

Radio Education
A Review of the Literature

by

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Introduction

According Butcher (2003) “radio has been used in education ever since it became available” (p. 39). Pennycuick (1993), of the Centre for International Education at the University of Sussex, states a bit more specifically that interactive radio instruction (IRI) is characterized by “highly coordinated” instructional materials and delivery strategies, and includes elements of active participation on the part of the students. He goes on to say that IRI “is effective, is cost-effective, and teachers are enthusiastic about it” (Pennycuick, 1993, p. 24).

In support of this, the South African Institute for Distance Education (2004) stated that “radio remains the key media to which most rural people have access” (p. 45) and that educational radio initiatives in South Africa were “effective in providing topical programmes and reaching large numbers of learners rapidly” (p. 36). Going further, they state that “the impact of the radio programmes was greater when used with other text-based materials, such as posters and comics” (p. 36). In fact, the Department for International Development (2001) stated quite clearly:

Our view is that radio is, for the time being, the most cost effective ICT for enhancing the quality of education in the classroom. Radio remains the most widespread and accessible ICT in Africa. In some countries it has near universal penetration. The costs of producing educational material for radio are one tenth of

the costs of producing material for television, which has much lower coverage and is more expensive to access. (p. 14)

In response to the educational needs of rural poor populations throughout the developing world, there are several large-scale operations conducting radio education projects. The Freeplay Foundation, the developers of the Lifeline Wind-up/Solar-Powered Radio, “is committed to ...ensuring sustained access to information and education via radio” (Freeplay Foundation, n.d.). According to the Freeplay Foundation’s website, “radio is the primary medium of communication in developing countries, where most people live below the poverty line...(and), therefore, is the lifeline of information.” In support of its goals, the Freeplay Foundation has distributed radios in countries as diverse as Afghanistan, Indonesia and Zambia, among others. As part of this process, the Freeplay Foundation “collaborates with in-country non-governmental organisations (NGOs), government ministries, international organisations and broadcasters to ensure radio information and education reaches the widest possible rural populations.” In order to do this, the foundation works with international and local broadcasters to assure that the content is appropriate. In addition, the foundation works with local populations to facilitate the creation of listening groups, distributing radios, and evaluating the impact of the programming.

Another organization that is also working extensively with IRI is the International Education Systems (IES) division of the Educational Development Center, Inc. This program “grew out of a concentrated focus on the use of technologies to expand access to basic education and improve its quality” and goes “beyond basic education in classrooms to design many radio-delivered education systems” (International Education Systems,

2007a). Working in 25 developing countries, the IES is focused on improving the quality of teaching and learning and uses “traditional technologies such as radio to deliver interactive instruction where school systems have broken down or never existed, or to reach refugees, nomads and children who cannot afford to go to school” (International Education Systems, 2007a).

Current Initiatives

There are numerous radio-education initiatives that have the education of primary-age children at their core occurring throughout the developing world. Among these are:

The Sudan Radio Service (SRS).

Serving adults at all levels throughout Sudan, this program provides instruction concerning civic education, current events (news), health, general education, agriculture and animal husbandry, and culture, among other content areas. Programming is conducted primarily in Arabic, however it includes English and local languages such as Nuer and Dinka. Starting with 2 hours of daily programming in 2003, the current schedule includes 6 hours of daily programming, 3 hours in the morning and 3 in the evening (personal communication, Jeremy Groce, Nov. 7, 2007).

Southern Sudan Interactive Radio Instruction (SSIRI)

This project anticipates reaching over 100,000 children in grades 1 to 4 through daily half-hour radio programs per grade. The lessons teach math, local language literacy, English, peace building, and life skills.

The broadcasts are in English, with instructions for the local instructor to translate directions into the local language as may be necessary depending on the grade level and the subject matter.

In addition, SSIRI is developing an English language series for youth and adults consisting of 240 half-hour programs ranging from beginning to advanced levels. In addition to teaching English, the programs provide information on civic education, health, and numeracy.

Finally, SSIRI has developed the first of several planned modules of radio programs to support teacher training (personal communication, Thomas D. Tilson, Nov. 6, 2007).

Zambia Quality Education Services Through Technology (QUESTT) Project

This project “aims to improve the quality of basic education delivery systems” (International Education Systems, 2007e). Serving rural, hard-to-reach students from grades 1 through 7, this program teaches math, science, social studies, language, literacy, and Health (emphasis on HIV/AIDS). More than 1,100 hours of English-language radio content has been produced, and the radio instruction has reached “over 100,000 children in community schools and 120,000 in government schools.” Also, this program has

piloted the use of iPods and cell phones in instructional settings (personal communication, Richard Trewby, Nov. 6, 2007).

Somali Interactive Radio Instruction Program (SIRIP)

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

Somalia Distance Education Literacy Programme (Somdel)

As part of the BBC World Services Trust, this project used radio instruction to teach more than 10,000 Somalis basic literacy, numeracy, and life skills. Using teachers who were nominated by the community, this project allowed for substantial community involvement in determining when and where classes would be held. "Of the 10,908 people on Somdel, 9,000 passed their final exam. Of those, 70% were women" (BBC News, 2003).

