



THE COMMONWEALTH *of* LEARNING

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OPEN SCHOOLING:  
Selected Experiences

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Marmar Mukhopadhyay and Susan Phillips, Editors

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## **THE COMMONWEALTH OF LEARNING**

The Commonwealth of Learning is an International Organisation established by Commonwealth Governments in September 1988, following the Heads of Government Meeting held in Vancouver in 1987. It is headquartered in Vancouver and is the only Commonwealth intergovernmental organisation located outside of Britain.

The purpose of The Commonwealth of Learning, as reflected in the Memorandum of Understanding, is to create and widen access to education and to improve its quality, utilising distance education techniques and associated communications technologies to meet the particular requirements of member countries. The agency's programmes and activities aim to strengthen member countries' capacities to develop the human resources required for their economic and social advancement and are carried out in collaboration with Governments, relevant agencies, universities, colleges and other educational and training establishments among whom it also seeks to promote co-operative endeavours.

The Chairman of the Board of Governors is Dr. H. Ian Macdonald and COL's President and Chief Executive Officer is Professor James A. Maraj.

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Selected Experiences

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## FOREWORD

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Like Health for All 2000, Education for All can easily become a catch phrase. It is noticeable that whereas in the case of health, the Year 2000 was fixed as a target, no particular time frame is now universally indicated for education. That is probably wise as the goals set for the Year 2000 clearly could not have been attained *everywhere*. Setting a time frame for achieving certain specific goals may well be advisable for motivational purposes at national levels. At a global level, however, such time lines cease to have any real meaning.

In any event, education, like health, has to be continuously sustained. If stagnation is to be avoided and progress made, new knowledge and skills have to be acquired and regularly updated. We should therefore not think of Education for All in terms of reaching some sort of “steady state.” Instead, Education for All must embrace the concept of Life Long Education. This, in turn, would mean that Education For All cannot be limited to literacy or basic levels of education only.

There is no doubt that the Jomtien Conference gave a major boost to the call for Education for All. In that context the thrust was on basic education (just as with Health For All, the emphasis was on primary health care). And many countries, large and small, have been seeking to put in place programmes intended to reach the majority of their populations but most especially the neglected, disadvantaged and oppressed sections of their respective societies. Whatever the principal motivation — promoting enlightened democracy, human rights, equity, or the greater realisation of human potential — political leaders, planners, administrators and others concerned with human resources development are searching for innovative, cost effective ways of providing Education (and hopefully Training) for All.

This collection of papers, prepared by a cross section of practitioners, provides insights into some of the approaches being tried in various places. They have been assembled under the title *Open Schooling* although the appropriateness of that title is itself open to debate. In some instances, “schooling” is being narrowly interpreted to mean only what goes on in conventional schools, viz. the teaching and learning of particular basic skills and the acquisition of a rudimentary body of knowledge. For those who may have missed out at an earlier stage, the provision of another opportunity to acquire such basic knowledge and skills may be regarded as “schooling” and open schooling may simply imply unrestricted access, but it will be evident from the variety of experiences recorded in the papers that some open schools, especially in the developing countries, are involved in offering more diversified curricula.

However, if Education for All really means what it says, an even broader interpretation may be necessary. It can be argued that Education for All should be taken to subsume life long learning, and this can only be achieved within a context of open learning, for it will not be possible to establish more and more “schools”, or other “institutions” to provide the wide range of learning opportunities which will be needed. New flexible

arrangements will have to be put in place to respond to those who want a second chance (in some instances, even the first chance) to complete one or other cycle of education. Training to acquire new skills or to update proficiencies, opportunities for using leisure time creatively, for developing competencies and confidence to live in an increasingly technologically oriented world are all aspects that will have to be catered for in a systemic network. Therein lies the challenge.

Meanwhile, open schools catering essentially for those wanting to complete particular cycles of education are on the increase. Literacy, basic education, bridging courses, vocational studies etc. constitute the staple offerings and claims are being advanced that such fundamental education enhances health, population control, parenting, responsible democratic participation etc. There are no prescriptions for establishing and managing open schools, no codes exist and it is through a continuing exchange of experiences and reflection on what constitutes good practice within given contexts that lessons may be learned about what is likely to be successful. It is our hope that this collection of papers will be of assistance to those contemplating the establishment of open schools. We also trust that in interpreting Education for All more widely, new institutional arrangements perhaps even called “schools” will be “open” to cater for the multiplicity of learning needs beyond basic education.

We would welcome information on such initiatives with a view to producing a second volume in this series.

In addition to the authors whose papers are included we also record with appreciation the considerable help provided by Ms. Sheila West in preparing this volume.

Professor James A. Maraj  
President  
The Commonwealth of Learning



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## OPEN SCHOOLING: AN INTRODUCTION

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*M. Mukhopadhyay\**

### INTRODUCTION

The first open school programme is believed to have begun in 1914 as correspondence lessons prepared at the request of a parent in Beech Forest in the Otway Mountains in Australia. By 1916, a special correspondence branch had been established. The success of the school programme led to the spread of open schools to several other Australian states and territories. Open schools were then introduced in Canada in 1919 and in New Zealand in 1922.

The popular view that open learning and distance education trickled down from higher education is unfounded. In the 1960s, distance education expanded massively across many countries, especially in higher education as open universities. Meanwhile distance education at the primary and secondary levels in open schools was confined to only a few countries. As a result, the contemporary view of distance education is primarily associated with the open university.

The open school movement, however, is an idea whose time has come. Many countries have now set up open schools for primary and secondary students, for example, in Bangladesh, India, Indonesia, South Korea, and Zambia. Initiatives to establish similar institutions are under consideration in South Africa, Egypt, China, Nigeria, and many other countries. Although having begun much later than open universities, open schools are rapidly gaining ground and some of them have quite high enrolments. For example, the National Open School of India, which started in 1989, now has a total enrolment of 250,000 students.

The terms *open learning* and *distance education* are often used interchangeably, as indicated in the names of the various institutions profiled in these case studies. Some examples include:

- the Alberta *Distance Learning* Centre;
- the Indonesian *Open Junior High School*; and
- the National *Open School* (India).

For our purposes, however, I would consider all such institutions to be “open schools”. *Distance education* is a method of delivering education to students without direct

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contact with teachers. *Open learning* almost invariably uses distance education methods. *Open learning* as a paradigm refers to an educational system that allows students to choose from a wide range of courses that may be self-paced and provides a choice of educational media. Open learning emphasises entry qualities and competencies rather than the qualifications conventional schools emphasise. In brief, open learning promotes freedom to learn.

Distance education methods were first introduced to complement conventional education; that is, radio and television complemented learning in conventional schools in such countries as Nicaragua, China, Japan, and Korea. In India, educational radio in the late 1940s and television in the early 1960s were used to support conventional education. Eventually an understanding developed of the learning materials and methods most suited to distance education, and distance education methods became sophisticated enough to stand alone. That was an important step towards the emergence of open schools, since the open learning system depends on distance education methods.

Open learning is an international movement that is spreading fast. The international concern to provide education to all has given a significant impetus to open schools. The Jomtien Conference — a landmark in education — was the first significant articulation of concerns for basic education. The E-9 Summit of nine high-population countries in December 1993 in New Delhi categorically resolved to launch a joint initiative on distance education in order to reach the marginalised and so far unreached groups; it also called on international agencies to extend professional and financial support. The E-9 Summit brought recognition to national efforts that use open schools to provide education to all.

## THE CONCERN

The emergence of open learning is directly linked to the issue of access to education. Open universities were initiated to cope with demands for places in institutions of higher learning. The issue is somewhat different for open schools. Unlike university education, school instruction is considered to be a basic right. School instruction is seen as a necessary requirement for improving the quality of life since it relates directly to population growth, health practices, and economic activity and productivity. Thus open schools emerged from concern about how to provide a minimum level of education to all. The situation varied from one country to another, but four distinctive features are common:

- reaching out with education to the disadvantaged population groups in dispersed locations where conventional schools are not viable;
- providing a choice to students (and their parents) for what they want to learn;
- providing a safety net to school drop-outs so they do not lapse into illiteracy; and
- providing education to those who cannot attend conventional schools for a variety of social and economic reasons, as well as to those who missed out and are now “over age”.

The first and the second features are the attributes of comparatively developed nations like Australia, Canada, and New Zealand. Because of educational developments and changed legal status, school instruction is available to everyone and retention is high. The third and fourth features are attributes of developing countries where school opportunities are fewer and retention is rather low. In developing countries, open schools act as a *complementary* system to provide education to all, which is different

from considering open schools as an alternative. The distance education used in open schools is a pedagogical *alternative*, but the open schools are not an alternative — they should be considered complementary education to marginalised groups in developing countries.

## **PROGRAMME DESIGN**

The design and development of programmes for open schools is an arduous process. It requires a team of professionals that may include subject specialists, educational technologists, media communication experts, graphic designers, book designers, and producers. The actual composition of the team depends on the contents of the learning materials to be included. The materials are introduced, feedback is collected, and the materials are revised. Such changes may be carried out continually and over many years.

## **PROGRAMME OFFERINGS**

Open schools offer courses to a pre-degree level, ranging from early childhood education to primary, secondary, and senior secondary education. The secondary and senior secondary programmes are comparatively more popular in developing countries. Some of the new and innovative ventures include technical and vocational education courses.

Open schools offer a wide range of courses that compare to the courses offered in conventional schools, which, therefore, have remained the reference point. Since the major concern is providing education to all, mobility from open schools to conventional schools and the reverse has been a significant consideration.

Open and conventional schools can be compared in three ways. One comparison emphasises commonality and comparability so that students have a better possibility of migration to conventional schools. The open schools in Zambia and Alberta, for example, are two open schools that offer a majority of courses similar to those in conventional schools. A second comparison professes total independence and functionality so that open schools are not subjugated to the rigidity of the conventional school curriculum. A third eclectic comparison now emerging is to offer a wide variety of courses — some of which are equivalent to those in the conventional schools and others that are unique to the open school. The students are free to choose any subject; however, they are advised to choose combinations comparable to the conventional school system if they plan to return to a conventional school or go on to college. The National Open School of India has adopted the eclectic approach. It currently offers as many as 18 courses at the senior secondary level and this is being extended to more than 40 courses, including some vocational courses. As well, technical and vocational courses are combined with academic courses for school certification at secondary and senior secondary stages. This approach has become viable largely because open schools do not have age restrictions and a significant proportion of open school students are “over-age” and will not return to college or university. They are motivated to learn for self-improvement through qualification and certification.

