

**INTERNATIONAL RESEARCH FOUNDATION FOR  
OPEN LEARNING**

*Review of Open and Distance  
Learning Research in Primary and  
Adult Basic Education*

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## IRFOL - Basic Education at a Distance - Literature Review

... there has been little success in using distance teaching to offer primary education. It seems fairly clear that young children need some type of formal institution like a school if they are to learn an orthodox basic curriculum effectively. Although a few attempts have been made to support primary school teachers in the classroom, the help that distance teaching can offer to the most basic education does not lie in creating an alternative to the regular school. Rather, it can help by providing a basic education to adults out of school and by offering in-service education to primary school teachers. The numbers of children seeking to enter primary school are dwarfed by the numbers of adults who never went to school, or who did not complete their school course. And nowhere in the world would it be realistic to contemplate sending all undereducated adults back to school. The costs of taking people out of work, let alone the direct costs of the education program, would make this impossible.

(Perraton, 1982a:10)

...nine countries have agreed to work in collaboration on a distance education initiative, both to enhance the training of teachers and other personnel, and to better reach neo literates and marginalised groups. The initiatives will be tailored to the specific needs and traditions of each country, to enhance existing efforts to make use of new technologies. In turn, relevant international agencies will be ready to support, facilitate, and coordinate such an initiative by undertaking assessment studies, by holding meetings, by capacity building modalities<sup>1</sup>, and by seeking financial sources of support.

(E9 Summit - Joint initiative on distance education - Delhi Declaration - quoted in Mukhopahyay, 1994:32)

Every person - child, youth and adult - shall be able to benefit from educational opportunities designed to meet their basic learning needs. (Article 1 - Education for All, Jomtien Declaration - 1990:43)

When the highly privileged are few and the desperately poor are many - and when the gap between them is worsening rather than improving - it is only a question of time before a decisive choice must be made between the political costs of reform and the political risks of rebellion (MacNamara 1972 cited in Phillipps 1975).

## **1.0 INTRODUCTION**

### **1.1 Introduction**

For more than two decades there has been general dissatisfaction with the results of adult basic education projects and non tertiary level distance education particularly in the developing world (IEC 1983, Perraton 1983, Verspoor, 1991, Dodds and Mayo 1996).

However, since 1990 and the Jomtien 'Education for All' declaration there has been something of a revival of interest in distance based basic education, and open schooling (Education Department South Africa - Education White Paper 1995, Commonwealth of Learning, 1994, Visser 1994, ICDE 1995, National Open School India 1995). A number of governments and private agencies have recently announced plans to extend, expand or experiment further with existing forms of open and distance learning at this level (eg. Indonesia, India, Brazil, South Africa).

Despite this commitment, large numbers of children and adults in many areas of the world remain totally excluded from basic education provision either by distance education or any other mechanism of delivery. Over 1,000 million people are probably still illiterate today. While the post Jomtien policy rhetoric may have supported expanded basic education provision, there is little evidence that, at the moment, the political will or the funding, exists to tackle the enormous problems that face adult education. Particularly as aid to education generally has been declining relative to increases in population (Mueller, 1996). The solution will, however, not be more of the same, as Jomtien declaration and other commentators have recognised

To serve the basic learning needs of all requires more than a recommitment to basic education as it now exists. What is needed is an "expanded vision" that surpasses present resource levels, institutional structures, curricula and conventional delivery systems while building on the best in current practices.  
(Article 2, WDEFA, 1990:44)

In countries where the unreached are a majority, principally in sub-Saharan Africa and South Asia, conventional education systems are often not only unaffordable and irrelevant but also alienating to many of those they are intending to serve. (Ordonez 1995:19 Director of the division of Basic Education UNESCO)

Robert MacNamara's comment to the joint IMF-World Bank annual meeting in 1972 quoted above, rings just as true today 25 years after the Basic Needs development strategy was initiated by the World Bank - along with its commitment to lending for human resource

development in education outlined in the 1974 Education Sector Policy Statement (World Bank 1974). The costs of continuing to ignore the trajectory we are on, may exact more than a mere moral toll if present attitudes, structures and actions do not change more significantly, and more rapidly than they have been doing over the last two decades.

## **1.2 Purpose**

The purpose of the study is to

- provide an overview of the research findings and of research projects in open and distance learning for basic education and school equivalence;
- identify the main institutions that have worked in this area and those that have announced plans to do so;
- identify relevant activities of professional bodies and associations in relation to research in basic education and school equivalency through open and distance learning.

## **1.3 Commission and method**

This review has been carried out on behalf of the International Research Foundation for Open Learning (IRFOL) in Cambridge England. It has basically consisted of an electronic data search using the International Centre for Open and Distance Learning (ICDL) computer database at the Open University in Milton Keynes and a manual search and review of materials available in the International Extension College (IEC) Library in Cambridge.

## **1.4 Definitions**

What is basic education?

Defining educational terms is rarely easy, particularly when the purpose is to aid cross cultural understanding. However, in this case, it is important to try to define terms quite tightly. This should help draw the boundaries to decide what to include and what to leave out of any review.

Basic education is a particularly difficult term to define because it can apply equally to young children or to adults; it can relate to general life skills or to vocational capabilities and it is a term which must cross all cultural boundaries and yet still retain some semblance of shared meaning. An easy solution would be to say that basic education is that which normally goes on in the first four, six or more

recently, nine years of schooling. But that would not help us very much.

Tony Kaye (1982) in one of the early studies devoted to understanding the nature and impact of adult basic education through the media in the European Community, entitled 'Using the Media for Adult Basic Education', offered one definition. Adult basic education is

the provision of educational facilities and resources outside the contexts of both the formal schooling system and the professional/vocational training sector, for educationally and socially disadvantaged adults; adult basic education should provide what is needed to help people live better lives, and to enable them to make full use of existing social, economic and educational facilities as equal members of society. (Kaye 1982:11)

But such a definition is understandably Eurocentric, has an air of stasis about it, and excludes children. Hence it is too limiting to be useful for this study. In the late nineties, basic education must also include those in their formative years, as well as people who are more mature. And what it is, or what it is not, must be seen as being capable of evolving and adapting, with time and cultural expectation. For this, the Jomtien declaration is more helpful. Article 5 'Broadening the Means and Scope of Basic Education' states

The diversity, complexity, and changing nature of basic learning needs of children, youth and adults necessitates broadening and constantly re-defining the scope of basic education to include the following components:

- *Learning begins at birth.* This calls for early childhood care and initial education. These can be provided through arrangements involving families, communities or institutional programmes, as appropriate
- *The main delivery system for the basic education of children outside the family is primary schooling.* Primary education must be universal, ensure the basic learning needs of all children are satisfied, and take into account the culture, needs and opportunities of the community. Supplementary alternative programmes can help meet the basic learning needs of children with limited or no access to formal schooling provided that they share the same standards of learning applied to schools and are adequately supported.
- *The basic learning needs of youth and adults are diverse and should be met through a variety of delivery systems..* Literacy programmes are indispensable because literacy is a necessary skill in itself and the foundation of other life skills. Literacy in the mother-tongue strengthens cultural identity and heritage. Other needs can be served by skills training, apprenticeships, and formal and non-formal education programmes in health, nutrition population, agricultural techniques, the environment, science, technology, family life including fertility awareness and other societal issues
- *All available instruments and channels of information, communications and social action could be used to help convey essential knowledge and inform and educate people on*

*social issues.* In addition to the traditional means, libraries, television, radio, and other media can be mobilised to realize their potential towards meeting basic learning needs of all.

These components should constitute an integrated system - complementary, mutually reinforcing, and of comparable standards, and they should contribute to creating and developing possibilities for lifelong learning. (WCEFA 1990 : 45-46)

This statement is both comprehensive and enabling. And it illustrates how our understanding of what counts as basic education, has evolved and become more sophisticated and embracing. However, for the purposes of this study such a complex statement would be somewhat cumbersome. Hence, the following definition will apply

Basic education refers to education at or about the primary level, whether addressed to adults or children, and includes both programmes equivalent to conventional primary education and those with alternative curriculum in such areas as health, nutrition, family planning, literacy and agriculture (Perraton, 1996 - Terms of Reference).

What is distance education and open learning?

For the purposes of this study distance education is defined as

...an educational process in which a significant proportion of the teaching is conducted by someone removed in space and/or time from the learner (ibid 1996).

And open learning as

...an organised educational activity, based on the use of teaching materials in which constraints on study are minimised in terms either of access, or of time and place, pace, method of study, curriculum or any combination of these. (ibid 1996)

## **1.5 Structure and organisation**

This report is divided into three parts. Section I the introduction, deals with the preliminaries: the purpose and focus of the review, the method used, and definitions of key terms. Section II constitutes the review itself. The third and final section, contains the main conclusions.

