Education officials would like to handle differently in IRI centres

Education officials mentioned that they would like to handle certain things differently as individuals, in the running of IRI centres if they were given a chance. The Education officials gave a number of suggestions. One of them was to print more text books and readers for pupils to complement radio teaching. There was also a general feeling that there was need to give mentors an allowance or salary to sustain their livelihood. Developing better strategies with MoE for mentor relationship was the main concern by EDC officials. All the education officials said that integrate radio broadcasting with television broadcasting and pupils' learning materials would strengthen the methodology.

Other things they wanted added to what was happening in centres was the need to give all pupils in IRI centres more school requisites like books and pencils, and to increase the time allocated to lessons on air, from the current thirty (30) minutes to forty five (45) minutes or more. The last, but not the least concern they would handle differently, was to build proper shelters in IRI Centres for pupils to learn from, and give grants to IRI centres as is the case with community schools and regular schools.

4.4.7 Preferred improvements mentors would like to make to the provision of education through IRI

According to the mentors, the use of the radio in increasing access to education was a good and an ideal means of reaching the remote and neglected areas of Zambia.

The mentors, however, indicated that there were a number of major challenges they would like to address in the provision of education in IRI centres, if they were given a chance, and gave the following: Sometimes pupils are too many against one radio per class. Classes should be split and more radios given per centre; there are no supplementary readers in the centres, the MoE or any partner or donor should provide readers for pupils to take home in order to improve their reading skills; permanent structures and furniture should be provided in “Taonga Market Centres”, unlike the church buildings, old shops and other shelters (*“insaka”* in Cibemba) where learning sessions are conducted; lack of allowances for the work done for communities. They said that even the so called volunteers from Europe were given something to live on, because they did not see them looking like destitutes; sometimes the radio teacher was too fast for them to follow, the radio teacher should slow down and time should be increased from the current 30 minutes to 45 minutes or more, for each lesson, to accommodate questioning and answering sessions for the learners; recorded tapes should be sent or kept at the MoE offices in districts to enable repetition of some difficult lessons and that; they were waiting for grade six (6) and seven (7) IRI mentoring to be introduced as well, because some of the pupils had got used to the IRI methodology and were dropping out when they could no longer learn by radio, and due to distances.

4.4.8 Future prospects for the IRI Methodology

When asked whether there were any future prospects for the IRI methodology in Zambia, the education officials indicated that IRI had a lot of potential to reach many OVC. Even adults could be reached for educational purposes, like adult literacy. They further stated that the numbers being reached by IRI could be enhanced if more community radio stations came on board to air lessons. These officials further reiterated that IRI could be used to improve teaching and learning in many basic schools, all it needed was a deliberate increase in funding from the government. They also stated that IRI had potential to enhance learning in regular classes including secondary classes. Some pointed out that, as long as the MoE does not have adequate resources to support and build enough school infrastructures and employ more trained teachers, IRI was still the best.

4.5 FINDINGS FROM THE FOCUS GROUP DISCUSSIONS WITH PARENTS

Parents were involved in the research as major stake holders of IRI centres. The researcher felt that their involvement was critical, because parents provide the learners who learn in centres. They also hire and provide for the mentors that teach, manage the centres and keep custody of radios and other school requisites.

4.5.1 Parents' perceptions of IRI in the focus group discussion

Most parents talked to in the focus group discussion, disclosed that the need to open or establish IRI centres emanated from a number of factors. Below are some of the factors that were mentioned:

Most communities mentioned the long distances to regular government schools as a factor that inhibited their children to access education. One parent had this to say;

Schools are far away from our villages, some are as far as 10 to 28 kilometres away. Children of eight years and below are too small to walk on their own and can not manage to walk to such far away schools.

Secondly, some parents said that their communities were surrounded by bad and impassable terrains like mountains, rivers, thick forests and valleys which were impassable and not friendly to young children.

Poverty also was cited by some parents as one of the barriers to accessing education. They had this to say:

Government schools ask for high fees and want uniforms, even if there is a policy of "free education" between grades one to seven. Due to poverty, we cannot manage to buy uniforms and pay the unaffordable fees schools ask for. We keep a lot of orphans as well as our own children, our children have no opportunity whatsoever to enter regular schools when they are required to pay huge fees, buy books, pens and pencils, rubbers and rulers as well as pay for extra tuition.

Some parents said:

Unlike regular schools which demand for the payment of the school fees at once, IRI centres allow us to pay fees for each term (K10 000) in bits or even in kind.

Yet other parents indicated that:

Our children were being turned away from near by government schools due to over enrolled classes in grade one. There are too many children against few school spaces.

Other parents said they came to a decision to mobilise themselves to open IRI centres after seeing that pupils in the already established IRI centres were doing fine, and that children in government schools seemed not learn as much as those in established IRI centres.