A variety of options are thus available to the open school student, and flexibility is the hallmark of the system. Nevertheless, school instruction being one of the major concerns of education, open schools must permit migration between open and conventional schools. Since the programmes are at various levels and bring in students with a wide

range of learning skills, the instructional processes in open schools have certain distinctive features that need serious consideration.

## **INSTRUCTIONAL PROCESS**

The following considerations influence the pedagogy of open schools:

- open school students vary widely in age — from school age children to senior citizens who differ in their experience and life skills;
- open school students differ widely in their learning skills and, in particular, in their reading skills;
- open school students may not be able to afford the same amount of time to study as can a full-time student;
- open school students are independent learners — they are self-propelled and self-motivated; and
- open schools often depend on multi-media instruction.

With these considerations in mind, open school instruction comprises a few common elements: it uses self-study print materials, electronic media, face-to-face contact sessions, student counselling, and some form of student response.

Open learning depends largely on self-study print materials. Self-study print materials are usually prepared in modular formats so that flexibility can be maintained. Each module is a self-contained learning unit. Compared to a textbook, the basic feature of self-study print material is the carefully structured presentation designed to make learning easy and effective. Usually self-study print materials comprise an introduction, a statement of learning goals and objectives, and the presentation of the information in small sections, with intermediate checks to monitor learning. The structure of self-study print material is derived from the contributions of psychologists such as Skinner, Ausubel, Bloom, Knowles, and many others.

The second component of open school instruction is the use of electronic media. As mentioned earlier, electronic media have long been used to augment conventional education. In open learning, this use is integral. The level of technology intervention, however, varies widely. Most common are radio and television, as not only do radio and television have a greater outreach, but they may also be cheaper than other technology. Many countries, including China, India, Pakistan, and Indonesia, have successfully used radio and television for education. The one-way communication of radio and television is being increasingly supplemented and, in some cases, replaced by the more effective interactive technologies like audio- and video-conferencing, teleconferencing, interactive television, computer-managed learning, and intelligent tutoring systems. The level at which technology is used is guided by the rate of technological advancement within the country, as well as by other considerations, including the number of students and their spread over a geographical area. For example, Canada and Australia use almost the entire range of interactive technologies. In contrast, India and Pakistan depend heavily on radio and television even though advanced technology is available to them.

The third important component of open school instruction is face-to-face contact classes. These classes vary in length and number. In some open schools, for example in Zambia, preference has been shown for conducting classes daily but for a shorter duration than in the conventional schools. In general, the argument is in favour of more contact classes

for open schools than for open universities, as it is anticipated that open school students have less developed independent learning skills; therefore, they need greater supervision and direct instruction. The kind of interaction that takes place in the face-to-face contact classes is also an issue. The open schools that prefer daily classes expect the teacher to cover the school curriculum in the contact sessions. Open school methods like self-study print material and electronic media supplement the tutor-based instruction, but tutor-based instruction remain the central strategy for learning delivery. In the other model, face-to-face contact complements self-study. Hence the contact sessions are devoted to counselling, tutorials, drills, laboratory experiments for science lessons, and peer group learning. Unfortunately, since most of the tutors are drawn from the conventional schools, their repertoire of instructional methods are restricted to direct instruction or lecturing and, in the final analysis, most of the contact sessions turn out to be lectures either on all topics or on selected important topics.

Another component of open learning instruction is student counselling. Counselling takes different shapes in different open schools. Wherever an open school offers a wide range of subjects, students need help in choosing the right combination of subjects, depending on their reasons for entering the open school. Similarly, student counselling is needed to monitor the progress of learning.

An equally important component of open schools is the mechanism for monitoring learning and providing help in self-assessments. Just as each instructional module provides in-text questions to monitor progress within the module, the open schools provide assignments and response sheets in each course. The open school student is expected to complete the assignment and submit it within a given time to the instructor, who in turn not only assesses but comments on the student's understanding of the material and suggests improvements. Student responses can be in many forms. As the case studies in this collection indicate, some open schools use the mail to return comments and evaluations to students; others use faxes to save time; and some even encourage both students and instructors to use audiotapes for communication.

## **STUDENT SUPPORT SERVICES**

The basic objective of student support services is to help students learn. Student support services have several components.

The first component of student support is informing prospective students about the programmes and methods used at open schools. This "pre-student support" is particularly necessary to bring in suitable students. The dissemination of information about open schools requires carefully planned publicity about the programmes available. Targeted publicity is particularly important in developing countries, where electronic media are comparatively less developed.

The second component of student support relates to enrolment and registration. Open school students are spread geographically — over a large country like India or a large province like British Columbia. The open school may administer enrolment using a range of centralised and decentralised approaches. In some of the open schools, students enrol directly with headquarters — they send in their applications and course fees by mail. In other cases, the open school sets up regional schools or study centres and students enrol there.

A third component of student support is advice and counselling on selecting courses, particularly since open schools provide more and students are often not adequately

prepared to choose in view of their own future goals. The regional study centres usually help students to choose appropriate combinations of subjects.

The fourth component of student support is ensuring the timely availability of self-study print materials. Again several approaches have been adopted in delivering print materials. Most open schools mail the print materials to ensure delivery at each student's doorstep. However, postal services are costly and the time of delivery depends on the efficiency of the postal department in each country. Some schools send the materials to the regional study centres by road and rail transportation and students collect the print materials there. This method is less expensive; but effectiveness again varies widely with the efficiency of the transportation system. Further, such an arrangement develops greater dependency on the regional study centres. Yet other open schools use a mixed model. The transportation system is used where open school students are concentrated geographically and regional study centres are within easy reach of the students, as in large cities; postal deliveries are used where students are dispersed geographically, as in rural areas, coastal zones, and remote areas. Since much of the learning in open schools is based on self-study print materials, their distribution and timely availability to students is critical to the success of the open school.

The fifth and most crucial component of student support services is personal contact programmes. They are largely used to supplement learning from the print material and electronic media, and include tutorials to answer questions, discussion sessions, and laboratory practicals and drills. Since the learning skills are comparatively low among open school students compared to those in the open universities, open school students require longer exposure to direct teaching, greater attention, and more supervised self-study. Special care is needed in personal contact programmes to ensure that tutorials, interactive group learning, and laboratory practicals take place, not lectures.

These components of student support services are interdependent and require integrated implementation. Student support services hold the key to a programme's success and determine the quality of education an open school offers.

## **COST AND FUNDING OF OPEN SCHOOLS**

Open schools are often considered less expensive than conventional schools, but the reality is different. Similar to the conventional system, the cost of education is directly proportional to the quality of the programmes the open schools offer. However, open schools provide education to a larger number of students at the same cost and at comparable quality; to that extent, they are cost effective. The principal cost in open schools is in the development, printing, and production of self-study print material; the quantity and quality of supporting material; the duration and level of personal contact classes; and the quality of teachers and instructors. The costs decrease when calculated per student, when economies of scale are realised. The administrative overhead costs do not necessarily increase with expanded enrolment. Instead, the per-student cost of programme delivery remains more or less constant, except when very large volumes of learning materials are printed; in those cases, the unit cost of the print material is significantly reduced.

An important point in the economics of open schools is that they require considerable investment at the beginning to set up the infrastructure and to start the processes of course development and materials design and production. The unit cost of education in the initial years is therefore high.

The actual cost of education varies widely between one country and another, depending on the level of enrolment as well as the type and quality of learning material. Few studies have been conducted on the cost of open schools. The lowest unit cost, as far as is known, is US\$25, which covers all expenditures in the National Open School of India.

Most open universities have largely emerged out of government initiatives, but distance education in continuing and professional education have not. The nature of government support for open schools varies from one country to another and from one open school to another within the same country. Unlike conventional schools, open schools are often only partially funded by government, which can vary from a token five to six percent of recurring expenditure in India, to nearly total funding in British Columbia. As well, governments provide relatively greater funding to open universities than to open schools. Similarly, the funding support by international and bilateral agencies also concentrates on open universities. Although The Commonwealth of Learning is not a funding agency, its own catalytic support to programme development in distance education institutions in Commonwealth countries has been directed to institutions at the post-secondary level. Recently, however, policy has shifted and lower levels of education are being funded.

## **ORGANISATION AND MANAGEMENT**

The first issue in the organisation and management of open schools is that, as this collection of cases studies would indicate, they can take more than one shape and structure. The first model is the dual-mode institution where distance education activities are a part of the conventional school system. In such a model, no specific infrastructure is developed; hence the model is faster to implement and less expensive to operate. Usually, a few employees are assigned to manage the open schools. The biggest risk in this model is the overarching influence of the conventional school, particularly its rigidity and traditional perception of education. Also in these cases, open schools may be treated as second-rate education.

The second model is the independent open school, which has complete autonomy and an independent infrastructure. Such open schools enjoy the freedom to design courses and curriculum, to build flexibility, and to remain innovative. Independent open schools usually serve large student groups. This model is expensive to set up, but becomes cost effective after several years. The New Zealand Correspondence School and the Indian National Open School are independent open schools.

Yet a third model is now emerging in which open schools are part of a dedicated distance education institution, as in Bangladesh, where the open school is a part of the Bangladesh Open University. This model is too new to justify comment at this time.

Other issues in the management of open schools relate to their internal organisation. A classical model of an open learning institution comprises:

- an academic division;
- a media and educational technology division;
- a printing and publication division;
- a student support services division;
- an admission and enrolment division;
- a material distribution division;

- a student evaluation division; and
- central administration.

The actual size and structure of each division varies, depending on the number and types of courses offered and the level of student enrolment. The main consideration in structuring an open school is to guard all the critical areas of operation and quality management and to keep the core staff at a minimum, while drawing upon the academic expertise and management services available. Functionality should guide the approach to structuring an open school.

## CONCLUSION

Open schools for primary and secondary education have tremendous possibilities and their full potential is yet to be explored. Open schools have already made a significant impact in all countries. They are now opening new vistas for the neo-literates — both adults and school drop-outs — because of their flexibility and responsiveness to learning needs. In the fast changing socio-technological scene, retraining people for employment and at home is becoming a necessity, and open schools have considerable potential for contributing to general life enrichment as well as for retraining for employment. Open schools have also been able to break down the barrier between vocational and academic schools — they place vocational courses at par with academic courses. From many considerations, open schools are capable of introducing a new dimension in education, which combines freedom to learn with functionality.