Farm Radio International

This organization works "in direct partnership with approximately 300 radio broadcasters in 39 African countries to fight poverty and food insecurity" (Farm Radio International, 2007). Working mostly on the production end of the radio education continuum, this project researches and develops the scripts that are then used to produce

content for delivery through the radio. With an emphasis on increasing food supplies in an ecologically sound and environmentally sustainable fashion, this organization disseminates information about low cost, successful agricultural practices throughout Africa.

Technology Tools for Teaching and Training in India (T4 Phases I & II)

With the potential to reach 15 million students in 200,000 schools throughout the Chhattisgarh, Jharkhand, Karnataka, Madhya Pradesh regions of India, this project proposed to use radio to teach English as a Second Language (ESL), Mathematics, Science, Social Studies, Kannada and Hindi to students in grades 1 through 5. Instruction occurred in English, Kannada and Hindi. Phase II was to reach students in grades 1 through 8 with an expanded offering of educational programs. Due to funding difficulties, many project elements were modified or cancelled (personal communication, Victor Paul, Nov. 9, 2007).

Distance Education Inside and Beyond the Classroom (Haiti)

Utilizing solar and wind-up powered radios, this project teaches both in-school and out-of-school youth in Haiti. Utilizing Creole as the language of instruction, this project has reached more than 42,000 students in traditional school settings while preparing materials for the out-of-school youth programs. The in-school program covers the grades 2 through 4 content, while the out-school program is an accelerated program which seeks to teach 6 years of primary school in 3 years. Level 1 programs (grades 1

and 2) have been developed and are currently being tested, while level 2 programs (grades 3 and 4) are under development.

The Ministry of Education has only recently completed the draft accelerated curriculum for level 3 (grades 5 and 6) so it is expected that level 3 learning objectives will be adapted to radio under the next USAID project slated to start in 2008 (personal communication, Gaëlle Simon, Nov. 6, 2007).

Interactive Radio Instruction-Based Pre-School Program in Honduras

Covering the Comayagua, Francisco Morazan, and La Paz regions of Honduras, this project delivered Spanish-language instruction in all pre-school subjects. An unanticipated outcome of this project saw the parents of participating students become more active and purposeful in their participation.

Guyana Interactive Radio Instruction Program

The EDC helped the Government of Guyana develop Interactive Radio Instruction programs, which are now the official national curriculum for Guyana grades 1 and 2 math. The government is continuing to work on Grade 3. A nationwide assessment of grade one students showed very positive results after using only a third of the programs; however, there are no further assessment results yet as grade 2 went nationwide only this year and Guyana discontinued the grade 1 assessment.

Guyana's national assessment unit administered tests in mathematics to first graders throughout the country in two recent school years, with the first group having received no Interactive Radio Instruction and the second group having received

approximately one third of a year's lessons during a pilot phase of the program. The post-test demonstrated learning gains in all eight mathematical domains tested, with six of the changes proving statistically significant.

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Malawi Interactive Radio Instruction (Tikwere!)

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

The Zambia Interactive Radio Instruction Program for Out-of-School Children:

Focused primarily on reaching out-of-school youth, this project taught English language, math, science, social studies, life skills and health (predominantly concerning HIV/AIDS) to students in grades 1 through 5. As an unintended consequence, the popularity and quality of this program led to a demand for it to be integrated into the governmental schools (personal communication, R. Zimmerman, Nov. 1, 2007).

In addition, the use of radio to educate adult learners has also been demonstrated through several projects. Among these are:

Sintonizados

This program brings teachers in Columbia together to “microcenters” in the cities of Guapi and Quibdo for the purpose of learning new instructional methodologies. The radio instruction that occurs at the microcenters is formatted into 45-minute programs and was designed to “reflect the Afro-Columbian cultures, something previously missing from the region’s teaching materials” (International Education Systems, 2007d).

The Mali Teacher Training via Radio

Also focused on the instructional needs of teachers, this program is intended to strengthen the capacity of the Malian Ministry of Education “at central and decentralized levels to create quality teacher training focused on student-centered and gender-sensitive pedagogy” (International Education Systems, 2007c). This program also intends to establish a series of four “virtual teacher training centers” in order to facilitate the use of ICT in teacher training programs.

HEAR Sudan

This program intends to build the “capacity of local stakeholders to plan, implement and monitor health and education services” (International Education System, 2007b). Interactive radio education is used to support improvement in instructional methods as well as provide health curricula to both teachers and health workers.

Population Services International (PSI)

Population Services International (PSI) uses radio services (among other media) to deliver both straight information as well as serialized programming related to health awareness issues in countries as diverse as Benin, Angola, Botswana, Cambodia, Malawi, Nigeria, Rwanda, and Cameroon among others (Population Services International, 2007). According to PSI, this type of programming offers "creative interventions appropriate to the specific health needs and cultural setting of each country."

Benefits to Radio Education

There are several benefits to the use of radio for instructional purposes. Among these is the fact that, when done well, radio can generate revenue to become self-sustaining. For example, the Sudan Radio Service was compensated by one NGO to create HIV/AIDS content, and has been able to charge for airtime used for "information announcements."