## **2.0 THE REVIEW**

### **2.1 The Early Effectiveness Studies**

#### **2.1.1 The radio experiments**

The 1960's and 1970's was the era of the great radio experiments for basic education and development. This was a time when distance education for basic education through both formal and non-formal projects gained recognition. The literature here is a particularly rich vein.

Throughout the 1970's a number of important educational initiatives were tried using radio. They provided basic education both to adults, mainly through the radiophonic school movement and the mass media campaigns, and to primary school children through supplementary education. The former were part of a development communication movement (Hornik 1988) and tended to be supported by non-formal study groups and weakly trained study group leaders, the latter programmes were beamed directly into the schools and drew on the support of primary teachers. Many of the countries which used the radio in this way, were newly independent.

The Tanzania radio campaigns (Hall and Dodds 1974), the Zambian study groups (Warr 1982), the radio farm forums of Canada, India, Indonesia, Ghana, and Benin, (Jamison and McAnany 1978:85-88), the animation groups in Senegal (Cassirer 1977), Radio ECCA in the Canaries (Cepeda 1982), the Guatemalan Basic Village Education Experiment (AED 1976), the Radio schools of the Tarahumara (Schmelkes de Sotelo 1977), and the primary provision available through Radio Santa Maria (White 1976, 1977), the Dominican Republic and in Honduras (White 1977) are all examples which targetted adults.

The best known primary children's education initiative, and by far the best researched, was the Radio Mathematics Project conducted in Nicaragua (see Searle et al, 1976, Suppes et al 1978, Friend et al, 1980). It was this project which gave rise to the Interactive Radio Instruction (IRI) movement of the 1980's and 1990's. IRI is important because it too has been extensively documented and researched and has thus made a significant contribution to our understanding of supplementary primary education in parts of the developing world. Other schemes have tried to assist both children and adults. For example, the Mexican Radioprimeria (Spain 1977) targetted both groups, albeit relatively unsuccessfully. Being clear about the educational goal and having an in-depth understanding of the nature

and context of the target audience is particularly important for effective basic education delivered at a distance.

Many of the early radio education projects derived their inspiration from (Christian) liberation theory or (neo) Marxist socialism (see Friere 1972). The first significant project was Accion Cultural Popular (ACPO) in Columbia, a radiophonic school which started in 1947 (Brumberg 1975; Young et al 1980:149-161). Radio ECCA, another radio school in the Canaries, was also important (Cepeda 1982; Spronk 1997) as this model too, was copied and 'exported', particularly to Latin America. Radio Santa Maria in the Dominican Republic, for example, was modelled on both ACPO and ECCA (Jamison and McAnany 1978:53).

Descriptive and analytical accounts of many of these initiatives can be found in Searle et al (1976), Spain et al (1977) Unesco (1977), Jamison and McAnany (1978), Kaye and Harry (eds), (1982) Hawkrigde and Robinson (1982) Hornik (1988). While evaluations occur in Unesco (1966) Jamison Klees and Wells (cost evaluation) (1976) Spain et al (1977) , McAnany (1975), Suppes et al (1978) Friend et al (1980) Warr (1982) and Mayo (1990).

What is striking about the experience at this level is its diversity and inventiveness. Perhaps the best summary of 1970's radio work is to be found in Jamison and McAnany's (1978) book Radio for Education and Development. This text contains a very readable synthesis of some of the findings of the earlier World Bank commissioned studies (Spain et al 1977) and an excellent annotated bibliography. In the book the authors look at the use of radio in formal settings and for development communication (non formal education) and they summarise what is known about the costs, constraints and effectiveness of radio-led education projects.

Three of the formal projects reported in the book are of particular interest to this study because they were aimed at the basic level: Mexico's Radioprimeria (primary children/and adults) and the Radio schools of the Tarahumara (primary/adults), and Radio Esceula Santa Maria in the Dominican Republic (adult literacy). The Radio Mathematics Project in Nicaragua also deserves a mention because although aimed at primary school children only, it is the best researched study we have on radio-led supplementary primary education. It is not reported on however, in this review.

### **Radioprimeria**

Radioprimeria began for a brief while in 1969 in the Valley of Mexico in 29 schools. However the first implementation was was

discontinued after only a year. A second effort was started in 1970-71 in the district of San Luis Potosi. This version was intended to help four primary teachers working in a primary school, offer all six grades of the primary curriculum using supplementary radio programmes. About five, 14 minute lessons were broadcast daily, Monday to Friday, some of which were grade specific. In total 1,200, 14 minute programmes were broadcast each year. It was thought that many adults also would tune into the open broadcasts. "Indeed one of the original goals of the Radioprimeria was to allow participation by adults who had failed to complete primary school" (Jamison and McAnany 1978:46) Though precisely how vigorously this second goal was pursued is not clear.

Spain conducted modest comparative evaluations of the primary school education received ..." his data suggest that students in the radio schools performed better than those in the nonradio schools in both Spanish and mathematics, and the difference in Spanish was statistically highly significant" (Jamison and McAnany 1978:47).

However, other findings were not so promising. Spain found when he visited the schools, that many of them did not have working radios. His findings suggest it is very important to ensure the necessary organizational infrastructure is in place by making sure the resources are available for the hiring of supervisory staff needed and for the purchase, maintenance and operation of the radio sets. These costs are not insignificant to rural communities, and can have a determining affect on the impact of the education project. Further, in this case, as in others, education was seen as a vehicle out of the rural areas, which were regarded as less desirable than the towns by many of the teachers and students who participated in the project. Hence, one danger is that, far from helping to develop the rural areas, projects can have the reverse effect, and result in depopulating them, particularly of their most able people (see also Schmelkes (1977) below).

### **The Tarahumara radio schools**

The Tarahumara project is an interesting one that illustrates some of the political dimensions of provision and the difficulties of reaching the intended target audience. The project was originally established in 1955 by Catholic Jesuits. Later, they collaborated with with the Mexican Secretariat of Public Education to target potentially some 50,000 Tarahumara Indians. The project intended to provide basic education (the first four grades of the primary school) using radio as the lead medium, supplemented with simple print and teacher support.

The actual numbers reached were very much smaller than expected. In 1971 only 1,081 people were enrolled in 46 radio schools. Further, high drop-out and non attendance rates were also observed. There was also a problem with the relevance of the curriculum to the target group. The project simply transferred the conventional primary school curriculum in to the target area. A curriculum which (a) was developed for primary children and (b) was more suited to those living in urban centres. Lastly, and perhaps most significantly, few if any, of the enrollees were actually Tarahumara Indians. Surprisingly, the project ended up serving an audience that were not the intended target group. To this extent it was dysfunctional, in that it tended to marginalise the Indian group still further. (Schmelkes de Sotelo 1977).

Schemelkes was unable to find any relevance of the school curriculum, which was transferred intact from the traditional urban-oriented primary school curriculum, for local employment opportunities ... at best, the schools encourage the student to leave the community (and "thus the community loses its better human resources" ) and in general they contribute to an education that serves the white population of the sierra and keeps the Tarahumara in a marginal position (Jamison and McAnany 1978:44)

Clearly this is not a criticism of the technology per se, but of the relevance of the curricular provision carried by the technology and of the planning and implementation strategies used by the team. A criticism that has been found more widely in other projects (Spain 1977, Mayo McAnany and Klees 1975).

Neither the Radioprimeria or the Tarahumara projects can be regarded as being successful and not surprisingly both were closed down a short time after being set up.

### **Radio Santa Maria**

This project began in 1964 as an adult literacy programme modelled on Columbian ACPO radiophonic school. The system consisted of daily one hour broadcasts of elementary and secondary level programmes to the local 'radio schools'. The broadcasts were accompanied by lesson sheets and weekly meetings with field teachers.

In this case the impact of the project in terms of the numbers reached was more significant with over 25,000 adults receiving literacy certificates over the period 1964-70. And more than 30,000 adults received primary schooling between the period 1968-75. Though it must be said most of these people came from urban areas. In 1974-5 some 20,000 students were attending classes - 2,000 of which took the eighth grade primary exam with a 96% pass rate! Of particular

significance was the low drop out rates at the upper primary level (White 1976, reported a retention rate of 70-75%).

A smallscale study which compared the attainment results of the radio taught students with conventionally taught adults, showed that at the second grade level there was no significant difference in the performance scores between the two sets of students. However, at the fourth and sixth grade levels the radiophonic students scored substantially better than their conventionally taught counterparts. A larger scale study conducted at the sixth and eighth grade levels, also showed that radio taught students can perform just as well as conventionally taught students. This is particularly significant when one considers that the costs of teaching using the radio system were lower than for conventional provision (White 1976).