Other parents saw IRI centres as being user friendly for over- aged children. They said:

Our children who were too old, over the school- going age were being rejected in regular schools. But here (IRI centres) they are allowed to start learning regardless of their advanced age.

Many parents indicated that:

'Umbuli' (ignorance and backwardness) was too rife among our communities, so we decided to do something about our children's future by establishing the IRI centres.

In most centres where the researcher went, it was revealed that each IRI centre catered for at least not less than five (5) communities or villages. In Chipata District Tigwilizane IRI centre of chief Chaanje catered for thirteen (13) villages and the least centre Kalungwizi catered for six (6) villages. Two (2) other centres M'chini and Saint Betty catered for eleven (11) and eight (8) communities each. In Lusaka District, Nangombe IRI centre was the highest, at twelve (12) villages sending their children to the centre, followed by Musolekeni centre with nine (9) villages. The last were Kamanga and Chainda with four (4) communities each.

4.5.2 Parents' Occupations

Out of the total number of eight (80) parents ten (10 from each of the eight (8) IRI centres), that were involved in the Focused Group Discussion, seventy (70%) of those found in the peri-urban and shanty compounds, of both Lusaka and Chipata districts stated that their main occupations were a combination of; Farm labourers, Domestic servants, Bricklayers, selling in markets, stone crushing and others were loafers. Domestic servants and stone crushers were more prevalent in Lusaka district, while the other occupations like farm labourers, selling in markets were common for parents in both Lusaka and Chipata districts.

The remaining thirty (30%) were retired people who just come to settle eating away their pensions.

Most of the parents or guardians told the researcher that they have big families. One woman of M'chenga compound near St Betty IRI center in Chipata had this to say over her family size;

*We are twelve of us in my house. Two of my daughters
Passed away due to HIV/AIDS. They left me with seven grandchildren.
One of my daughters left four children and the other left three children,
plus my own four children who are still going to school. I just sell at
the market and do piece work in the nearby farms to find food and
clothing for all of them.*

The study was set to find out whether parents would like IRI centers to be replaced by conventional schools. In response to the question, 70% of the parents said they were very happy with the performance of their children in IRI centres. That IRI centres compete with neighbouring regular schools in performance and children in IRI centres seem to display higher speaking and listening skills than those in regular schools. Another 30% of the parents said that they would not mind having a regular school in their area. Parents who said that they were very happy with IRI in Lusaka District said:

*We don't want to see the radio removed from the IRI centre
because the radio teacher is very good and assists the mentor
to teach our children to read and write as early as in grade
three (3).*

Those (30%) who said that they did not mind having a regular school in their area, and cited the high turn-over of mentors due to lack of salaries and for those reasons they would like government paid- teachers who would stay longer, to be employed in IRI centres. Parents also expressed the need and urgency to extend IRI methodology from grade five (5) up to grade seven (7). They lamented that if that was not done, all their children will only be ending up in grade five (5). They said:

*It made us sad to see that most of our children end their
education in grade five because they did not want to attend other
schools where there were no radios. Besides that, the other
schools which go beyond grade five(5) are very far.*

Acknowledging the problem of not airing radio lessons beyond grade six, the Ministry of Education officials disclosed that they were working on the development and production of learning materials to be aired for grades six and seven classes the following year.

Some parents said that they liked the idea of having ownership of the school. They said that because they built the centres with their own resources, they had control over them. The parents further said;

We also don't want our children to attend government school because our children learn better here especially when they are older because in regular schools they are laughed at by both pupils and teachers.

4.5.3 Support parents provide to IRI- centres and mentors

It was generally mentioned by parents that they do very little to support mentors' welfare due to poverty. But in some centres, the researcher discovered that mentors had been sent to colleges by the community with the help of some Non-Governmental Organisations and EDC.

In some IRI centres mentors were found to be ZATEC trained teachers because they were not employed by MoE and opted to teach in the centres. The employment of trained teachers was common in 60% of IRI centres.

In all IRI centres parents indicated that they paid very small fees for their children. Most centres asked for K5000 or K10 000, per pupil per term. This money was meant for purchasing chalk and books, although the researcher learnt that very few parents paid that fee. To support centres some communities had mobilized themselves to make bricks and build shelters. It was learnt that some of the centres, like St Betty in Chipata had the classrooms built by a church; Chainda was built by World Vision, and Nangombe by Programme Urban Self Help (PUSH). The rest of the centres were small shelters built by communities on their own.