Brocke-Utne (2001), asks the question "Who in the developing countries benefits from the continued use of the colonial languages as the languages of instruction?" She goes on to provide the answer: "Certainly not the poor" (p. 115). Having said this, however, the projects cited above would indicate that this can be overcome. Most of the projects listed have successfully used these languages (sometimes in conjunction with local language programming or local personnel) to deliver educational services to rural poor populations. The success of these instructional models would seem to indicate that these languages can be used successfully as long as there is support on the ground.

Perhaps the largest single benefit for radio education is that it can reach a large population of people in need of educational services. In some cases, projects have the potential to cover as many as 13 million students. In most cases, projects are successfully delivering content via radio to populations measured in the tens or hundreds of thousands.

Each of these benefits would indicate that radio can be an effective educational medium, particularly when other educational options are limited or non-existent.

Concerns/Problems

In addition to the benefits, there are several concerns that confront radio education. Perhaps most importantly, regional instability can create difficulties with effectively delivering appropriate content to those most in need. For example, due to instability in Sudan, the Sudan Radio Service production activities have been based out of Nairobi. The intention was to move production into Sudan after 2 years, but this was not possible, and political instability in Haiti has caused the closure of schools participating in the Distance Education Inside and Beyond the Classroom (Haiti). Also, the IES states that security for their local staff and equipment is one of the major challenges faced in the Somali Interactive Radio Instruction Program. Many of these programs intended to incorporate conflict resolution and other peace-related content into the instructional model, so perhaps the long-term effects will be mitigated, however, in the short term, the situations on the ground within the developing countries can place limitations on the reach of programming and the content that can be included.

Another limitation of radio as an instructional model is the content itself. There are many programs that focus on the idea of life skills as an area of content delivery,

however, none are focused on farming content/skills. Since most of the out-of-school students who would benefit from this instruction are likely the children of farmers (an many will become smallholder farmers themselves), it would be beneficial to focus these instructional models on farming content – at least to some extent.

Also of concern are issues of funding. Uncertain monetary situations can lead to alterations or cancellations of instructional programs. For example, funding for the Technology Tools for Teaching and Training in India (T4 Phase I) project was “reduced dramatically, ending the project prematurely due to India’s change in economic status.”

Conclusion

Overall, it would appear that radio has been used successfully in the past to provide educational services to rural, poor populations. Issues such as determining the most effective language of instruction, developing appropriate content, and identifying substantial and stable funding must be addressed, however, the benefits found through radio instruction can be substantial. The potential to reach large numbers or underserved people and efficiently convey information, make radio a powerful medium for delivering content.

References

- BBC News (2003). *Radio education helps Somalis*. Retrieved October 27, 2007 from <http://news.bbc.co.uk/1/hi/world/africa/3003676.stm>
- Brocke-Utne, B. (2001). *Education for all – in whose language?* Oxford Review of Education 27(1), p. 115-134.
- Butcher, N. (2003). *Technological Infrastructure and Use of ICE in Education in Africa: An Overview*. Association for the Development of Education in Africa. Retrieved October 15, 2007 from http://www.adeanet.org/wgdeol/wgdeol/publications/En_DEOL_Publications.htm
- Department for International Development (2001) *IMFUNDO: Partnership for IT in Education Inception Report*. London: DFID, <http://imfun.do.digitalbrain.com/imfun.do/web/infozone/inceptsummary/?verb=view%20>
- Farm Radio International (2007). *About the Network*. Retrieved November 7, 2007 from <http://www.farmradio.org/english/donors/about/>
- Freeplay Foundation (n.d.). *Background and Objectives*. Retrieved October 29, 2007 from <http://www.freeplayfoundation.org/>

International Education Systems (2007a). *About Us: History*. Retrieved October 28, 2007 from <http://ies.edc.org/about/history.php>

International Education Systems (2007b). *HEAR Sudan*. Retrieved October 28, 2007 from <http://ies.edc.org/ourwork/project.php?id=3875&topic=15>

International Education Systems (2007c). *Mali Teacher Training via Radio*. Retrieved October 28, 2007 from <http://ies.edc.org/ourwork/project.php?id=3456&topic=15>

International Education Systems (2007d). *Sintonizados*. Retrieved October 28, 2007 from <http://ies.edc.org/ourwork/project.php?id=3705&topic=15>

International Education Systems (2007e). *Zambia Quality Education Services Through Technology (QUESTT) Project*. Retrieved October 28, 2007 from <http://ies.edc.org/ourwork/project.php?id=3602&topic=15>

Pennycuik, D. (1993) *School effectiveness in developing countries: a summary of the research evidence*, London: DFID Education Papers, <http://www.dfid.gov.uk/pubs/files/schooleffectdevcountriesedpaper01.pdf>

Population Services International (2007) *About PSI*. Retrieved November 7, 2007 from http://www.psi.org/where_we_work/

South African Institute for Distance Education (2004). *Distance Education and Open*

Learning in Sub-Saharan Africa: Criteria and Conditions for Quality and Critical

Success Factor. Sub-Regional Conference on Integration of ICT in Education for

West Africa: Issues and Challenges (Draft Document)