In developed countries where conventional schools are well entrenched and have proven efficiency, open schools may emerge as a significant *alternative* to the conventional system. However, the open school movement may be far more massive in the developing countries that are struggling to provide education to all in the face of a paucity of resources that forbids the lateral expansion of conventional schools and where the internal efficiency of the schools leaves much to be desired. Open schools in such countries, as can be seen from this collection of case studies, may be *complementary* and not an alternative school system. The conventional and open school systems will grow together and continue to influence one another. Indeed, because of their pedagogical soundness, open schools may significantly influence the instructional processes in the conventional system.

By their very nature and requirements, open schools must be location specific. While there can be a few universal core principles, the development variable — whether a country's economy is developed or developing — determines the perspective and methods used in the open schools. Although access to education will be the common concern in developed countries, open schools provide greater choice of courses, where school instruction is available to every child. In developing countries, open schools mean access to education for a larger number of people, with or without the freedom of choice.

In some countries, open schools may be over-run by technology because of its availability and addiction to it, while others may resist technology despite its availability; others will not be able to afford technology. The common concern, however, will be to provide a pedagogically sound programme for students. As this collection of open school case studies demonstrates, no single approach to open schooling predominates; rather open schools have emerged in more than one form in various countries and will continue to do so in the years to come.





## OPEN LEARNING IN INDIAN SCHOOL EDUCATION

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*O. S. Dewal\**

### INTRODUCTION

Education will become extremely important in the twenty-first century as information services play a dominant role in the promotion of lifelong learning, and as learning becomes more student controlled. Pointing towards the future, the Indian National Policy on Education (1986) states that “the future thrust will be in the direction of open and distance learning”. Open learning is thus expected to play an important role in India.

### EMERGENCE OF OPEN LEARNING

Open learning was given a new impetus when the Open University in the United Kingdom was established in 1969; but other events have also aided the growth of open learning. Perry (1976) holds the view that the provision of adult education, the growth of educational broadcasting, and the spread of egalitarianism in education ushered in open learning. As well, the student unrest at the universities of Paris and Berkeley in the 1960s and the publication of *Learning to Be: The World of Education Today and Tomorrow* by UNESCO in 1973 increased interest in alternatives to conventional education. But one other factor cannot be ignored.

The de-schooling movement, as a precursor to open learning, represented a loss of faith in institutionalised learning. Educationalists such as Illich, Reimer, and Goodman were highly critical of institutionalised learning. They contended that institutional learning had become meaningless and was doing harm. Alternatives were sought. Radio, television, films, audiotapes, and computers had been used for some time, but only as supplementary material. By the 1970s, they were often integrated into the instructional system. This integrated use of radio and television (mass media) further promoted the growth of open learning.

The need to design and adopt alternate strategies of education was a discernible trend on the international horizon in the 1960s. This trend seems to have been based on three premises, namely:

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\* Onkar S. Dewal is former Coordinator of the Commonwealth of Learning’s Programmes in India and was founding director of the Open School, now the National Open School of India.

- education should and must lose its selective and elitist character, and become egalitarian;
- more flexibility needs to be introduced in the content, processes, and structures of the educational system; and
- educational technology in the broad sense must be used in both the design and the delivery of education.

This concept of alternate education, taking education to the doorsteps of economically and geographically disadvantaged groups of students, ushered in the new era of open learning.

## **THE INDIAN SCENE**

Let us examine the various stages at which open learning developed on the Indian scene, starting from 1948, with each stage spanning a period of 20 years.

### **1948: The Beginning of Independence**

Independent India inherited a system of education that largely suited the needs of British colonial rule. The system was completely “bookish”, memory oriented, and elitist. Subject content, especially in language, history, and geography, was irrelevant to the Indian context. Science teaching was patchy and poor. Research facilities at the higher education level were practically nil. Approximately 4,000 high schools and 16 universities operated in the country.

Sociologically, the institutional climate was authoritarian. Teachers were respected by parents and feared by students. A socio-psychological gap existed between student and teacher. The textbook, the chalkboard, and the teacher were the tools of learning.

### **1948 to 1968**

By 1968, the selective emphasis was replaced by the mass emphasis. The country set up three education commissions during this period:

- the University Education Commission, headed by Professor S. Radhakrishan (1948);
- the Secondary Education Commission, headed by Dr. L. S. Mudaliar (1952); and
- the Education Commission, headed by Dr. D. S. Kothari (1966).

The recommendations of these commissions were of far-reaching importance. On the recommendation of the Secondary Education Commission, multi-purpose education was introduced and the 10-year school system was changed to an 11-year school system. The Education Commission then recommended a 12-year school system. As well, the curriculum was broadened and science teaching was given prominence. Further, proclamation of the first National Policy on Education in 1968 became a landmark in Indian education.

During this period several apex institutions were set up. The University Grants Commission was established in 1956. The Rural Institutes were also established in the same year by an order of the Government of India. Their aim was to nudge higher

education in the direction of village and rural studies. The Indian Institutes of Technology were set up in phases. The National Council of Educational Research and Training (NCERT), which accelerated educational change in India, came into being in 1961. NCERT's four constituent Regional Colleges of Education were established in 1962 and 1963.

The scheme of correspondence education was included in the third five-year plan (1961 to 1966). An expert committee under the chairmanship of Dr. D. S. Kothari was appointed in 1960 to work out its details. The committee recommended correspondence courses in some selected universities, believing that they would reduce the pressure of student numbers, as well as reduce capital costs and possibly even the recurrent costs.

Correspondence education at the school level emerged in 1964 and 1965. The Conference of Boards of School Education (COBSE) recommended correspondence courses for private students, to improve academic standards. The Board of Secondary Education of Madhya Pradesh was the first to start correspondence courses in 1965, followed by Patrachar Vidyalaya, Delhi, and the Rajasthan Board of Secondary Education, Ajmer, in 1968.

### **1968 to 1988**

The period from 1968 to 1988 was marked by developments in correspondence education, independent and part-time education, alternate education, and educational technology. It was realised that "more of the same" could not solve the educational problems and that alternatives were needed to make education relevant, purposeful, lifelong, and accessible.

The use of satellites in education in India began in 1975 under the UNESCO–United Nations Development Program project known as Satellite Instructional Television Experiment (SITE). The Indian Satellite (INSAT) for education was installed in orbit in 1984. The Centre for Educational Technology and state Educational Technology Units were upgraded into the Central Institute of Educational Technology (CIET) and State Institutes of Educational Technology (SIETs), respectively. Thus, radio and television (mass media) began to play an important and supportive role in programmes specially for primary and adult education, and teacher training. In a way, "distance teaching" entered, if not altogether through the back door, then certainly not through the front door either.

By 1985, fresh thinking about education had begun, resulting in the diagnostic exercise of educational maladies (Challenge of Education) and the promulgation of the second National Policy on Education (1986). The new policy (and its Programme of Action) initiated several new educational schemes for enhancing both equity and the quality of education. Some of the better known schemes include: Operation Black Board for upgrading the quality of primary schools; District Institutes of Education and Training for pre-service and in-service training of primary and elementary school teachers; Navodaya Vidyalayas for talented rural children; the core curriculum; vocational education for secondary education; a rethinking of content and process at the primary and secondary levels; alternate education; adult education in the mission mode; academic staff colleges to train college and university teachers; and the open learning institutions at the university and school levels that lead to the establishment of Indira Gandhi National Open University (IGNOU).

It is in the international and national contexts that we see the emergence of open learning as a macro innovation. Establishing the Open School project in 1979, Andhra Pradesh Open University in 1982, and later IGNOU and the National Open School (NOS) were structural innovations that promoted open, flexible, and responsive learning systems.

It is against this brief historical background that open schools in India can now be considered.

## **OPEN SCHOOLS IN INDIA**

Correspondence education had provided the student with the facility to study at his or her own pace. But it also had some limiting features. It adopted the same study scheme, syllabus, and examination system as the conventional schools. The only difference was that correspondence students studied at a distance whereas the conventional students received face-to-face instruction. Freedom of location at which to study was the only freedom the correspondence system provided. It did not offer freedom in its eligibility requirements, duration of learning, choice of curriculum, or evaluation procedures.

The idea of starting an open school surfaced in 1974. The NCERT set up a working group that recommended an open school for students 14 years of age and older, including adults. During the International Conference on Correspondence Education held in New Delhi in 1978, the NCERT team benefited from the advice of international experts. Their suggestions greatly helped to conceptualise and set up the Open School in 1979 as a project school of the Central Board of Secondary Education.

The concept of an open school at the secondary level was a big and bold departure from, and a considerable advance over, the concept of correspondence education. The aim was to liberate the system from its ingrained orthodoxy. Other considerations prompted the emergence of the Open School as well. Financial constraints, family circumstances, or rigidities of the school system had caused many students to leave school long before they reached 14 years of age or completed the eighth grade. The Open School was seen as a mechanism to give these early school leavers a second chance and to re-absorb them into the school system. In addition to the drop-outs, many working adults, especially people working in the border security force, police, and railways keenly wanted to pass their matriculation in order to move upward in their jobs. The Open School gave them this opportunity.

With its objectives and target student groups in mind, the Open School proposed four different programmes:

- (1) bridge, foundation, or preparatory courses;
- (2) courses leading to secondary school examination;
- (3) courses leading to senior secondary school examination; and
- (4) technical, vocational, and life enrichment courses.

In the first phase (from 1979 to 1987), the bridge or preparatory course and the courses leading to secondary school examination began. Later on, courses were introduced for senior secondary school examination. The technical, vocational, and life enrichment courses were reserved for the third phase.

Within the first three years, the Open School made a mark and its success became widely known. Its fast growth and increasing popularity led to the establishment of the National Open School, which absorbed the Open School project in 1989.

### **Education for All: A Long Way to Go**

Open universities have been much praised all over the world; however, very few commendatory words have been said for open schools. One reason for this is that few open schools have been established in the developed world because most of these countries have compulsory secondary education and conventional schools to service their populations. It is only in the developing world that the need for open schools is urgent, because they are an important structural innovation that will help provide education to all.