4.5.4 Benefits of having IRI-Centres

In relation to the benefits of IRI centres, parents that sent children to IRI-centres mentioned a number of benefits. In many centres, the study revealed that before the establishment of the centres, children started grade one (1) at nine (9) years and above due to distances, but even then, parents said that they were never at peace until children knocked off each day, due to dangers associated with rivers, mountains and forests. At the time of the research, it was noted, children entered grade one at seven years or earlier. Other benefits of IRI, the study brought out were: street- kids had lessened in compounds because many children are attracted to the centres; parents were happy to own schools and have control and belongingness; IRI centres have given employment to ZATEC trained teachers, since government had not been employing them, between 2003 –2005; in the past when rivers flooded, children stopped schooling due to floods. At present, children no longer stopped learning in the rainy season because schools were within short distances; and there were no strikes in the centers so children learn through-out the year.

Many parents said that there were a number of benefits in the establishment of IRI centres. 80% of the parents expressed happiness on the benefits of the IRI methodology. One parent had this to say:

We too, listen to the radio lessons and would like MoE to bring literacy classes for us. Like me I only went up to grade three before my parents married me off because they needed money to send my elder brother to a secondary school.

Another parent at Tigwirizane IRI centre added:

When I listen to our radio in my house, I also ask my daughter what she learnt at school to check whether she pays attention to Mrs Musonda. (making reference to the radio teacher)

4.6 FINDINGS FROM INTERVIEWS WITH PUPILS

This section explains the nature and home background environment of the pupils that were found to be accessing education through IRI methodology between grades 1-2, in few selected IRI centres of Lusaka and Chipata Districts.

The number of pupils who formed the sample group was ten (10) from each of the eight (8) IRI centres selected for the research, making a total of eighty (80) pupils. Their ages ranged between 9–16 years. The common practice was that a child should enter grade one (1) at six (6) or seven (7) years old, such that by the time they are in grade three (3), they are either eight (8) years or nine (9) years. But some of the children who were in grade two (2) were up to the age of sixteen (16) years, in few cases.

The study also found out that there were an equal number of boys and girls in grades one (1) or two (2), in all the IRI centres of both Chipata and Lusaka districts.

When asked about whom they lived with, 36.0% of the pupils in the study reported that they were not kept by both parents. Of the 36.0% of pupils, 24.0% said that they were single orphans, while 12.0% of them said that both their parents were dead (double orphaned). The study revealed that the 36.0% orphaned pupils were either kept by single parents and old grandmothers, while others were kept by uncles, aunties and fellow siblings.

4.6.1 Pupils' attitudes towards IRI methodology

In this study pupils talked to indicated that they loved and were interested in all the subjects that were being offered on radio. In response to why they liked learning by radio, they said that their radio teacher teaches well. They further said that they loved songs, games, drama the radio teacher brings before, during and after lessons. On whether any learning took place, the pupils said:

We are able to read and write, and we go home with home work from our mentor in mathematics, science, social studies or English. When some of our friends from government schools see us reading, (bakumbwila) they admire us.

When asked how they coped with their homework, the pupils said that, they asked their parents (for those that had), big brothers and sisters, and neighbours, to help with their homework. Pupils also mentioned that they were frequently assessed through end of term tests and end of the year examinations. However, according to the pupils, supplementary readers do not seem to exist in IRI centres. The mentors read aloud to and no reader is ever held nor extended to pupils.

One interesting response came from Chainda centre in Lusaka, where one pupil lamented:

*It is not good, it is unfortunate that we don't read from readers.
We envy our friends from the other schools (making reference to
regular schools) who go home with readers for reading. Like me,
I ask my cousin from another school to lend me his books.
Sometime he gives me but some times he refuses.*

When asked how they practised reading, pupils said that they practised reading on their parents' bible and packets of soap and any thing they found lying around which was printed. Other pupils could hardly say anything regarding practicing reading since readers did not seem to exist in centres.

The pupils in all the eight (8) IRI centres said that, they had ambitions and dreams. When pupils were asked what they would like to be after completing their education, various careers were mentioned. Among the careers mentioned by pupils some were; teacher (24); nurse (10); police officer, driver and carpenter (7); soldier (6) and doctor (5 pupils). The least on the list were television presenter, pharmacist, pilot, and banker (1 each).

4.7 CLASSROOM OBSERVATIONS

Sampled class observations were carried out in both Lusaka and Chipata Districts IRI-centres among pupils to get to the reality and feel of radio lessons. During the observations it was observed that, before each lesson started it was preceded by a

song which is a “signature tune” for all the IRI programmes to welcome pupils to learning sessions:

*“I am at the centre
I am at the centre,
My friends are with me.
I am going to read and count
I am going to read and count
Won’t you learn with me?
Ta Ta Ta Taonga market
Ta Ta Ta Taonga market
Ta Ta TaTaonga market is your chance to learn.”*

After the opening song (signature tune), it was noted that the mentors listened attentively to the radio teacher (called Mrs. Musonda for grades one (1) and two (2) or (Mrs. Jere for grades three (3) and four (4)). Information and instructions were given in English by the radio teacher to the mentor. The mentors more especially in grade one delivered the instruction and messages in a local language (in this study Nyanja was used) to the pupils. For grades two (2), the mentors used both Nyanja and English, with more emphasis on English.