### **Some European Radio Experience**

One should also remember that it is not only the developing countries that have used radio in the struggle against illiteracy. Two initiatives that were conducted in Europe deserve a mention here, because they were both relatively successful. 'On the Move' the adult literacy project in the United Kingdom, and Radio ECCA in the Canary Islands, Spain.

#### **On the Move**

In 1975 Hargreaves suggested that as many as 5 million adults in the UK may have been illiterate or sub-literate. And that 6-8 million people had a reading age of less than 13 years. This was the level Unesco estimated as being the necessary threshold to sustain functional literacy in a western society.

The On the Move Project was an adult literacy programme involving a broad church of adult education providers in the UK including the British Broadcasting Corporation (BBC) and the local education authority (LEA) adult education network. Extensive evaluation of the project (Charnley and Jones 1979; Hargreaves 1980), indicated

- outreach to a disadvantaged population is feasible
- a combination of broadcasting and volunteer tuition is possible and effective
- a substantial initial investment can create a very cost effective programme
- within a national programme it is possible to provide students with the individual attention they want

- such a programme can have a significant impact on the public perception of a particular social and educational problem.

(Bottomley 1991, after Hargreaves 1980: 93-96)

## **Radio ECCA**

Radio ECCA in the Canary Islands, has for the last 30 years, been offering adult basic programmes. During that time, 'about 40 percent of the adult population of these islands have been students' with Radio ECCA (Spronk 1997:1). The Radio ECCA 'three pillars' approach (radio, printed workbooks and weekly study groups) has been particularly successful and has served as a model for the establishment of a number of other radiophonic schools in Latin America. The early history of Radio ECCA is reported by Cepeda in Kaye and Harry (1982) cited above.

### **Some lessons from the radio experience**

The early radio led experience is significant for adult basic education. The projects that were designed, implemented and evaluated in the 1970's offer a rich source of ideas. Consequently, a few tentative and radio specific conclusions are offered at this point.

#### Access and reach

Evidence on this count is mixed. In theory, radio can reach and teach significant numbers of students, as Radio Santa Maria, Radio ECCA and the BBC On the Move projects show. However, this is not always the case. The Tarahumara and Radioprimeria cases illustrate. Regarding non formal projects, the Tanzanian and other campaigns also show that very large numbers can be reached and some significant development goals attained.

#### Relevance

It is important that the curriculum for adult basic education is not simply transferred from the conventional primary school system and transmitted through radio to adults. A dedicated curriculum, developed specifically for the the adults living in the target areas, may be essential if effective learning and working is to result. Where a curriculum is merely transferred from one external setting to another, the effects can be dysfunctional.

#### Educational quality and effectiveness

There is some evidence, albeit quite limited, to suggest radio led basic education projects can teach as effectively or better than conventional methods.

## Costs and effectiveness

Formal education through radio can be as effective and work out cheaper than conventional schooling. But the contextual circumstances have to be right to effect this. And one must stress that research evidence that was available at the end of the 1970's must make this conclusion tentative.

## Potential and performance

Evidence of potential and performance is also mixed. Clearly some projects like the Mexican Tarahumara and Radioprimeria were failures in terms of their reach, impact and long term sustainability. Others, however, like the Radio Mathematics Project in Nicaragua, Radio ECCA and the mass radio campaigns of Tanzania and Zambia were highly successful. Generally, one must conclude however, that the potential of radio has, so far, sadly been unmet (Mayo 1990).

Jamison and McAnany's (1978) concluding words to their book are still just as valid today

Reviewing all the cases, we conclude that radio has a generally untapped potential for development communication. There are a large number of cases where this potential has been frustrated by the constraints that operate both within and outside the medium. On the whole, however, we conclude that most countries could more deeply exploit the opportunities radio provides. (Jamison and McAnany 1978:140)

## Socio-economic change

Regarding largescale social change, the picture remains, not surprisingly, rather depressing. Despite the many inspiring efforts in the developing world to reverse social and educational inequality through radio-led education and community development projects, such projects have basically failed to bring about significant socio-economic change or improvement (Spronk 1997, Spain et al 1977 Schmelkes de Sotelo 1977).

### **2.1.2 The Educational Television (ETV) experience**

The Educational Television projects of the 1960's and 1970's (American Samoa, Ivory Coast, Niger and El Salvador) are well known and have been documented in Schramm et al (1967), Schramm (1973) and Arnove (1976). Generally they were not concerned with adult basic education or entirely with primary provision. 'Adult education generally was neglected in past

showcase ETV projects' (Carnoy 1976:59). Nor were they wholly successful. However, the largest, the Ivory Coast television scheme, was a primary programme which did have an adult basic element, and this is dealt with later.

Early comprehensive reviews of educational broadcasting in the developing world have been produced (eg. see Katz and Wedell 1978). However, perhaps one of the best and most succinct reviews of educational broadcasting in the developing world produced fairly recently, is that by Mayo (1990) entitled, Unmet challenges: Educational Broadcasting in the Third World.

The main findings of the ETV evaluations were, that generally the expected learning gains were not achieved and the costs were relatively high compared with other media systems or non sustainable in the case of the Ivory Coast project. Mayo cites Anzalone, whose comment aptly captures the extent of the disillusionment.

The overall impression is that the use of television can be expensive and that it contributes little (in some cases nothing) to student achievement. Television often arouses strong opposition on the part of teachers and sometimes resistance on the part of students. There is a striking lack of success in upgrading television use from an experimental phase to a permanent feature of national education (Anzalone, 1987:39 quoted in Mayo 1990:288).

Such comments are further supported by Carnoy's evaluation The Economic Costs and Returns to Educational Television in Arnove (1976).

On the positive side Mexico's Telesecundaria had made a 20 year contribution by 1990, and was providing 7th-9th grade instruction via television, print and local monitors to 408,000 rural students (Arena 1988, cited in Mayo 1990:290).

The Ivory Coast ETV project

Kone and Jenkins (1988) offer a critical account of the Ivory Coast ETV project and Lenglet (1985) and Kaye (1975) a couple of more of descriptive ones. The main objective of the scheme was to improve the quality of primary education in the schools, although subsidiary schemes for adult education and community development were also included (Kone and Jenkins 1988:168) The programme ran for ten years and reached most of the nation's primary school children, but it suffered from cultural imperialism (excessive influence of french culture, economic influence and language partly through the actions of the advisers). Ultimately it became so costly the government could

not sustain it as the aid subventions declined markedly in the later period. Further, apparently no published evaluation was ever made publically available (Mayo 1990:286). This is shocking realisation given the large amounts of external aid and national government revenue that was devoted to its planning and implementation. Mayo offers a balanced view when he remarks

Unquestionably, the introduction of ETV in the Ivory Coast did coincide with a reduction in repetition and drop-out rates, and unit costs per graduate were lower than under the traditional system (Kaye 1976). Still those costs (approximately \$13 per student in 1976) apparently were not sustainable by the Ivorian government, given the massive enrolment increases that occurred as part of the reform program. Perhaps for this reason more than any other classroom broadcasts were suspended in 1978. (Mayo, 1990:286-287)

### **2.1.3 Basic Education and Agricultural Extension**

Between the 1960's and 1980's and partly in response to the effect of dependency critique in general (Kay 1989, Leys 1996, Schuurman 1995) and the deschooling thesis in particular (Illich 1971, Dewal 1994:9), a number of agencies commissioned or conducted research studies which examined the effectiveness of non-formal, basic education, alternative schooling and adult vocational education including agricultural extension.

Among the most significant were those undertaken by the International Council for Educational Development (ICED) (Coombs, Prosser and Ahmed 1973, Ahmed and Coombs 1975, Coombs 1980) and those which were done under the aegis of the World Bank (Coombs and Ahmed 1974, Perraton 1982, 1983 et al).

In the case of the ICED studies reference to the use of correspondence study as a method of delivery is limited, and it is clear that there was little going on at the basic level which used DE methods. Further, what was going on was not very largescale or particularly effective. One initiative that is, probably worth a mention, that did apply the distance education approaches was the Tanzanian Cooperative Programme (Grabe, 1975). This programme ran during the 1960's and 70's. During this time the Cooperative Education College (CEC) in Tanzania offered a number of training courses which used 'correspondence letters' aimed at both individual and group study. The courses included 'Duties of the Committee of a Primary Society', 'A Basic Economics Course', 'Ujaama Villages and Principles Course' and a Primary Societies Course'. All of which were designed to further the development of the Tanzanian socialist model society.