Ensuring education for all is a vital concern of all developing countries; indeed, it is an overriding agenda item for nation building. Education for all includes *basic education* and is aimed at social and economic development, both for individuals and for nations.

Since the early 1950s, educational systems all the world over have begun “a process of expansion without precedence in human history” (Coombs 1968, 3). However, as Caltung et al. (1979, 14) observed, educational growth has been accompanied by educational inequality. The situation in the developing countries is mixed. Massive expansion has often accompanied a lowering of educational standards and increasing inequalities in the scope of educational opportunities. Disparities are more acute in specific groups such as women, socially and economically disadvantaged students, and students with handicaps.

The Indian educational scene reflects the same trends. Despite an impressive expansion of educational facilities, the goal of education for all remains elusive. Even with the political will, overall enrolment in sixth grade (age 12) is around 40 percent. The situation is much more alarming in some states, including Bihar, Rajasthan, Madhya Pradesh, and Uttar Pradesh, where the enrolment of girls is around 20 percent and the female literacy rate is about 15 percent. Since 1974, special efforts have been launched to improve educational access through the promotion of alternate education and the use of educational technology to spread and extend primary education.

### **BASIC EDUCATION FOR ALL**

In India, the term *basic education* has an historical context and meaning. Basic education was Gandhi’s concept and his wisdom resulted in a refreshing look at education. The concept and practice of Gandhian basic education were further refined by his illustrious followers, including Dr. Zakir Hussain, Shri J. P. Naik, Dr. K. L. Shrimali, Shri Humayun Kabir, and others. Gandhian basic education comprised:

- the integrated teaching of various subjects like languages, science, mathematics, history, and geography;
- the integration of vocational education with academic learning;
- the inculcation of income-generation skills; and
- the development of a temper to promote dignity of labour.

Thus, Gandhian basic education was seen as a system of education to develop an integrated human being who is self-supporting in skills; *Swadeshi* (nationalist) in outlook; respectful of the values of truth, simplicity, and non-violence; and aimed at the balanced development of head, heart, and hands.

The connotation of the word *basic* in *basic education for all* is different. It means the basic skills and foundation knowledge that promote literacy, numeracy, and general awareness. Further, basic education for all also includes the development of certain values that are essential for human survival. Taken in this context and in agreement with Coombs' notion (1973), basic education for all includes:

- literacy and numeracy;
- an elementary understanding of society and nature;
- a scientific outlook and spirit of co-operation and tolerance;
- a positive attitude towards work, family, and community;
- foundation skills for earning and living; and
- foundation skills and knowledge of citizenship.

This concept of *basic education for all* cuts across the boundaries of age and subject. It encompasses primary education as well as adult literacy and skill training. Its curriculum, therefore, is different from conventional primary education and is offered to students in all age groups.

## **OPEN LEARNING IN INDIA**

Open learning in India, with its roots in the former correspondence education, was established to reduce the number of students that enrol in conventional universities and to make tertiary education less expensive. Elsewhere in the world, objectives were different. In England and Europe, open learning was established to promote adult vocational education. In Canada and Australia, it was established to extend educational opportunities to students in sparsely populated areas. In the then Soviet Union, the focus was on vocational education.

Although the government of India views open learning as a vehicle for achieving equity and social justice, it has had a rather slow start. For example, there is currently only one National Open School, in Delhi; one State Open School in each of Andhra Pradesh, Tamil Nadu, and Punjab; and one additional open learning institution or correspondence school located in each of Delhi, Allahabad, Ajmer, Bhopal, and Cuttack.

But can open learning in its current form help to promote education for all? My considered view is that "Yes, it can". But it will require many changes — structural, curricular, and pedagogical — along the following lines.

- An open school must be set up in each state. To ensure viability in the initial years, these institutions would need financial support; initial support by the central government will give them credibility and a jump start.

- Each state open school should have a specific area of focus, a specific staffing pattern, and a specific instructional design. There is no great merit in maintaining uniformity and shunning diversity. Deliberate locale-specific variations should be introduced.

Each state open school should offer two types of courses: one related to school certificate courses and the other related to competency-based, non-certificate vocational courses. The first level of courses would provide primary and secondary education; the second would cater to basic, vocational, and needs-based education.

School-level courses should have a strong component of primary education, which is especially relevant for grades five to eight, that is, the age group from ten years old to fourteen.

Open schools should be set up with due care and caution, avoiding the many myths. One myth is that such institutions can be set up on Mondays, start developing courses on Tuesdays, and start teaching on Wednesdays. They take much more time. Another myth is that any sort of learning material, with or without student support services, is good enough for an open school. Again, this is not true.

Deliberate efforts should make the climate of an open school “innovation friendly”. Open schools will contribute optimally if they are receptive to new ideas. To overcome resistance is a difficult task. Only a few schools keep their doors open to innovative practices.

Selecting the most suitable head of the open school guarantees the success or failure of an institution. The head of the open school need not embody the virtues of a king among scholars or a top-notch researcher. However, he or she must have initiative, vision, and tact: initiative to go for uncharted areas; vision to see what lies ahead; and tact to get the optimum effort from staff and students.

Providing equal opportunities for learning is a first step towards quality education. Optimal resources should be provided to open schools in the initial stage so that students from disadvantaged backgrounds can attain minimum levels of learning. Significantly, minimum levels of learning (identified by the NCERT and now being made a reality through various projects of the Ministry of Human Resource Development) are attainable if an acceptable though modest level of resources is made available to schools.

## **ROLE OF INTERNATIONAL AGENCIES**

International agencies like The Commonwealth of Learning or UNESCO can act as facilitators to promote open schools at the secondary level. By providing consultants to design and produce self-study materials, and by helping to revamp teacher education, they are welcome contributors. In order to ensure quality education, teachers need special orientations in three areas: diagnostic testing; remedial teaching; and teaching to ensure the achievement of minimum levels of learning. These three concepts are interdependent and overlap. Teacher education programmes should be geared to inculcate skills on how to impart minimum levels of learning to primary students using diagnosis and remedial teaching.

## **CONCLUSION**

To achieve India’s national objectives of education, concerted and long-term efforts are needed by local, national, and international partners. Initiatives from below and support from above are key factors to ensure success. Interaction with international agencies promote and extend spheres of awareness about open learning. In India, an assessment of open learning would suggest that its performance has been moderate but its potential remains high. People perish where there is no vision, it is said. Experts from within and

outside the country need to interact and share their views and experiences. As a result, alternative models can be found to help achieve *education for all*. And with that laudable objective in mind, open schools may yet achieve the significance that open universities have achieved in this past decade.

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## **PRIMARY AND SECONDARY DISTANCE EDUCATION IN VICTORIA, AUSTRALIA**

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*D. Lugg\**

### **INTRODUCTION**

Roger Melnyk had a severe physical disability. Living with muscular dystrophy, he had never walked and could move only the thumb and forefinger of each hand. Roger completed primary and secondary school as a distance education student, with his mother turning every page for him. He continued to study and received a Bachelor of Arts at Melbourne University and a Masters degree in Psychology from Latrobe University, Melbourne. After graduation, he became the first staff development officer for the Yooralla Society of Victoria. Later, he established the Muscular Dystrophy Association of Victoria and conducted its affairs from his wheelchair in a South Melbourne office. He was a member of the Psychological Society of Victoria, the Special Studies Committee at Burwood State College, the Tullamarine Integration Committee, and the Victorian International Year of Disabled Persons Committee.

Roger died in 1985 at the age of 34. Although unable to attend a conventional school, as a student he achieved his considerable potential by using the opportunities afforded through distance education and by tackling his tasks with sustained perseverance. Roger is but one of many for whom distance education has provided the means for an improved quality of life.

### **HISTORY OF DISTANCE EDUCATION IN VICTORIA**

In Australia, distance education was first used in the State of Victoria in 1908. It had its beginnings in correspondence classes for young teachers in rural schools who were unable to receive personal tuition while studying for higher qualifications. These correspondence classes were placed under the control of the principal of Melbourne High School (then known as the "Continuation School"). By 1911, more than six hundred students were enrolled, taught by a staff of nine.

In 1914, primary correspondence lessons began in response to a request from a parent living in Beech Forest in the Otway Mountains, west of Melbourne. This request was

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referred to the principal of the Melbourne Teachers College, who arranged for several of his teacher trainees to prepare and correct the lessons. At the end of that year, the correspondence students sat for the annual school examination conducted at the nearest school and passed. Other requests for correspondence tuition soon followed, and the system of tuition through the mail proved so successful that, in 1916, a special Correspondence Branch was established in a primary school situated in an inner suburb of Melbourne.

The growth of distance education continued at both the primary and secondary levels and spread to all other Australian states and territories — to Western Australia in 1915, to New South Wales in 1916, to Tasmania in 1919, to South Australia in 1920, to Queensland in 1922, and to the Northern Territory in 1980.

Currently the Distance Education Centre Victoria operates separately administered primary (preparatory to year 6) and secondary (years 7 to 12) schools, located in one centre at South Melbourne about three kilometres from the Melbourne city centre. The building in which the schools are housed was previously a secondary technical school and has been refurbished as a distance education centre.

## **THE ROLE OF THE DISTANCE EDUCATION CENTRE**

A teacher from the distance education centre is assigned to each family with students at the primary level and to each subject at the secondary level. The student's learning is a partnership between the distance education centre teacher, the student, and the supervisor, who is usually a parent for primary students and a teacher for school-based secondary students. Together, they plan and discuss the programme of work for the student.

The tasks that the Centre carries out include:

- researching and organising subject materials;
- writing and preparing curriculum activities;
- responding to students' work;
- evaluating progress;
- reporting to parents and students;
- visiting students at home, when possible;
- liaising with education services, officers, and consultants;
- communicating with families and students;
- preparing audiotapes and videotapes; and
- selecting, preparing, and packaging learning materials .

## **ELIGIBILITY OF STUDENTS FOR ENROLMENT**

Distance education for Victorian children over five years of age and in the following categories is available for a minimum of two school terms:

- Primary-aged children who live more than three kilometres from the nearest state primary school if they are under nine years of age, or five kilometres from the nearest bus route or stop if they are nine years of age and over.

