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# Teaching Without Teachers Or Schools

RADIO, that versatile mass communication medium that warns of a coming typhoon as well brings wonderful music, has been used extensively to enhance the education of countless children in developing countries.

It is cheap and could be provided in profusion to bridge the gap of knowledge for the disadvantaged in rural and remote areas.

For as low as 45 cents a year, a first grader can learn mathematics in Thailand. Imagine a better way to beat the lack of cash, teachers and classrooms. Textbooks may contain substance, but radio stimulates a child's desire to learn. It magically represents the teacher.

According to studies that in the past two decades have scrutinized, adapted and improved radio learning programmes, children educated through the airwaves score higher in mathematics on the average than those attending a traditional classroom.

With more than 100 million children around the world without any formal primary school education and about 900 million illiterate adults, modern technologies such as the transistor radio, video-cassette recorder, television and, increasingly, the personal computer can be used to supplement standard school instruction effectively.

## Radio

Radio has outlived and proven more cost-effective than other communication methods because it is a simple and sustainable way to educate children in places where there are no formal schools and professional teachers.

Education by radio was developed as early as in the 1950s in Thailand and Mexico, followed by Nicaragua in the 1970s and some African countries such as Kenya in the early 1980s. Radio learners could be found in inaccessible regions sitting in makeshift classrooms or in better organized rural schools. The radio mathematics programme in Thailand, for example, reached over 100,000 students from first to third grade in 1,200 schools in 1987. Similar projects in mathematics and Spanish have been implemented in Bolivia and are expected to be expanded in the 1990s.

The Harvard Institute for International Development and other educational groups in Boston and the United States Agency for International Development (USAID) conducted a study in 1988 on instructional hardware for primary school education in developing countries. They found evidence that radio can and has played a positive role in children's learning process.

The study was carried out in American Samoa, Colombia, El Salvador, Ivory Coast, India, Niger and Nigeria. It established that radio raised the performance in certain subjects such as mathematics and English although it has not been fully exploited as an educational tool.

The study found that, in the past three decades, teachers or their proxies have learned to work with radio lessons, which are supported by printed materials. It recommended that considerably more efforts should be made to provide timely materials for radio learners and train teachers to manage radio programmes.

The study also pointed out that interactive radio instruction (IRI), an innovative learning-by-radio process, has had a strong impact on children and wondered why more countries have not adopted the method. Children's responses to the stimulating instruction were found to be more frequent. IRI has shown that radio teaching, if properly designed, can be very effective.

IRI was first developed in Nicaragua in the early 1970s for first graders. Called Radio Mathematics in Nicaragua and sponsored by USAID and Standford University, its conversational format often brought as many as 100 oral responses from students in a 30-minute session.

The IRI model was followed by other countries such as Kenya's Radio Language Arts Project; Thailand's Basic Skills Pilot project and the Dominican Republic's Radio Language Programme. Researchers and educators involved in IRI describe it as a "quantum jump" in the teaching process.

## Keeping Up To Date With Technology

The application of new technology in education needs a constant review because of new inventions and discoveries in the communication field.

USAID, which provides substantial funds to buy state-of-the-art instructional hardware, plans to publish in 1990 a book on the experiences in the use of the computer as an educational tool in the developing world.

USAID's Learning Technologies Project, in co-operation with the Institute for International Research, is helping developing countries apply computer programming to the learning process. The project hopes to fill the gap between developing countries' needs and the fast changing computer technology in education.

A recent round table organized by teh Inter-Agency Commission of the World Conference on Education for All in Boston highlighted the problem of selecting the appropriate instructional tool to meet the challenge of the 1990s, when markets will be flooded with more powerful computers, video-discs and hand-held electronic devices.

Electronic experts will have to work with educators to tailor technology to children's needs, improving educational quality while keeping costs low.

The Boston conference acknowledged substantial gains by students in the IRI and in learning with hand-held electronic computers in Belize, Bolivia, Honduras, Kenya, Lesotho, Nicaragua, Papua New Guinea and Thailand.

The World Bank has also been impressed with the cost-effectiveness and learning achievement of learning by radio, including IRI. A radio set lasts about five years and batteries about 100 hours.

## Learners At A Distance

Modern communication technology is also being used to train teachers. The University of the West Indies, for example, has managed to double the number of teaching certificates it awards annually through teacher-training programme offered by tele-conference. Similarly, in Indonesia, the education authorities are turning to the domestic Palapa satellite to provide radio linkage with which teachers are being trained or re-trained.

In some developing countries as well as in industrialised nations, the concept of an "open university" is being implemented, bringing on the airwaves the chance of higher education to vast number of distant or remote students.

Youths and adults as well as children should at the minimum receive basic knowledge and skills to the face challenges in life if not through formal schooling then at least through alternative ways, including distance education.

In industrialised countries, children spend as much time watching television as attending schools. In the developing world, the onslaught of modern communication technologies and foreign imports in the entertainment and education fields constituted 80 per cent of overall local media programming.

It is not surprising that there is a growing awareness that modern technologies can fill the educational gap where financial and human resources are lacking. Communication media can play a crucial role in the pursuit of education for all.— *UNICEF*