Interestingly Grabe (1975:603) thought that the drop-out rates on these courses were probably lower than for other forms of correspondence study (eg., when compared with commercial correspondence activity) 'Only about half of the Tanzanian cooperative students give up before completing the last lesson'(Grabe 1975: 603) Though Grabe does qualify the statement as being an estimate. And he goes on to say that only 28% of the individual students, and 22% of the group study people actually finished their courses between 1965-70 (ibid: 603) - so the output performance results are, perhaps, only marginally better.

Similarly, the Kenyan teacher education programmes conducted by the Correspondence Course Unit of the Institute of Adult Studies, University of Nairobi in the late 1960's early 1970's, offered a curriculum which was pitched largely at the junior secondary level (courses included English, Swahili, History, Geography, Mathematics, Biology and Physical Science). Kipkorir (1975:202-3) reports average pass rates which were higher than for conventional schooling or other models of delivery

The average pass rate for CCU candidates is considerably higher than that of school or private candidates. In 1970, when government-aided schools averaged 47 percent, unaided schools 20 percent, and the private candidates 13 percent, the CCU achieved pass rates of 51 percent. It should be noted however that most of the CCU students were school teachers attempting to improve their professional status. (Kipkorir 1975:203)

One area of particular importance for this study is agricultural extension, because we can find projects which used combinations of media and face to face education ie. early three-way teaching or distance education approaches.

The report Basic Education and agricultural extension: costs, effects and alternatives contains a review of the literature on the impact of agricultural extension services and the use of mass media along with three case studies from African institutions - Agricultural Information Service of Ministry of Education Malawi, INADES Formation in the Cameroon, and the Lesotho Distance Teaching Centre in Lesotho.

Some of the main findings from these studies were:

Effects of agricultural extension agents - despite methodological weaknesses with the research designs, most studies offer correlatory evidence for the positive results of extension in terms of external efficiency as measured by increased yields and improved farm productivity (though causation cannot be attributed to the

intervention of extension agents alone) (Orivel 1982). However, interventions by extension agents are relatively expensive and can have negative secondary effects such as increased disparities between farmers (it is well established that more educated farmers are more active in seeking and applying information and are more innovation orientated - this has become known as the 'communication effects gap'; see Rogers 1983).

Perraton et al (1982b) demonstrated that the cost of conventional forms of information provision to rural farmers through direct face-to-face extension agent contact could be significantly reduced if mass media (radio) were to be used. For example,

Evidence from Malawi suggests that the cost of a one hour contact between a radio programme and a farmer is only 1/3000 of the cost of a face-to-face contact with an extension agent (Perraton 1982:iv).

From the media studies the following selected conclusions were drawn (Perraton 1983, 124-125)

- (i) The success of a combination of media and group learning for teaching the content of basic education depends on the existence of an organisation to support and encourage learning
- (ii) Either radio or printed materials used singly or in combination has been effective in communicating information to individuals who are not organised into groups. Though more expensive, media used in combination are more effective than when used alone. Given favourable circumstances mass media can reach a large proportion of an adult population. 'Group organisations have in Latin America, reached between 1%-5% of rural adult populations each year. Radio broadcasts, even in countries where radio ownership is not yet universal, can reach 30% or more of the target, rural audiences'.
- (iii) Mass media have proved more successful at levels above the most basic, and less successful at teaching literacy and numeracy, even with face to face support to adults who have never been at school.

In 1983 Perraton commented

If basic education for adults is to be effective, it needs a curriculum based on their interests and experience, rather than being a shadow of children's primary school curriculum. Further research is needed on the ways of devising and implementing such a curriculum. (Perraton 1983:127)

There is some evidence that some progress has been made in addressing this need from Pakistan and South Africa (see Warr 1992, Ulwazi and McKay 1996, below)

## 2.1.4 Alternative schooling

The major work on alternatives to schooling produced during the 1980's, *Alternative routes to formal education*, was also edited by Perraton and appeared in 1982. This is a collection of seven case studies which contain data on the methods, costs and results of a range of distance teaching experiments and programmes from Brazil, Malawi, Mauritius, Korea, Kenya and Israel. The cases selected are drawn both from in-school and out of school projects. Not all are devoted to the primary or adult basic level per se, but most have programmes or aspects which do address this level. What do these studies tell us? Perhaps the most important conclusion is that found in the introduction:

Although the evidence about their effects and about costs is scarce, it is sufficiently encouraging to say that under certain circumstances distance teaching is an appropriate tool for basic education for adults (Perraton 1982:11)

Most adult learning at the basic level has been provided through group study. Perraton (1982:10-11) identifies three media based ways in which this has been done: (i) radio forums; (ii) radio campaigns; (iii) radiophonic schools.

As mentioned above radio forums originated with the farm forums in Canada and the motto and format Listen, Discuss, Act. Weekly programmes were broadcast to small like-minded groups (social organisations) who discussed the content and, if relevant, acted on it. Such groups might continue for many months - even years depending on the social cohesion of the group and the relevance of the broadcasts. The campaigns in contrast were short-lived, occasional affairs. However, they were often very large scale - sometimes running into millions of listeners. Such projects often mobilised whole sectors of the state political, educational and broadcasting apparatus. Perhaps the best known are the Tanzania radio campaigns (Hall and Dodds 1974) but similar events occurred in Botswana, Zambia and a number of other African states.

Much of the study 'Alternative Routes' was concerned with the important but narrow subject of costs. Jamison and Orivel (1982) summarise what is known about the costs and cost effectiveness using data from the projects covered in the book, along with another six other projects on which cost data were available. They drew five main conclusions:

(i) The proportion of fixed cost to total cost is important. It often exceeds 50% and can reach 90% of the total costs. This is particularly

true for education offered at a distance lower down the system. Distance teaching programmes incur high fixed costs regardless of the number of students who take the courses. Thus 'It is thus much easier for distance teaching costs to look favourable when compared with the costs of higher education than when compared with secondary or even more primary education costs' (Perraton 1982:23 - teachers and the associated resources they need to perform effectively cost much less lower down the system).

(ii) The cost structure means that enrolment levels are particularly important. For an equivalency programme to succeed it must be sure of an appropriate minimum number of students over a long enough period. However they point out it is impossible to set a precise figure for this due to differing contextual circumstances. Nonetheless for secondary projects 10,000 students a year was offered as a benchmark figure - it would seem reasonable to assume adult basic education projects would require similar or slightly lower numbers. However, the higher opportunity cost savings to these learners offered by distance study, may help to offset some of the costs of study.

It must be said that Jamison and Orivel's calculations did not include any mention of 'opportunity costs' particularly to the learners. This factor has since been found to be significant in some teacher education programmes (eg see Neilsen and Tatto - BRIDGES study in Perraton 1993). Jamison and Orivel were also at pains to stress that the 10,000 figure should not be regarded as a magic threshold stating the threshold, will actually depend on

- the level of study (primary secondary, higher adult)
- the choice between radio or TV
- the cost of the closest alternative
- the extent of capital labour substitution

(Jamison and Orivel 1982:265)

Further, for projects which operate at the higher level, a relatively modest number of students are needed (eg. 2000 per annum) to justify the implementation of a well designed radio or radio and correspondence project economically (ibid: 266)

(iii) Projects that have used television have higher unit costs. However, 'television makes only a small difference to total costs where despite the use of media, projects still rely to a great extent on teachers' (as in the case of the Mexican Radioprimeria and Telesecundaria projects )

(iv) Most of the projects studied were less expensive (to the employers/state) than the equivalent traditional methods of education. This is especially true if it is taken into account that many of them were aimed at adults in employment, who by studying part-time at a distance avoid a loss of earnings while they study. However there was substantial variation among the projects as to the extent to which they were cost saving as compared to traditional education.

(v) Equivalency programmes seem to have a clear positive impact on educational equity - in terms of making quality education available more widely - and in terms of helping previously excluded groups access education at all.

The case studies confirm that 'distance teaching can be reasonably successful at overcoming educational disadvantage. But courses leading to formal examinations seldom retain more than one half or three quarters of those who start them' (Perraton 1982:24). Clearly this has a negative impact on the overall cost per graduate when compared with more conventional forms of delivery which have lower levels non completion.

## **2.2 More recent work**

### **2.2.1 The Interactive Radio Instruction (IRI) Experiments**

Parallel to this experience and to some extent growing out of the Latin American radiophonic tradition have been the interactive radio instruction experiments (IRI) of the last three decades. In this sense this model links the early effectiveness studies with later work. Since its development in Nicaragua in 1974 (Suppes et al 1978) with the Primary Mathematics Project, this model has proved quite popular and adaptable and has spread to a number of developing countries - Table 1 below charts developments

IRI projects are usually primary school supplementary programmes in which centrally organised curriculum developers prepare a highly structured subject curriculum and use radio and print materials to disseminate the programmes directly to the schools. The programmes require a high degree of investment in materials development (radio programmes and supportive guides) and teacher training. Teachers need to be helped to diversify their roles and to exploit the undoubted strengths of the model.