- Children with a physical or emotional disability that prevents their attendance at school. A medical certificate is required for each ten-week period in the case of children with a physical disability.
- Children who are recommended due to school discipline procedures.

Tuition is also available for a maximum of two years, except where the general manager of the School Programs Division approves a longer period, for:

- children travelling in Australia, for example, on holiday tours or work/holiday tours;
- children travelling overseas and intending to return to Victoria;
- secondary school-based students who require a subject not available in their schools (this includes students attending the Australian Ballet School); and
- adults who do not have access to other education facilities. (An “adult” is defined as anyone over 15 years of age, which is the maximum age for compulsory school attendance in Victoria. This category includes prisoners.)

## ENROLMENT DETAILS

The primary enrolment as of November 1993 was 301 students, consisting of 250 full-time students and 51 adults taking basic literacy and numeracy programmes. At the secondary level, 2,335 students were enrolled, of whom 23.6 percent studied full-time. These figures are considerably lower than the maximum enrolment figures for the year, especially in the secondary section.

The categories of enrolment are shown in Table 1.

*Table 1: Categories of Enrolment*

CATEGORY OF ENROLMENT	PRIMARY	SECONDARY			
	%	Full-time	Part-time	Total	%
Remote	17.5	56	5	61	2.6
Itinerant worker families	10.0	21	10	31	1.3
Medical referrals	5.8	165	31	196	8.4
School exclusion	–	189	31	220	9.4
Travelling in Australia	17.5	33	2	35	1.5
Residing/travelling overseas	32.3	46	10	56	2.4
School-based students					
• government	–	–	1004	1004	43.1
• non-government	–	–	414	414	17.7
• ballet school	–	16	10	26	1.1
Adults					
• literacy and numeracy	16.9	–	–	–	–
• civilians	–	23	261	284	12.2
• prisoners	–	3	5	8	0.3

Service fees are charged ranging from \$90 per year for full-time students to \$170 per subject in years 11 and 12.

Few students remain with the Distance Education Centre Victoria for all of their primary schooling. The majority stay for a year or less and none of the primary distance education students attend other schools simultaneously.

## **COURSE DELIVERY**

The basic means of course delivery is through booklets mailed to students, their written responses sent through the mail to teachers, and the teachers' written comments and model answers returned to the students with their original responses. Postage is paid by the Distance Education Centre Victoria. Increasingly during recent years, students use faxes to submit work; this method is encouraged because it reduces turnaround time.

Audiotapes and videotapes are used at both the primary and secondary levels. Audiotapes, for example, record poetry and stories that accompany print materials at the primary level, and music and various languages other than English (LOTE) at the secondary level. Each term, primary students receive a videotape in which a particular curriculum area is highlighted, as well as an audiotape and activity package based on a particular curriculum area. Videotapes are also used to clarify curriculum areas that print materials do not cover easily. For example, physical education benefits from videotape lessons. Or the videotape may be of an actual excursion that it was not possible for the student to attend. Students are also encouraged to respond and communicate using an audiotape. High-quality facilities are in place at the Distance Education Centre Victoria to produce television programmes and both audiotapes and videotapes. However very large runs of tape duplication are contracted out.

Face-to-face contact is brought about as far as possible through occasional seminars and excursions for senior secondary students, annual residential camps for junior secondary students, and, when possible, visits to the homes of full-time students by a team of teachers. (Unfortunately, cost-cutting in recent years has removed the regular visiting service.)

A radio network between the Distance Education Centre Victoria and 44 rural secondary schools has also been terminated. It provided opportunities not only for teachers and students to talk with one another at scheduled times each week but also for students in these remote schools to talk to one another. The lesson sessions were usually 30 minutes long and many of the teachers had developed great skill in radio teaching techniques. Atmospheric conditions for radio transmission varied, being worst in summer when, luckily, broadcasts were not required because of the vacation period. Radio transmission proved satisfactory or better for about 95 percent of the time from March to November.

The radio service has been replaced with audio-conferencing by telephone even though it is more expensive to operate. Each week the Distance Education Centre Victoria offers more than 70 scheduled lessons through audio-conferencing or audio graphics. The audio link is provided by a Confer Link bridge and the visuals by Macintosh computers using *Electronic Classroom* software. Currently only students who attend some rural government secondary schools have access to the full audiographic mix, a small proportion of all Distance Education Centre Victoria students.

Because most students have access to a telephone, audio-conferencing is widely used for lessons as a substitute for seminars and for oral presentations and oral testing. The telephone is thus a major means of communication between teachers and students. Telephones are used for direct calls and messages from students to teachers are recorded

at the Distance Education Centre Victoria on an answering machine; as well, telephones are used for teleconferencing and fax transmissions.

Student need is diverse, however, as they are scattered geographically, and some lack access to communications technology. Consequently, the print materials must be able to stand alone in teaching the course objectives.

## **FUTURE DELIVERY AND SERVICING OF COURSES**

Modern technological developments appear likely to offer a vastly improved means of information delivery, especially by telematics, which encompasses communication systems based on electronics. In Victoria, some of these developments have been considered or tested.

Most interactive television programmes to date have been directed towards staff professional development and information. During 1992, a trial series of teaching programmes in German was the first local attempt to explore the use of this medium as a secondary school teaching device. During these programmes, student reactions were communicated by telephone or fax.

The Distance Education Centre Victoria is a major reception site for interactive television via satellite. Unfortunately, in Australia the reach of satellite television is limited, with relatively few households having access to it. Students in secondary schools that have satellite reception facilities are able to participate in these programmes, however. Although most schools lack this facility, installation in all (approximately 2,000) government schools throughout Victoria is planned over the next few years.

Distance Education Centre Victoria has participated in trials of video-conferencing but has faced difficulties because its students are so widely dispersed. Desktop video-conferencing may have greater applicability.

To date, the Distance Education Centre Victoria has made very little use of computer-mediated communication, although subscriptions to Nexus and Pegasus are maintained. An electronic mail address is available to students who are comfortable with this medium of communication. Trials have also been run to provide Distance Education Centre Victoria materials via bulletin board systems.

Computer-assisted instruction, including computer-based training, multi-media, and artificial intelligence, has had limited use, although some progress has been made with developing materials in *Hyper Card*. Computer-managed learning may be suitable for use in distance education, to manage and record the progress of learners through a course of study and to advise on learning actions. However, such issues as cost, access, and number of students in a given study area, and the use of an open-ended research approach requires consideration in connection with the extensive use of computer-managed learning.

## **GENERAL COMMUNICATION**

The importance of effective communication in a distance education operation cannot be overemphasised. In addition to the communication associated with the delivery of

courses, a variety of other communication is necessary. For example, in the Distance Education Centre Victoria, the primary principal and staff meet each morning at the tea break and announcements are commonly made at this time.

For the more numerous secondary staff, a weekly printed bulletin is circulated and includes information from the principal and other staff as well as reports from staff committees and details of any changes in student enrolments. Information from students may also be included in this bulletin, as is relevant information from the primary section. Like the primary school, secondary staff meet once a fortnight.

In addition to the many memoranda received from the Department of School Education, the link with the department is strengthened by monthly meetings of the two principals and the business manager with two department representatives. The Distance Education Centre Victoria is linked with the department's Quality Programs Division.

Both primary and secondary sections have information handbooks available for prospective students. They give details of school activities during the year, enrolment eligibility and procedures, costs and allowances, the role of the Distance Education Centre Victoria, the courses available, curriculum enrichment, the Centre's address, a location map, and so on. Parents and students are encouraged to visit the Centre when enrolling, if possible, in order to meet staff, and to view the facilities and operation of the Centre. If this is not possible, an Invicon tape (personalised video) may be sent to a prospective student in order to explain issues visually. The first batch of work sent to the students should contain a clear statement of the requirements and is of critical importance in the case of a complaint to an ombudsman. Newsletters are sent to students and parents regularly and reports on student progress are provided at least twice a year. Students or parents, or both, are occasionally requested to fill out questionnaire sheets for return to the teacher and are invited to comment further on courses and procedures. Where applicable, the Distance Education Centre Victoria emphasises the importance of the role of the supervisor in supporting the student in co-operation with the Distance Education Centre Victoria teacher. In the case of full-time students, the supervisor will usually be the parent but, in the case of secondary school-based students, it will be an appropriately qualified teacher on the school staff. To give support to these parents and teachers, seminars are conducted in Melbourne and regional centres across the state of Victoria. Staff of the Distance Education Centre Victoria meet with supervisors to discuss effective strategies for a successfully co-ordinated plan for assisting the students.

The role of the supervisor is to encourage students to keep up with their work, check on their progress, answer questions, and help with difficulties. The students should be aware of important dates for seminars, tests, and closing dates for entry to external examinations and to tertiary institutions (year 12 students).

The seminars with supervisors have an obvious value in alerting the Distance Education Centre Victoria staff to difficulties supervisors are experiencing, especially the parents whose teaching duties are additional to those of mother or father, employment, home duties, and so on. Staff need to have a real appreciation of the physical demands and time constraints under which most parent supervisors operate. Such appreciation should result in easy-to-follow teaching instructions for the home teacher.

A school magazine consisting mainly of students' work, together with other items of general interest, is issued to primary students. Libraries in both the primary and secondary sections have books and various other resource materials that are available for both staff and students to use. Finally, an important communication channel between teachers and students is the exchange of letters or photographs, or both, in order to help establish bonds of friendship.

## POTENTIAL AREAS FOR CONCERN

### Staff

In situations where staff appointments are made through a central administration, leaving the distance education centre with no control over its staffing, too often teachers who are experiencing difficulties in conventional schools are appointed to the distance education centre. Their difficulties may range from poor class discipline, to problems in establishing rapport with students, to pedophilic tendencies, to inadequate mastery of the subject matter, to personal medical disabilities and teacher burn-out. In some cases these teachers will perform admirably in a distance education centre.

However, under such central staffing procedures, agreement must be reached that, before staff are appointed, the principal of the distance education centre has a right to interview and veto each applicant so that each case can be decided on its merits with relevance to the distance education centre's needs and the teacher's abilities.

A serious by-product of staffing a distance education centre with too many "problem" teachers is to establish a concept both inside and outside the distance education centre that it is a refuge for failed teachers and is therefore unlikely to provide high quality service. The effect on morale can be disastrous.