In an English Language observed for grade one (1), the mentor had to draw a pot, basket, bed and bucket. A game was then played by pupils as instructed by the radio teacher, to point at different items within the classroom. Later on in that lesson, a new song was introduced and learnt, called “what is this”, meant to identify parts of the body. Examples were eyes, nose, chin, shoulders, head, and so on, which were identified by the pupils, as the pupils touched the mentioned parts. In the same lesson some mathematical activities came in, on missing numbers.

In another grade two (2) Literacy lesson, it was observed that pupils read as the whole class, or as individuals what was written on the board by the mentor and as instructed by the radio teacher. Sometimes it was observed that pupils, both girls and boys, were called to the front of the class as individuals, in pairs to read. They also worked in fours on the board or pointed at mentioned words, or solved

mathematical problems. Pupils carried out any demonstrations as dictated by the radio teacher through the mentor. These observations were meant to ascertain the kind of learning that went on in these centres.

In all the radio lessons it was noticed that 10-20 seconds intervals were given in between instructions to allow pupils carry out actions asked for by the radio teacher and interpreted by the mentor. Through out the radio lessons the mentors were seen to be busy and moving between the pupils and the board, as well as listening for instructions from the radio teacher, pupils were seen busy listening so as not to miss out on getting instructions or carrying out responses through the mentor. It was also noted that sometimes pupils in grades two got instructions straight from the radio teacher without waiting for the mentor to interpret the instructions in a vernacular language. Each lesson was for 30 minutes, and at the end of each lesson, another song shown below would be sung:

*“Radio time is over (3)
Radio time is over
Radio time is over,
But we will stay and learn.
We will do some reading
We will do some writing
We will do some counting
We will stay and learn”.*

This was another “signature tune” which marked the end of each radio lesson for each grade for the day, in all IRI programmes. But as the song seemed to suggest, pupils stayed on for post- radio activities with their mentors for one hour or more. The post- radio lessons were used for writing some work by pupils from the day’s lesson, and mark the written work, or go over the day’s work by the mentors with pupils. English or a local language was used in the post-radio lessons to ensure all concepts were clearly understood by the pupils. Finally some unfinished work would be carried home by pupils as home work or some more home work would be given to carry home.

4.8 DOCUMENTARY REVIEW

In support of the responses that came from mentors, parents, education officers and pupils, a documentary review was done as a secondary source of information for the number of pupils who were accessing education through IRI. Information obtained from Ministry of Education and Education Development Centre (EDC) evaluation reports indicated that there had been increases in enrolments figures in IRI centres since the inception from 2000 to 2005, due to the demand for the IRI programme. This was said, to be the case through out Zambia for children who could not gain access to education in government regular schools (MoE/EDC 2005). “Enrolment figures for grade one learners had been increasing year after year in IRI centres and community schools that use the IRI methodology,” said the MoE/ EDC evaluation reports.

4.8.1 Number of IRI learners from 2000 to 2005 by sex

Information obtained from the reports indicates that in the year 2001 there were 3 994 male pupils and by 2005 there were 27,819 male pupils enrolled in IRI centres. In the same year there were 3 788 female pupils and by 2005 there were 28,414 female pupils learning in IRI centres. Some of the reasons given for the increases were that 100 community schools also participated in the IRI programme in 2004 and by 2005 an additional 150 community schools took up the IRI methodology. Aside this, IRI centres have been increasing through the years.

Further evidence that attested to the quality of education being offered by IRI, came from results of the pre-tests and post- tests carried out by MoE/EDC in seven (7) districts of Central, Lusaka, Southern and North-Western provinces in 2006, which showed that regular schools that were piloted with IRI methodology showed that more pupils had greater gains in English speaking and listening skills at 45.6% from 24.3%, than the control group of the same grade one which had gains of 40.1% from 21.6%.

Table 15: Results of pre-tests and post-tests piloted in regular schools using IRI

Subject Area	IRI Group		Control Group	
	Pre-Test	Post-Test	Pre-Test	Post-Test
Numeracy	36.6%	66.1%	36.4%	57.8%
English	30.0%	49.4%	25.6%	38.1%
Zambian language	12.8%	30.5%	10.0%	29.1%
Overall	24.3%	45.6%	21.6%	40.1%

(Source: MOE – DODE 2006)

Data from the evaluation reports (MoE/ EDC 2005) also showed that by early 2006 there were 50 546 learners attending IRI centres. Out of this figure, 36.0% of the learners were orphans. 24.0% of the orphans were single orphans while 12.0% of them were double orphans. The report also stated that because the number of orphans has been increasing, Life- skills and HIV/AIDS awareness and information-sharing was taught to pupils as part of the curriculum through the radio.