The Honduran example is particularly interesting because this project was targeted specifically at adults (see Moulton 1994 and AID n.d. for a brief history of the development of IRI).



Table 1 - Overview of IRI Projects

Program start	Country	Math	ESL	Spanish	Science	Teacher Training	Health
1974	Nicaragua	X					
1980	Thailand	X					
1980	Kenya		X				
1980	Nepal	X				X	
1981	Dominican Rep	X		X		X	
1986	PNG				X		
1987	Honduras	X	X	X			
1987	Bolivia	X					X
1987	Lesotho	X					
1988	Costa Rica	X				X	
1988	Ecuador	X					
1989	Belize		X				
1990	Swaziland		X				
1990	Guatemala	X		X			
1993	South Africa		X				X
?	Pakistan		X				
?	Bangladesh		X				
?	El Salvador	X		X			
?	Haiti	X					

Notes

ECD Early Childhood Development

Sources: Adapted from AID (n.d.:4), Moulton (1994) and Hartenberger and Bosch (1996).

In 1991 Tilson reported that approximately 600,000 primary children were learning from interactive radio in ten countries across Latin America, Africa and Asia.

Despite the reach and proven quality impact of these programmes, questions remain about the sustainability of the methodology. Basically because it adds cost to the delivery of education. One comparative evaluation of the sustainability of four interactive projects from Bolivia, Honduras, Lesotho, and Papua New Guinea prepared in 1991 concluded

- (i) Interactive radio instruction appears to be a highly cost effective intervention for improving the quality of primary education
- (ii) Studies in three of the countries also demonstrated that annual costs per student are likely to be affordable in most countries: US \$0.81 in Bolivia, \$1.01 in Honduras and \$0.94 in Lesotho - the add on costs amounted to \$0.40 per pupil in Honduras and \$0.42 per pupil in Lesotho. (However, even these modest cost increases have in many cases proved too much for Ministries of Education to bear.

Further, a more recent cost study in South Africa which used higher levels of teacher development showed significant increases over these figures: US\$1.0-8.0 per year per pupil for materials plus \$40-180 per teacher for teacher development in year 1, and between \$25-60 per teacher for each subsequent year (Laflin, in Cobbe 1995:5).

(iii) Sustainable use in the four contexts examined appears to depend on

- the development of programs that are highly effective and valued by students and teachers alike
- efforts to keep costs low by limiting the need for supplementary materials and teacher training
- involvement of important political constituencies especially in national ministries of departments of education
- planning for inclusion of recurrent costs in the national education budgets

(Tilson, 1991:347-348)

Other evaluative data can be found in (AID n.d) and numerous other project reports and case studies that the LearnTech (the current implementing agency) and other bodies have generated (see Tilson 1991 The Economics of Interactive Radio for a cost effectiveness study using data from Bolivia and Honduras).

Concerning gender disparities, recent evaluation data suggest that when girls participate in IRI programs learning gains are achieved and IRI may benefit girls more than boys. '...the potential for using IRI to improving educational quality and access for girls is promising' (Hartenberger and Bosch, 1996:31).

### **2.2.2 The Open school Movement in the 1990's**

Although it was stated in the introduction that there has been a revival of interest in open schooling, there is still relatively little happening for adults at the basic level globally. A review of the UNESCO-Unicef INNOV basic education database (UNESCO,1996) shows that out of the 112 projects included from the developing world only three list any involvement with distance education at all, and only one has a direct concern with adult basic education. And even this project 'The Learning Post Programme' (LP) at the Lesotho Distance Teaching Centre (LDTC) is a very old one, being introduced in 1980. The project is a village based adult literacy, numeracy and functional education project based on the 'each one teach one'

approach. Local volunteers from the communities use simple materials produced and supplied by LDTC. However no details about the scale or impact of the project are given.

At the school level, some of the older institutions in the developed settings are struggling in the face of indifference, and handicap (budget cuts and suggested teacher dumping) or latent hostility to maintain their positions. (eg. New Zealand Correspondence School see Tate 1994). Others in developing countries have been, massively expanding, or are set to do so, but without the commensurate resource allocations or management development needed to sustain them or maintain quality (eg National Open School India, Dewal 1994 and Mukhopadhyay 1994; and the Open Junior School Indonesia, Sadiman 1994, Sadiman et al 1995; National Correspondence College Zambia, Siaciwena 1994).

In 1994 The Commonwealth of Learning published Open Schooling: Selected Experiences. This is a collection of 12 papers giving details of 10 case studies from the developed and developing world, covering both at national and state level institutions mainly providing education at the junior secondary and senior secondary levels to adolescents and young adults. The state level institutions all come from the developed world while the national level institutions are from developed country settings.

Case studies of national institutions include the Open National School in India (2 papers from Dewal and Mukhopadhyay), Indonesia (Sadiman), New Zealand (Tate) Scotland (Paine) Zambia (Siaciwena) along with state level studies from The Alberta Distance Learning Centre (Pon et al), and British Columbia (Stack and Power) in Canada, Queensland (Postle and Higgins) and Victoria (Lugg) in Australia.

Some findings and conclusions from the COL and other studies

(i) Scale and development

Clearly these open school institutions can become large scale. In 1993 the National Open School in India (NOSI) reported a total enrolment of 197,000. However, the Foundation or Bridge courses, which represent the adult basic education programme, account for a only a small proportion of the enrolment total (1.6% in 1993), and more recently enrolments have been declining. From 6.4% of the total enrolment in 1990 to 1.6% in 1993. This is partially explained by an easing of the entrance requirements for the higher level courses which students prefer (Mukhopadhyay 1994:35-36). Similarly, in Malawi the Malawi College of Distance education has been

expanding its enrolment and it offers a Primary School Leaving Certificate (PSLC) programme taken mainly by adolescents. The numbers enrolled on this programme between 1974-1986 varied between 130-279 per year or 1.6%-3.5% of the total enrolment over the period. Generally they too have been declining as a percentage of the total enrolment (see Murphy 1992:81- Table 7.3).

The Indonesian Open Junior School is also expanding rapidly today though it is showing signs of being unable to cope. (see Sadiman et al 1995 below).

Other developed country open school providers do show evidence of providing primary level and basic education courses to adults on a regular and systematic basis, but enrolments are usually very low. For example, of the 301 students taking primary courses at the Distance Education Centre in 1993 in Victoria, Australia, 51 were adults studying basic literacy and numeracy programmes (Lugg, 1994:19).

A number of the open schools in the developed world also report steady or significant growth, sometimes due to changes in government legislation which have relaxed laws on parental rights to provide education at home (eg Technology and Distance Education Branch of the Ministry of Education British Columbia, Stack and Power 1992) or to responsive curriculum development and proactive marketing in an era of rapid curriculum reform (eg. National Extension College UK)

In other cases, enrolments in open schools are static or declining, in some cases due to government financial cuts (eg. the New Zealand Correspondence School, Tate, 1994) or from competition from the growing number of dubious quality private and basic schools (eg. the Zambian National Correspondence College, Siaciwena, 1994). In both these cases the institutions concerned have offered evidence of their comparative cost effectiveness (Tate 1994:142 and Perraton in Curran and Murphy 1992 see below).

(ii) Output performance

No figures are given for output performance at the basic level at the NOSI, though Mukhopadyay does quote certification rates for the secondary and senior secondary level programmes (25% and 29% respectively) for the 1991-1993 period from those who appeared for the examination (ibid :39). Such figures are comparable with those achieved at the National Correspondence College in Zambia which have improved from a low of 22% in 1983 to 38% in 1989 (Siaciwena 1994:108, Curran and Murphy 1992). In the Zambian

context, Perraton showed that open secondary classes would be cheaper than conventional schools if just 14% of the student enrolment passed their examinations (Siaciwena 1994:108). Mukhopadhyay (1994) also cites a unit cost of US\$25 for the Indian Open School, which is reputed to be the lowest figure known for an open school (ibid: 6).

(iii) Access

Open schools appear to be making significant differences to access at the basic level. For example Siaciwena (1994) quotes Curran and Murphy (1992) to point out that the 14,100 students enrolled at learning centres throughout Zambia with the National Correspondence College constitute 7.9% of the total grade 7 primary enrolment - all the more remarkable when one considers less than 20% of the grade 7 school leavers are able to enter the conventional secondary school system each year (Siaciwena 1994:106).