### Staff Work Loads

Staff work loads preferably are negotiated between teachers and employer in consultation with the administration of the distance education centre. Clear job descriptions are likely to lead to harmony in the workplace.

Work loads in 1993 are set out in Table 2.

*Table 2: 1993 Staff Work Loads*

<b>PRIMARY</b>	<b>NUMBER OF STUDENTS PER TEACHER</b>	<b>SECONDARY</b>	<b>NUMBER OF STUDENTS PER SUBJECT</b>
Teachers	25 full-time students	Year 12	50
Teacher-writers	6 full-time students plus course writing	Year 11	60
		Year 10	70
		Year 9	70
		Year 8	70
		Year 7	80
		All course writing is additional to the above.	

### Central Administration Constraints

Excessive intrusion by a central administration into the administration of the distance education centre may hinder the best of working practices. For example, at one time the enrolment procedures for the secondary school year could not be set in place until the first school day of that year, which is in early February. Three or four weeks later, when

the Centre had received most of the applications, the Education Department reviewed all applications for approval. Thus it was four or five weeks after the beginning of the school year before enrolments could be processed and materials forwarded to the students to begin work. At the same time, many teachers were underemployed because no student submissions were on hand. Year 12 students, studying for a highly competitive higher school certificate external examination were placed at a severe disadvantage by this late start.

Following discussions with the Education Department, it was agreed that the Distance Education Centre Victoria should decide which students were eligible for enrolment without referring to the department, subject to an information report that detailed numbers and categories and which was forwarded early in the school year. Having established this new arrangement, the Distance Education Centre Victoria was able to accept and process enrolment applications during December and January *before* the school year started in February. Thus student work schedules were not delayed, staffing could be adjusted to enrolments at the beginning of the school year, teachers were fully occupied from February, and despatch and enrolment staffs had their busiest work period spread over two and a half months instead of one month.

Any problems that result from excessive intrusion by a central administration usually arise from the bureaucrats' ignorance of the distance education centre. In these circumstances it may be advisable to invite politicians and senior bureaucrats to visit the distance education centre; it is then up to the distance education centre to ensure that these visits are worthwhile for all involved.

### **Student Counselling**

Some prospective students have unrealistic ideas about the time required for, and difficulties associated with, distance education studies. Clear, sensible guidance should be available to students. School-based secondary students should schedule time for the distance education subject in their regular school day so that sufficient time is allocated for this work. Full-time students can be assisted to draw up a timetable, which is then displayed prominently at home. These students should also be advised about setting up a functional work area where they will not be easily distracted or frequently interrupted. All students should receive clear instructions about submitting work according to schedule and the consequences of failing to meet their deadlines.

Students should also be encouraged to discuss their work with peers, parents, and supervising teachers, as well as with their distance education centre teachers. Parents who read the set textbooks and discuss the content with their children can help deepen and widen the students' understanding considerably.

### **Communications**

It is essential that there be frequent and full two-way communication between the distance education centre and its wider community, as well as within the distance education centre. The wider community includes the public outside the distance education centre, students and parents, students' schools, supervising teachers, principals and school councils of conventional schools, the central administration, the government, curriculum and examination boards, subject associations, and other distance education centres and Schools of the Air.



The establishment of an Australian Association of Distance Education Principals proved of tremendous value for the exchange of information through regular teleconferencing covering all Australian states and territories, New Guinea, and New Zealand. Opportunities were also available for teachers of particular subjects to teleconference on the same network. These discussions produced some cost-cutting measures, including agreements for one distance education centre to use the course materials of another distance education centre rather than undergo the considerable expense of writing and printing a similar course. This association also established significant links with the Isolated Children's Parents' Association, which had many concerns about primary and secondary education for children living in the Australian outback.

Within the distance education centre, a comfortably furnished space, large enough for the whole staff to take morning and lunch breaks, is usually successful in bringing about informal exchanges of useful information, and a "whole team" ethos.

Poor communication is likely to cause frustration and a sense of "not belonging" and can lead to sensational rumours, which spread around the distance education centre like a bush fire, often damaging staff morale. Good communication should help everyone feel a part of the organisation.

### **Written Materials**

A student living on a large, remote cattle station once received instructions from his distance education centre mathematics teacher to use a measuring tape to measure the distance from the door of his house to the front gate. The student did not perform the task, but instead informed the teacher that the distance from his front door to his front gate was about five kilometres. It appears likely that the teacher, who resided in a major city, has used his own urban life background when framing this assignment, rather than the rural setting of the students completing the assignment.

As this example illustrates, it is important that distance education centre course writers have a considerable social and cultural understanding of the experiences and learning base of their learners, and that they acknowledge this cultural difference in writing and correcting student assignments. To aid understanding, distance education centre teachers and writers should visit the students in their homes even if time and financial constraints make it difficult.

A strong belief at Distance Education Centre Victoria holds that distance education centre writers should also be distance education centre teachers familiar with the modes and unique problems of distance education. Teachers working in distance education should be aware that without body language, tone of voice, and other visual cues, which are part of conventional classroom communication, the words in notes and corrections should be carefully chosen to avoid any kind of "put-down", threat, or sarcasm. Words that are expressed in the classroom accompanied by gestures, facial expressions, and vocal inflexions may seem very harsh on paper. This extra care is a vital part of the adaptation from classroom teaching to the distance education.

Equally vital is the ability to ensure that the information taught includes all the information required without being verbose or pedantic.

Since so much in distance education depends on the quality of the print materials, too much caution cannot be exercised to ensure that only high-quality print materials are sent from the distance education centre. High-quality print materials call for a careful

choice of writers and close scrutiny of all writing within the distance education centre. Close scrutiny can be achieved by monitoring the writing through a committee to support the writer or an editorial committee to which all writing must be submitted for approval, or both. The writing committee can also sound out new ideas and provide a first reaction to the written materials.

### **Access**

While distance education should facilitate access and re-access to education, problems can arise if access is too easy. In the case of Distance Education Centre Victoria, when enrolment was free, many enrollees, after acceptance, submitted no work at all. The introduction of a small non-refundable enrolment fee not only raised funds for the Distance Education Centre Victoria but also greatly reduced the number of non-producing enrollees.

### **Assessment**

Although it can be difficult to assess the work of a student whose parents are overly helpful, on the whole, parents make sensible decisions about the assistance they give their children. The overall success of these children when they move to a conventional school is a strong indicator that the distance education centre assessments are valid and reliable.

A more difficult problem is the Distance Education Centre Victoria's internal assessment of school and home-based assignments that count towards the total final assessment of year 12 students. This total assessment also includes some external examinations, and is the basis for placement in universities and other tertiary institutions. Several instances of cheating in the internal assignments were detected by alert teachers.

The principal responsible for certifying to the examination board that all such assignments (more than 1,000) were entirely the work of the students, adopted the practice of requiring each student to forward to the Distance Education Centre Victoria with each assignment a signed and witnessed statutory declaration, stating that the assignment is entirely the work of the student. This practice may seem extreme and not all teachers supported it, but it moved the responsibility firmly to the student, where the responsibility properly belongs. It also points out to the student that the matter is to be taken seriously.

### **Turnaround of Student Work**

It is essential for success in a distance education programme that students submit work regularly from the beginning of the school year unless circumstances make this impossible. It is equally essential that teachers be diligent and prompt in their correction and return of students' work.

Soon after the work of a student becomes overdue, the teacher should forward a friendly reminder to the student by mail or telephone. If this reminder fails to produce the work or a reasonable explanation, another firmer reminder should be sent. If the student still fails to respond within a reasonable period, it is time for a final reminder. This reminder may threaten exclusion from the subject, in the case of senior students beyond the school

leaving age, or a letter to the parents, in the case of a student under 15 years of age. If the parents fail to respond, the matter can be reported to the appropriate truancy authorities, who should then pursue the problem according to the law. Senior students who fail to respond to the third notice should be advised of their exclusion from the subject.

Students should be encouraged to take the initiative in contacting the teacher quickly when a late submission of work is likely. If the cause lies in the student's comprehension of the notes or of the work required, then contact with the teacher is the best means of resolving the issues. If work is delayed because of illness or unforeseen circumstances, work can be reduced or deadlines varied. When a teacher receives good reasons for a late return of work, those reasons should be made known to the whole staff. With rigorous application of assignment deadline procedures, the distance education centre develops the public image of an organisation that "means business" because of clearly established expectations.

As well, staffing can be more accurately correlated to the enrolment and therefore to the amount of work required by the distance education centre staff. For example, as the amount of corrections of student submissions decreases, the number of new courses being written can be increased.

As both research and experience indicate that learning is aided by a rapid turnaround of student submissions, a distance education centre should devise a system of monitoring the time between receiving student work and the return of the corrected work to the student. In the past the Distance Education Centre Victoria has monitored turnaround by having each teacher fill in a weekly return sheet for the vice-principal's perusal. Currently, plans are in hand for bar coding every item of student work and recording electronically the dates work is received and returned, as well as the teacher involved. This information will be stored on computer. Likewise, the distance education centre should have a policy of promptly responding to enquiries left on the telephone answering machine.

## **SOME CHARACTERISTICS FOR A SUCCESSFUL DISTANCE EDUCATION CENTRE**

In summary, some characteristics and procedures that can aid the success of a distance education centre follow.

- Maintain a staff, both teaching and non-teaching, who are competent, dedicated, and innovative.
- Support in-service opportunities for staff to undertake further study, particularly in the area of distance education.
- Endeavour to establish a situation in which an appointment to a distance education centre is a useful stepping stone in a teacher's career path.
- In association with staff, students, and parents, produce statements of aims and objectives.
- Provide user-friendly handbooks, newsletters, and student study notes.
- Reply promptly to letters and telephone calls from students, and ensure that the turnaround for student work is timely.
- Ensure that the distance education centre's requirements are clearly stated in the initial material sent to students.

- Ensure that student work booklets are forwarded throughout the year well before they are required.
- Establish a reasonable warning system for overdue work and follow through on it as required.
- Be reasonable with students who give good reasons for submitting work late.
- Ensure that full records are kept of student work, dates of warnings, turnaround times, and so on.
- Strive for excellence in all aspects of the operation, especially in the writing of materials, correction of work, monitoring student progress, and responding to enquiries.
- Include teacher-prepared model answers, with corrections returned to the student. These model answers should contain in-depth material that will reinforce the students' knowledge and understanding of the topic under study.
- Make the distance education centre a user-friendly organisation by the manner in which students and parents are treated, by exchanges of letters and photographs between students and teachers, and by the way in which visitors are received at the distance education centre.
- Publicise both current and former student successes, as well as the successes of distance education centre teachers.