(iv) Cost recovery

There is some evidence of growing cost recovery. The Indian NOSI for example is largely self funded. In 1993-94 95% of its US\$2.61 million operating budget came from tuition and exam fees, and the sale of learning materials (ibid:40). With such high levels of cost recovery and low unit costs the NOSI is bound to attract the close attention of other developing country governments in the future.

(v) Network development and quality assurance

Another important development in India has been the change in the status from an Open school established in 1979 to a National Open School in 1989. This change of status has brought the Indian Open School the mandate to encourage and support the development of high quality state open schools throughout the country - thereby creating a new delivery infrastructure (though as Dewal points out, change has been slow in coming with only 3 states, Andhra Pradesh, Tamil Nadu and Punjab having established state open schools by 1993, Dewal 1994:14 - although Haryana also declared its state open school open in March Mukhopadhyay, 1994: 44).

Such a strategy could also prove attractive elsewhere, particularly among the high population (E9) countries (see Visser 1995) of the developing world if it proves to be successful.

(vi) Adhoc developments

Some initiatives have been adhoc and relatively small scale involving a few hundred adult learners using specially prepared open learning packages on loan from local civic facilities such as libraries, drop-in open learning centres or local colleges supported by the adult learning networks, as in the case of Scottish experience (Paine 1994). There is some evidence that these projects have become more learner-centred and needs responsive. They are marked by active learning from professionally designed packages and programmes, collaborative institutional linkage and effective learner centred guidance and support systems. In a rare comment of enthusiasm, Paine argues 'open and flexible learning can actually suit learners of basic skills very well' (1994:49). He gives reasons such as the element of privacy offered, the choice of time and place of learning, the ability to tailor the learning to individual needs and the motivational potential of new technology elements as the basis of his argument for this (ibid:49).

### **2.2.3 Some recent Junior Secondary level experience**

#### **SMP Terbuka**

In 1994 the Indonesian Ministry of Education and Culture announced its Universal Nine Year Basic Education Programme. After a number of critical but generally supportive evaluations (Barnadid 1981&1985, Calvano and Sadiman 1984, Kartasurya 1992) the Ministry has indicated its intention to massively expand the use of its SMP Terbuka or Open Junior School system over the next 15 years to cater for some 2.25 million pupils annually by 2009. (see Sadiman, Seligman, Rahardjo, 1995:77-79)

The SMP Terbuka (SMPT) project commenced as a pilot in 1979. By 1994/5 SMP Terbuka had been opened in 26 of the Indonesian Provinces, serving a total of nearly 50,000 students. Graduation rates from SMPT however have remained low. Between 1981/82 - 1992/3 only 5,450 students are reported to have graduated from the system (Sadiman, et al 1995:60).

A decentralised expansion and application at the local level has recently taken place. A growing number of local authorities are establishing SMPT based on variations of the original model which suited the local contexts have been set up in East and Central Java, Central Kalimantan and East Nusa Tenggara. This local extension and modification fits well with the original plan for diffusion.

There is some evidence that the SMPT system has enabled participants to progress to senior secondary level or gain access to the labour market (Barnadib 1983, reported in Sadiman et al 1995:49)

Sadiman et al (1995), report that during this time some 90% plus of those participating passed their final examinations and that this is slightly lower than the pass rates of the conventional SMP school.

SMP Terbuka students performed comparably well with their SMP counterparts at the Base school. Though slightly lower, there were no significant difference in their achievement and performance levels. In behavioural terms it was found that the SMP Terbuka students were more active, displayed more initiative and were more responsible, than their peers in the regular SMP. (Sadiman et al 1995:48)

Most importantly,

The SMP Terbuka based on the principles of Distance Learning is now part of the national education system with an important role in realizing the Universalization of the Nine-Year Basic Education program.

And,

There have been changes in community perceptions that now accept that SMP level education can be successfully conducted at a distance. SMP Terbuka as a viable alternative is now accepted in the communities where they have been established and on a wider basis as awareness grows...The community approves of the system because it permits the students to pursue their studies while still assisting their parents by working (ibid:60-61).

SMPT is providing education to people in remote rural areas has to operate at a budget of 60% of the conventional SMP.

Telecurso 2000 - Brazil

35 million adults in Brazil lack basic education. They do not have access to formal provision. Telecurso 2000 was launched in 1994 by a large consortium of state government, educational, commercial and other agencies in Brazil led by a private agency, the Roberto Marinho Foundation (FRM). FRM is a non profit organisation maintained by Globo TV, Brazil's largest TV network.

The TC2000 is mainly aimed at youngsters and adults, who for a variety of reasons have entered the work market (formal or informal). The project seeks to provide a basic education which will promote an improvement in their standard of living and working conditions and consequently an improvement in national production (FRM nd:2)

The programme is being designed and implemented by the education division of the Roberto Marinho Foundation (FRM) with funding from the Federacao Das Industrias De Sao Paulo (FIESP) and other collaborating agencies. Telecurso builds on the positive experiences of an earlier 15 year broadcasting experiment (The

Telecurso Segundo Grau 1977-1992, see Oliveira and Jamison, 1982 above) and other closed circuit projects, eg the Video Escola project.

The present model is a television led approach with print support. It is system of distance education which uses study groups and trained facilitators working in a wide variety of learning arenas throughout the country. The programme operates on three levels: primary, secondary and tertiary vocational. The project has produced a wide range of high quality learning materials and is reputed to have some 150,000 enrolments in 1996. Enrolments are continuing to expand. (Formiga p.c. 1996, Brandao 1995, FRM n.d). As such the project is one of the largest pre-tertiary distance education programmes for adults in the world.

#### Current research

The Telecurso 2000 project is new, and relatively little research has been commissioned to date. However, recently FRM commissioned a grade 1 evaluation study which will look at the effectiveness of the Telecurso programme at this level. It will examine the relationships between the facilitators and the adult users and consider the utilisation and effectiveness of different media components (see Firme et al 1996). The results of this study are expected in March 1997.

#### **2.2.4 European experience**

One of the earliest research studies to be conducted devoted specifically to adult basic education using distance education media focused on projects in the European Community (France, 'Tele-Promotion Rurale', UK 'Just the Job' Westward TV and the National Extension College, UKOU Community Education Programme, and The Adult Literacy Initiative, Denmark, Danish for Adults, Danmarks Radio, Netherlands, Open School, and Spain - Canary Islands Radio ECCA). Work carried out by the Distance Education Research Group (DERG) at the UK Open University in the early 1980's resulted in the publication of Using the Media for Adult Basic Education Edited by Kaye and Harry in 1982. This collection of seven case studies is devoted entirely to adult media based basic education in the then EU. However, only two of the projects Radio ECCA and UKOU Community Education could be regarded as integrated distance learning 'systems', the other projects being less well integrated and systematised (Kaye 1982:23)

Kayes' opening and introductory chapter offers 26 'important points to consider' when designing, implementing and evaluating multi-media projects for adult basic education - including

- projects should encourage learner autonomy and responsibility
- programmes should be of relevance to the real problems, needs and situations of learners, resulting in positive and concrete change
- new projects should use and build on existing networks and experience
- target groups do not generally and easily articulate their objective needs for educational resources - these need to be discovered through research
- provision of relevant resources will tend to stimulate demand administrative procedures for enquiry enrolment and support should be simple and flexible
- programme makers should exploit the popular appeal of the media they use build in redundancy and ensure very close integration between media
  - clear functions should be assigned to each media
  - a wide range of information channels should be used for publicity and recruitment
  - there should be a strong reliance on face-to-face tuition and counselling both in the group and the individual situation - the media should probably play a supportive not a lead role
  - staff recruited and trained to work at the local level with the target groups is of major importance
  - school level materials are unsuitable for adults - flexible new materials generally need to be originated - the materials should be piloted with representative members and adult educators and procedures for feedback on use built into the project implementation - likewise resources should be reserved for materials modification and maintenance whilst in use
  - a wide range of partners and agencies need to be effectively involved in the coordinated design and delivery of the programmes
  - agency collaborations depend on clear allocation of functions responsibilities and resources
  - progress monitoring and effectiveness measures should be built into projects
  - accurate records of costs need to be kept
  - project evaluation should be built in and ongoing from the beginning.

Perhaps the most important conclusion is that 'Independent study' is generally unsuited to people learning at this level. Educationally disadvantaged groups and individuals will in all likelihood need some form of guidance, preparation and support before embarking on a distance learning programme. Such programmes thus depend

on well structured and well orchestrated use of face to face contact and media based message delivery.