## CONCLUSION

In conclusion, the following account from a music teacher illustrates the benefits of distance education:

Another potential student rang me when I was beginning the first Music Theory course. She was 67, crippled from childhood polio, and caring for an invalid mother of 90. Her words were, "I have always wanted to study Music Theory all my life, but never had the opportunity. Can I *really* study with the Correspondence School now?" She became one of my best advanced grade theory students. She rang me almost every week, ostensibly to discuss her theory, but always the conversation turned to personal matters. Not only was the school providing her with educational facilities, but she was communicating with another human being, on a personal level.

It is stories like these, and there are many more in similar vein, that make distance education even more rewarding than classroom teaching. It is this personal contact in a world becoming more and more impersonal that proves the worth of distance education to the community.

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## **THE UNFOLDING OF AN OPEN LEARNING INSTITUTION: THE NATIONAL OPEN SCHOOL OF INDIA**

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*M. Mukhopadhyay\**

### **INTRODUCTION**

India has steered one of the most magnificent developments in education anywhere in the world since Independence four and a half decades ago. The educational infrastructure has expanded so tremendously that today the system comprises more than 700,000 primary schools, about 95,000 secondary and senior secondary schools, 7,000 colleges, and more than 200 universities.

Significant changes in the quality of education have brought some of the educational institutions international repute in the fields of technology and science. Yet basic education for all remains elusive. Increased enrolment in primary classes is rendered ineffective because of a high drop-out rate. At the secondary level, not more than 35 percent of boys and girls in the relevant age group attend school, and less than 5 percent continue at the tertiary level. Out of 100 children enrolled in standard 1, not more than 6 pass out of standard 10, and their performance in the public examinations varies widely — gravitating towards the lower end of the scale.

To reach the current level of participation and performance in education, the Government of India spends about 3.4 percent of its gross national product. The state governments spend more than 22 percent of their annual budget on education, given that education is largely in the state domain and nearly 48 percent of that budget is spent on elementary education.

Basic education for all is a serious concern in India. The Constitution specifically recommends that the Government of India endeavour to provide free and compulsory education to age 14. The Education Commission of 1966 and the first Indian National Policy on Education of 1968 specifically recommended that goal. The National Policy on Education in 1986 was a turning point, with a significant emphasis on basic education that the Jomtien Conference on Education for All reinforced in 1990. In 1992,

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the National Policy on Education and Programme of Action were revised and the emphasis on mass education was strengthened.

Further, the National Literacy Mission Authority was established to initiate the adult education programme; a National Elementary Education Mission was also established to pilot elementary education. The Prime Minister, during the historic summit of the nine high-population countries (the “E-9 Summit”, convened jointly by UNESCO, UNFPA, and UNICEF) in Delhi in December 1993, announced an increase in the budget for education to six percent of the gross national product. India currently welcomes investment in elementary education from several international and bilateral agencies, including the World Bank, the United Nations Development Program, the Canadian International Development Agency, the European Community, and the United Kingdom Overseas Development Administration. India is mobilising almost all of the resources available to solve the problem of illiteracy and to provide basic education before the twenty-first century.

The National Open School must be seen from this changing point of view, linked to a new open economy and a restructured society. The National Open School mission aims to:

- universalise education;
- increase social equity and justice; and
- develop a learning society.

Because of its social and national concerns, the National Open School must be seen as one of the government’s important instruments in the universalisation of education, and not as just another school. As a result, since its inception in 1989, all major committees and commissions studying education in India have emphasised the National Open School. A review of the recommendations of these committees will reveal the way in which the National Open School is viewed in the overall context of education in India.

## **THE NATIONAL OPEN SCHOOL: THE PERSPECTIVE**

The Central Advisory Board of Education, the highest policy-making body on education in India, set up a committee under the chair of Mr. N. Janardhan Reddy, then Chief Minister and Minister of Education of Andhra Pradesh, in 1991. The Janardhan Committee report states:

Considering the resource constraints, the open learning system has an important role in the universalisation of educational opportunities. The flexibility and innovativeness of the open learning system are particularly suited to the diverse requirements of the pluralist clientele. While reducing the pressure on the formal system, it offers facilities for continuing education to those who had to move out of the formal system at various stages, including those who had joined the vocational stream. It, thus, both broadens the access to education, and also helps the drop outs to get back to the mainstream. We are, therefore, of the view that open learning be given utmost encouragement and that the National Open School should play the same lead role within the open school system as IGNOU with open universities.



The National Policy on Education, 1986, as revised in 1992, recommended that “The National Open School will be strengthened and open learning facilities extended in a phased manner at the secondary level in all parts of the country.”

The Programme of Action, 1992 (the document accompanying the National Policy on Education) emphasised both open vocational education and establishing meaningful links with workstations, industry, and other organisations. The Programme of Action also recommended that a National Consortium on Open Schooling be established and that the National Open School lead the consortium.

The Planning Commission appointed a Core Group on Open Education, with Dr. Chitra Naik, member of the Planning Commission, an erudite scholar and educationist, in the chair. The Chitra Naik Committee described the role of the National Open School in the following terms:

- strengthening the National Open School to meet the educational needs of open secondary education, open higher secondary education, open vocational education, and open upper primary education, the latter on an experimental basis;
- designing and developing, in collaboration with agricultural universities, a variety of location-specific courses bearing on agricultural, agro-based industries, and related services such as food processing, storage, transport, and marketing;
- preparing a programme to train teachers in remote areas where the need is most urgent; and
- planning and organising the intensive training of all staff who are engaged in open learning, specifically, in its planning, management, financing, networking, at contact centres, and preparing packaged materials.

The eighth five-year plan document, which guides educational development from 1992 to 1996, made specific recommendations on open schools and established certain targets. The eighth five-year plan target was to provide additional enrolment for 600,000 students through open schooling. The eighth five-year plan also indicated the desirability and involvement of the open school system in the post-primary stage.

The Central Advisory Board of Education appointed another committee under the chair of Professor G. Ram Reddy, an eminent specialist on distance education and chair of the University Grants Commission. The Ram Reddy Committee recommended an action plan for the National Open School:

- “A National Data Base on Distance Education be established at the School level by the National Open School which should be linked to international databases;
- Suitable norms should be evolved and guidelines prepared by the Indira Gandhi National Open University, UGC and the National Open School for establishment of new Distance Education Institutions and conversion of existing correspondence institutions to the distance education mode;
- The National Open School take responsibility for regional co-operation which would include transfer and sharing of course material, joint development of courses, training of staff, etc.;

- In accordance with the recommendations of the Planning Commission’s Core Group on Open Learning, the National Open School should be strengthened for meeting the educational needs of open secondary education, open higher secondary education, and open vocational education.
- Open Schools must be encouraged to make greater use of communication technology through provision of funding, facilities and technical expertise.”

The E-9 Summit released the Delhi Declaration, which declared a Joint Initiative on Distance Education. It states:

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

Following the E-9 Summit, the Central Advisory Board of Education asked the National Open School to “take up the co-ordination and implementation of the joint initiative”.

The various recommendations the committees made provide a basic policy direction for the National Open School and its three major roles, as displayed in Figure 1.

**Figure 1: Systemic View of the National Open School**

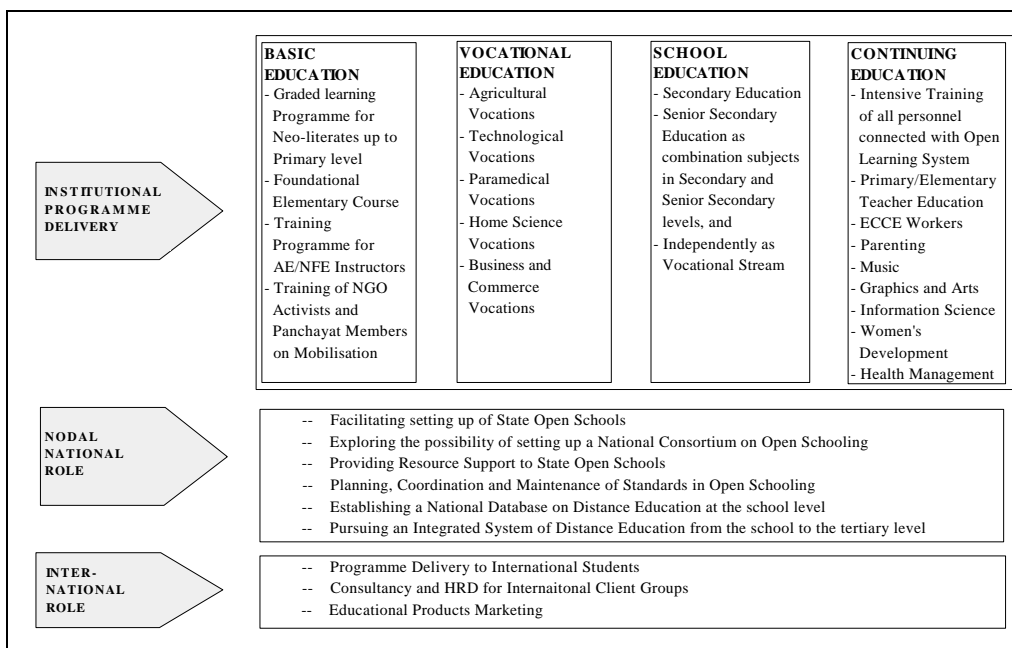


Figure 1 indicates three distinct roles for the National Open School:

- (1) an institution with strong post-literacy, elementary, secondary, senior secondary, vocational education, and continuing education programmes;
- (2) a national leader, facilitating the establishment of state open schools, co-ordinating standards, and providing resource support to open schools; and
- (3) an international interface, comprising programme delivery, human resource development, and other resource support to open schools in the third world, and exporting education products for open schooling.