However since this important study there appears to be very little going on at the adult basic level in the 1990's in the EC (see Commission for European Communities 1991, Van den Brande 1992, Jenkins 1994, Fandel et al 1996). Tait highlighted the deficiencies in a recent policy review of European Commission projects. The Commission noted with regret that

there is little evidence of serious public development in the application of open and distance learning to levels of basic education.

(Tait 1996: 226)

The Portuguese education system however, deserves some mention here because it is one of the few countries that has offered basic level courses through distance education, albeit through a television delivery system - the Telescola system, which has been running for several decades. The Portuguese basic education system is a compulsory, free and general nine year programme which is split into three cycles (4:2:3) and is aimed at children from 6-15 years of age. Adult education is supplied through the Ministry of Education through Recurrent and Extra-school education courses. Basic education for adults is open to those over 15 years of age. The Ministry of Education is currently preparing new legislation that will affect basic education and secondary level education for adults in the country.

The Portuguese Teleschool project began in 1964. Its main purpose was to guarantee schooling at the 5th and 6th levels to young people of school age residing in remote rural areas. During its 30 years of operation it has provided opportunities for 1.12 million children to access basic education. Today it runs as the Mediatized Basic Education Project with enrolments of about 20,000 students - about 8% of the of the total school population. From 1964-1989 the lessons were broadcast; these were supplemented with teacher guides and student workbooks. However today this system has been replaced by a local video system - to give teacher monitors more autonomy over the management of the didactic materials. Since 1975 the number of learners attending has been in decline due to the expansion of the conventional school system and the decline in the birth rate.

The Portuguese Navy recently set up a Naval Centre for Distance Education which since 1994 has run a 3rd cycle Basic education programme through distance education for ratings. 850 learners have applied and 50 have already completed the course. (Mendes et al 1996, Ministry of Education 1990).

It is probable that the national armed forces programmes in many other countries in Europe and elsewhere are more aware than most of the extent of illiteracy among the people they recruit. And that they may well be making significant contributions to the basic education of people whilst they are soldiers. When one considers that in France in the mid 1970's 0.6% of the 400,000 men called for military service each year were found to be illiterate (Kaye 1982:12) - one realises that the army 'selection tests' may offer an important means to discovering more about the nature and extent of illiteracy in both developed and less developed countries.

### **2.3 Basic Education for Adults - An Endnote**

In this section four additional kinds of recent research and development projects are considered which involve delivering basic level education to adult groups using distance and open learning methods: (i) basic education provided through in-service primary teacher education eg. Logos II; (ii) basic education for adults using radio and combinations of simple low cost media eg. the SAIDE Ulwazi Project, the Listening to Learn Learning to Listen Project at the Centre for Continuing Education University of Witwatersrand and the ABEP Fort Hare project. (iii) Basic education to adults through adult educators eg. UNISA ABET and (iv) Adult basic education through vocational training eg. Petrobras Project Acesso.

#### **2.3.1 Basic education through primary teacher training**

...if the basic education of teachers is so weak that it reduces their effectiveness and imaginativeness in the classroom, then to improve that education is clearly important. (Perraton 1982:13)

There have been a number of teacher education projects which have had as one of their goals the objective of raising the basic knowledge levels of their target audiences so that they can teach better. The early Kenyan teacher education programme at the University of Nairobi (Hawkrige et al 1982) and more recently the Logos II project in Brazil (Oliveira and Orivel 1993) are examples.

The curriculum of the Logos II teacher education project offers adult basic education to teachers through DE in that it corresponds with the last four years of the primary school plus three years of secondary school. Logos II had to make up basic schooling and specialised teacher training.

Compared with other Brazilian education projects, modes and levels of education 'Logos II is clearly from an economic perspective a highly cost effective system of training Brazilian primary teachers'. (Oliveira and Orivel 1993:84) However, the authors make an

important and more general point when they say 'from a structural point of view the project can be seen as reinforcing inequality: regular schools for the teachers in the best cities and distance education for the rural areas' (ibid:92). This notion can be seen both implicitly and explicitly in many basic education projects in many settings in the developing world where distance education is being used to prop up unjust and structurally maintained inequality. For example, it is visible in the way Malawi College of Education is funded in relation to the state secondary schools; and in the way Indian National Open School is required to operate (on a full cost recovery basis). In many ways one is drawn to the conclusion that where basic education projects are concerned, distance education is often being used as much an instrument of economic exploitation as it is a tool of positive social engineering.

### **2.3.2 Recent South African experience - basic education to adults through radio directly and indirectly through study groups and IRI**

Since the fall of the apartheid regime the new government of national unity in South Africa has launched a number of innovative basic education experiments as part of its Education Renewal Strategy. Several use distance education methods. These include the Adult Basic Education Project (ABEP) at the University of Fort Hare and the Ulwazi Project based in the South African Institute for Distance Education (SAIDE). Both of these projects enjoy UKODA sponsorship. Also worthy of mention at this point is the South African IRI project being implemented through Open Learning Systems Trust (OLSET) and supported technically and professionally by LearnTech and financially by USAID (Leigh, 1995).

#### The Wits experience

Even before the change in government in 1994, Russell (1992) reported on a research project to establish a nationwide system of adult radio learning groups. The project attempted to build a radio learning group system to gain a better understanding of audience attitudes and beliefs about population, health and family planning issues. And also to discover more about the factors that influence the development of a self sustaining radio forum system in South Africa. The project is reported in 'Learning to Listen Listening to Learn' and was conducted by the Centre for Continuing Education, University of Witwatersrand on behalf of the Department of National Health and Population Development (DNH and PD) and the South African Broadcasting Corporation (SABC). It was to be a five year research and development project and 126 forums were established in two years that it ran. However, the project was terminated after two years in 1992, due to the withdrawal of funding. Nonetheless, experience

with the project led to the Centre for Continuing Education to set up an Educational Broadcasting facility to train Radio and TV staff for adult basic education and other activities (Russell 1992:52).

#### Ulwazi - a direct broadcast radio based project

Ulwazi was launched in August 1994 as a two year experimental project set up to use radio for adult education and training in South Africa. In an early evaluation its mission statement describes Ulwazi as

a learning organisation and an agent which helps the ABET community, the education sector and broadcasters to explore opportunities in the use of radio for the systematic education and motivation of adults.

(Perrold 1995:6)

In the first year the programme trained its producers, developed linkages with other agencies and produced its first multi-lingual programmes (in Sotho, Xhosa, Zulu and English, which raised many interesting production and policy issues). The project combines radio with print (both newspapers and texts) to produce a number of non formal education series and feature programmes. The effectiveness of the programming the project has produced is being separately evaluated by the Johannesburg based Community Agency for Social Enquiry (CASE). A number of community radio stations have been set up recently (eg Radio Transkei, Radio Maritzburg and ALXFM) but the ability to produce quality programming and to train staff is lacking - Ulwazi is seeking to fill this gap.

#### Fort Hare - ABEP - a study group approach with low cost combination media

The Adult Basic Education Project at the University of Fort Hare in Alice is a research and development programme, funded by the European Union, which is piloting the use of distance education methods to bring basic education to rural communities in the Ciskei. The project is located in the Adult Basic Education and Extension Programme in the university. The project commenced in 1992 with a needs assessment survey (ABEP n.d). This formed the basis for the educational programming and curriculum development. As a result of the initial research materials for a First Aid, Poultry Keeping and Preventative Health Care Course (PHCC) were developed, based on the community needs analysis using flip charts, recorded radio and other low cost materials. Study group leaders were identified and trained, and the model was implemented in villages in the Ciskei. In addition to the basic education programme there is a very small

(circa 25 students) school equivalency programme (standards 8-10). Learners take Independent Examinations Board (IEB) exams.

The unit has also introduced a Sewing Needlework and Clothing course as a distance education income generating venture using the newly introduced South African National Vocational Qualifications Framework (NQF) with help from the Use Speak Write English group (Uswe, see below) and a Secretarial Certificate Course with on an off campus groups (ABEEP 17th Progress report 1996. The Department has recently (1996) evaluated the first cycle of the PHCC implementation. The strategy was based on an approach called Basic Functional Education for people in Rural Areas (BFEP) pioneered in Pakistan at the Allama Iqbal Open University (see Warr 1992 for further details).

The South African IRI Project - Open Learning Systems Education Trust (OLSET)

The growth, development and success of the IRI methodology as a tool of basic educational transmission has been reported above. However, in South Africa its application was somewhat different than elsewhere. Two lessons are important. First, the revolutionary context in South Africa meant that the educational ideology and methods underpinning IRI were questioned and in fact, found to be unacceptable. The predominantly stimulus-response based approaches used by IRI are founded on behaviourism. South African educators realised the dangers of re-entrenching a reproductive and limiting form of pedagogy if IRI in its 'traditional form' were to be applied. It was felt that to merely adopt the IRI lessons developed elsewhere for the 'English in Action' programme (the subject area chosen for introduction) would be a missed opportunity to develop the newly won teacher autonomy and freedom in the schools.

Second, teacher education in particular had suffered under apartheid and particular attention was needed to improve teaching skills and methods if the apartheid legacy was to be undermined quickly. One practical way of doing this was to involve teachers in curriculum development and implementation. And to promote more pupil-centred, problem solving teaching. To do this the teachers role has to remain central. And teachers have to be confident and competent. The traditional IRI model tended not to position the teacher so centrally. Constructivist approaches to educational design have been in the ascendency since the 1980's and educationalists in South Africa felt it was important to use these ideas to redesign the English in Action programmes and involve the stakeholder community at all stages for the benefit of students and teachers alike.

It was a litmus test for IRI - a test that resulted in IRI re-inventing itself fundamentally. What is significant for this review is the fact that the impressive learning gains commonly associated with traditional IRI were reproduced for the constructivist based approach that emerged in South Africa (see Leigh 1995).

### 2.3.3 Projects for training basic adult educators - the UNISA experience

It is estimated that South Africa has 15 million illiterate people. In 1994, five universities in South Africa offered training courses for adult educators<sup>1</sup>. However their combined output was only 300 adult educators per annum. It was recognised that this was totally inadequate to meet the needs of the illiterates in South Africa today.

In 1993 the Use Speak and Write English (USWE) group had submitted a research report to COSATU on the nature and content of a core curriculum for Adult Basic Education in South Africa (USWE 1993). It was a landmark document - for without it would have been difficult to get a consensus on the ways forward in this contested area. It is also one of the few research based reviews which gives pointers as to what an adult basic education curriculum based on a competency model might look like. It is also useful because it contains an overview paper by Barbara Hutton which discusses critically the various ways of approaching and organising the curriculum at this level. The review is based on Spruck Wrigley's work 'One size does not fit all' (n.d.) Aguirre International. (see Appendix 3 Approaches to Organising the Curriculum pp32-52).

An important aim in South Africa is to train approximately 150,000 adult educators over a ten year period. A number of projects are concerned with meeting this target. The largest one is the Adult Basic Education and Training (ABET) Project based at the University of South Africa. The programme was piloted with 2,200 students in 1995 (McKay, 1995). Students are supported by over 50 part-time tutors who receive training and support from the central unit in Pretoria (the planned student tutor ration is 1:40). In 1995 the 78% of students in the first cohort passed their exams. In 1996, a further 4,000 learners registered for the course (McKay et al 1996). The programme is supported financially by the UKODA (£1m grant) and will be internally and independently evaluated in the near future (p.c. Lillis, 1996). Adult basic education programmes which use distance education methods generally, and the UNISA ABET project in particular, have recently been criticised by Geidt, (1996).

For an excellent overview of Adult Basic Education in South Africa, see Hutton (1992). And for a recent general review of distance education activity see Butcher et al 'SAIDE Directory of Distance Education Institutions (1995/6)'.

<sup>1</sup> see McKay 1995. These include University of South Africa (UNISA), University of the Western Cape, Centre for Adult and Continuing Education, University of Witwatersrand (WITS) Centre for Continuing Education, Department of Adult Education. University of Natal Centre for Adult Education.

### **2.3.4 Adult basic education through vocational education**

Although comparatively rare, one can find vocationally orientated projects that include basic education components taught at a distance. One such project is the PETROBRAS Project Acesso (Oliveira, 1988). PETROBRAS is the Brazilian state owned oil company and one of the biggest corporations in the world. Many of the company site locations are very isolated. The company relies on locally recruited labour, many of whom have received poor quality formal education. In order to improve worker effectiveness the company instigated in the late 1970's print led distance education vocational training programmes which included courses in basic education at primary and secondary levels. Although the numbers taking the courses were relatively low - in the hundreds (at the primary level 493 enrolled 128 had graduated with 303 ongoing at the time of the evaluation) cost effectiveness was demonstrated, as was the efficacy of using simple print based correspondence materials (Oliveira 1991:135-143).

### **2.3.5 Indonesian 'Packet A' literacy and post literacy programme**

Lastly, one should also mention the Indonesia Packet A print and study group intervention for out of school learners. Visser (1995) reports eight million students being trained through this system, 60% of whom are women. The package is equivalent to formal primary education and provides literacy training and post literacy follow-up.

## **3.0 CONCLUSIONS**

A number of minor conclusions have been given in the body of the report particularly those which the impact of media led projects. What follows are some of the more significant findings which seem to emerge.

### **3.1 Scarcity amid diversity**

The literature on adult basic education at a distance is, like the practice, scarce, scattered, buried and extremely diverse. Considering the scale of the problems, very little is actually going on, or has gone on at this level over the last 40 years. What is available is largely hidden under more glamorous project titles, the data and significance of the basic education activity often has to be mined from the information available.

If significant in-roads are to be made into reducing the 1,000 million or so illiterate and semi-literate people in the world, new models have to be found and applied on a substantial scale. Perraton's (1982) opening remark about the potential of distance education to help adults at the basic level still remains to be tested - fifteen years on. And Jamison and McAnany's conclusion about the potential of radio in particular, quoted in section 2.1 remains pertinent. Provided funding allocations follow the recent policy rhetoric in education we can expect to see the results of some bold new flexible learning experiments for basic education early in the next century.

### **3.2 Largescale expansion**

In some countries, particularly the E9 group, open schooling systems designed to serve adult basic education populations are seeing a revival and some are expected to become very large scale by the end of the century. For example, the eighth five year development plan for India (1992-96) has targeted an additional enrolment of 0.6 million in open schools (Mukhopadhyay 1994:42). In Indonesia the Ministry of Education and Culture has announced that the SMP Terbuka or Open Junior School system will cater for some 2.25 million pupils annually by 2009. (Sadiman, Seligman, Rahardjo, 1995:77-79).

### **3.3 The limits of the mass media**

The evidence that we have for teaching at the basic level using distance education methods and media suggests that a high degree of direct contact is necessary if sustainable learning gains are to be attained. Either through supervised group study with the aid of

animateurs, or through direct face-to-face contact involving teachers as support agents in conventional education institutions. Models which have low levels of face-to-face contact or organised group study, tend to be less successful. This conclusion is not surprising given what we know about successful distance learning generally. The most successful learners tend to be those who have developed sophisticated independent learning skills. Those learning at the basic level all too often have not had the time to, or have not been able to, develop such skills through the conventional delivery structures.

### **3.4 Context and goal**

Perhaps one of the most significant conclusions from all that has been reviewed is the need to do much more sensitive planning preparatory work from the beginning. It is necessary to have a deep understanding of the audience and their learning context. The use of more participatory bottom up planning that involves learners more directly and more meaningfully in the decision making is not only desirable it is more effective (Action Aid 1996). Clarifying the educational goal(s) and monitoring their achievement throughout the project cycle is essential. But to do this implementation staff need to constantly improve their understanding of the working context.

### **3.5 Shortage of trained staff**

Projects at the basic level continue to report acute difficulties in finding people with the appropriate training, skills and experience in adult basic education and distance learning (eg. see the South Africa ULWAZI and ABEEP Project reports). As with earlier initiatives this can result in serious constraints on the effective implementation of project goals and activities.

### **3.6 The dangers of 'leapfrog mentality'**

The dominance of the modernisation paradigm continues to hold sway among much education development thinking. Particularly when it involves the media. This is well illustrated by the neglect of educational radio. Radio once a medium thought to have so much potential for education is in serious danger of being overtaken by the enthusiasm for the more sophisticated and expensive technologies. Radio is not just a 'forgotten medium' it is fast becoming 'invisible' as an educational tool, as resources are increasingly channelled into the new information technologies.

Advocates of the 'new big media' like Peter Knight (1996) (Chief of the Electronic Media Center at the World Bank) are in danger of

doing the illiterate and ill-educated a disservice when they argue that television and the new communication technologies are the way forward for newly industrialising centres like Brazil, South Africa, and Indonesia. The 'leapfrog mentality' is likely, in both the educational and economic sense, to ensure inequalities continue to widen. As we know the great television experiments failed. And they failed the rural poor at the basic level particularly badly. What is needed is a substantial rethink about how the old tried and tested media like radio, audio tapes, study groups with well trained study group leaders and simple print might be better combined with the accessible (to the learners) and cost effective newer technology. New combinations may be needed. However, there is danger is that the lessons of the past will be ignored making sure the mistakes of the future will be ones that could have been avoided.

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