## **CURRENT STATUS OF THE NATIONAL OPEN SCHOOL**

### **Phases of Development**

The National Open School has developed in three distinct phases. From 1979 to 1989, the institution operated as the “Open School” — a project of the Central Board of Secondary Education, which is an examining body for conventional secondary and senior secondary schools. As part of a conventional institution (that is, as a dual-mode open learning institution), the Open School built a solid foundation of courses — the Bridge, Secondary, and Senior Secondary courses. The most remarkable feature of the Open School at this time was its flexibility, usually the characteristic of a single-mode open learning institution. As well, curriculum, self-instructional material, and a mechanism of programme delivery were designed, implemented, and refined during this period.

From 1989 to 1992, the National Open School was established as an autonomous organisation by the Government of India. In November 1989, the Open School project was subsumed into the National Open School, and a mechanism for examination and certification was established. In 1990, the Government of India authorised the National Open School to conduct examinations and act as the certifying authority at the secondary and senior secondary levels. As a result, the National Open School assumed the function of a board of examination. Another initiative taken at this time was to provide open vocational education.

From 1993 on, the National Open School shifted from “a school and board combined” to “a national institution of open learning”. The National Open School envisioned itself as a state instrument providing education for all through open learning. To that end, this period is characterised by a search for a new identity as a national institution. The National Open School also initiated activities in various other areas, as indicated in Figure 1.

### **Special Features**

Several innovative features distinguish the National Open School as an open learning institution. Flexibility and openness characterise these features, which include the following:

- *No Upper Age Limit*: Although the National Open School has a lower age limit of 14 years for entry into its courses, there is no upper age limit. Thus, more than 30 percent of National Open School students are over the age of 20, with some students older than 50 years of age.

- *No Rigid Entry Qualifications:* The National Open School expects a minimum level of competence for entry into its courses. Any student who has passed primary school can enrol in the Bridge course or the Secondary course. To enrol in the Senior Secondary course, however, a candidate must have a secondary pass certificate, to maintain equivalence with other examining bodies.
- *Choice of Courses:* Students may choose from a given list of subjects according to their individual interests, without restriction. For example, a senior secondary student may choose word processing, history, physics, accounting, and one language. Altogether, 26 subjects are offered in the Secondary and Senior Secondary courses. As well, the National Open School is developing more than 80 vocational and life enrichment courses, which students may combine with academic courses.
- *Self-pacing:* Students are free to study at their own pace and have up to five years to complete a course of five subjects. Students may study one or more subjects at a time, and postpone studying for awhile if necessary, without seeking permission.
- *Quality Learning Material:* Students are provided with semi-programmed interactive self-study learning materials, which have been developed by a team comprised of some of the best teachers and writers available. The learning materials are written in simple language and are presented attractively, with access devices and built-in feedback to help the student.
- *Media Support:* Learning is supported, although marginally, by audiotape and videotape programmes in selected subjects and difficult topics. Some tapes are developed by the National Open School and others are purchased.
- *Personal Contact Programmes:* The National Open School provides contact sessions, during which students can ask questions and seek guidance in their studies. Students can also view or listen to audiotape and videotape programmes or carry out practical assignments.
- *Choice in Taking Examination Time:* In order to make independent study more meaningful, the National Open School allows students to take examinations when they are ready. Examinations are held twice a year and students are free to choose not only which examinations, but also how many to write. Students are credited for every subject they pass. The credits are accumulated on computer, and, when sufficient credits have been obtained, a certificate is awarded.

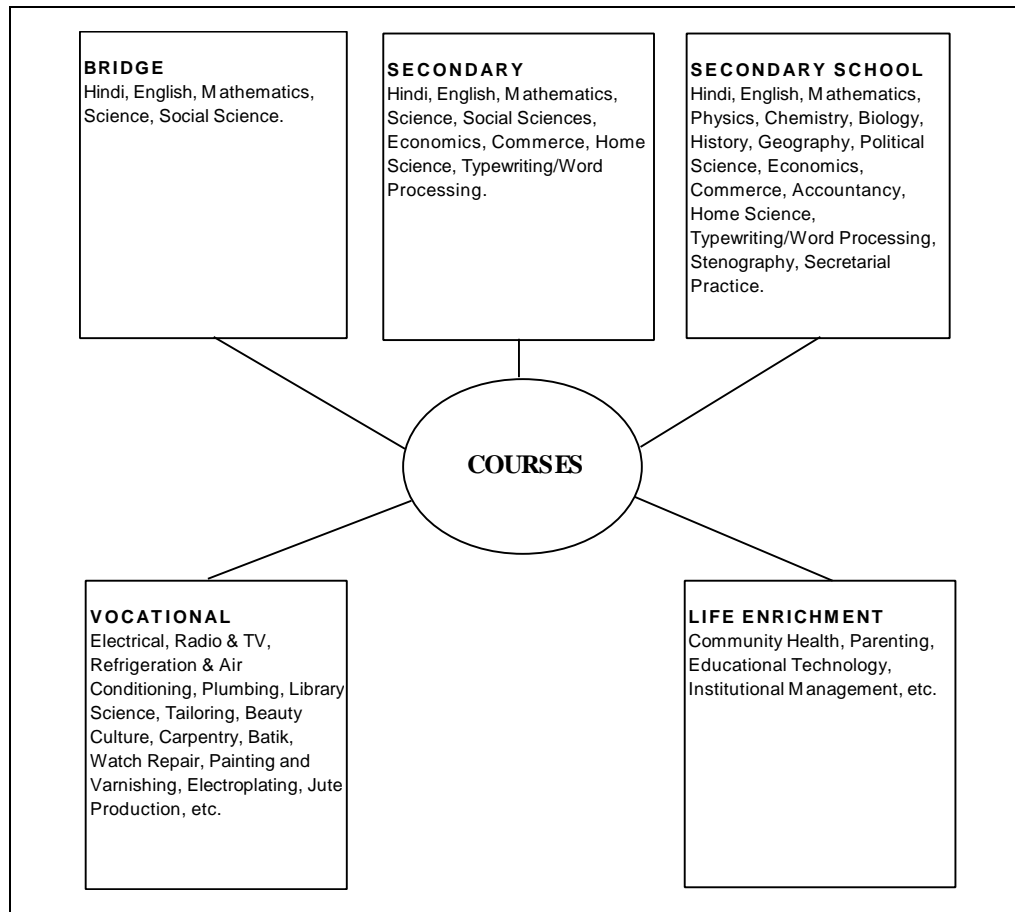
## **Programmes and Courses**

The National Open School offers three levels of academic courses: the Foundation or Bridge course, which is equivalent to eight years of schooling; the Secondary course, which is equivalent to ten years of schooling; and the Senior Secondary course, which is equivalent to twelve years of schooling.

In addition to these three academic courses, the National Open School offers vocational courses in selected areas. They are six or twelve months long and may be combined with academic courses.

The courses offered at various levels are shown in Figure 2.

**Figure 2: Programmes Offered at the National Open School**



**Enrolment**

When the National Open School absorbed the Open School project, it inherited students enrolled before 1990–91. The data and profile presented in Table 1, however, pertain to the period from 1990–91 to 1993–94. The total number of students enrolled in academic courses during these years is 191,515 and the number of students enrolled in vocational courses is 5,557.

**Table 1: Course Enrolment**

<b>Year</b>	<b>Bridge</b>	<b>Secondary</b>	<b>Sr. Secondary</b>	<b>Vocational</b>	<b>Total</b>
1990	2,644	20,889	17,351	—	40,884
1991	1,056	20,935	12,790	—	34,781
1992	1,260	31,375	20,932	2,887	56,454
1993	1,408	35,098	25,777	2,670	64,953
<b>Total</b>	<b>6,368</b>	<b>108,297</b>	<b>76,850</b>	<b>5,557</b>	<b>197,072</b>

Evidently, after 1990 enrolment in the Bridge course dropped suddenly. At that time qualifications for entry to the Secondary course had been waived and students could enrol directly in the secondary-level programme. In the Secondary and Senior Secondary courses, enrolment is steadily increasing.

Other important attributes of enrolment include the following.

- *Gender Ratio:* Of the total number of students enrolled in academic courses since 1990–91, the male–female ratio is 63:37. The male–female ratio in vocational courses is 60:40. These ratios are by far the best gender ratio in all levels of education in India.

- *Regional Distribution:* Enrolment is distributed by region as follows:

Northern Region	65.8 percent
Eastern Region	17.8 percent
Northeastern Region	7.6 percent
Western Region	6.7 percent
Southern Region	3.1 percent

The concentration of enrolment in the Northern region is largely due to the availability of the Hindi language as one medium of instruction. The region also has a higher rate of drop-outs from conventional schools.

- *Age Groups:* The National Open School has a minimum age for entry into the Bridge (14 years), Secondary (15 years), and Senior Secondary (16 years) courses; but no upper age limit is imposed. The age representation of enrolled students is as follows:

14 to 16 years	27 percent
17 to 19 years	43 percent
20 years and older	30 percent

## **Developing Curriculum and Preparing Learning Materials**

The National Open School develops its own curriculum using a team approach. Before beginning work on any course, an expert group prepares policy directions, which are discussed extensively and then finalised on the basis of feedback from subject experts and practitioners. The policy directions form the parameters for the subject committees, who then write the curriculum materials.

Curriculum in the National Open School has two major features. First, it is broadly based and intimately linked to life situations so that learning is in context. Second, it is interdisciplinary and cuts across the boundaries of specialised knowledge in favour of general education, which is the goal of the secondary school. Due place is also given to oral and aural competencies in the language courses.

Like other distance education institutions, printed self-study learning materials play a major role in the teaching and learning process at the National Open School. Over the years, however, interaction with students has made it possible to make the learning package more effective. Accordingly, National Open School learning materials comprise the following:

- self-study print materials;

- audiotapes as an essential component in language courses and as support material in other subjects;
- concept maps;
- sample question papers;
- assignments;
- charts and maps;
- study guides;
- glossaries;
- practical manuals; and
- science laboratory kits.

The learning materials are developed by course teams, whose members are drawn from national and regional institutions like the National Council of Educational Research and Training (NCERT), the Technical Teachers Training Institutes, colleges, and universities, as well as from conventional schools. Further, special attention is paid to ensure the inclusion of practitioners from the study centres because they have first-hand experience working with students. The team is supported by graphic artists, educational technologists, and language experts.

The self-study print materials are the mainstay of the learning package. Their design draws heavily on the contributions of Skinner, Ausubel, Malcolm Knowles, and Benjamin Bloom. The major components of the self-study print materials include a concept map, an introduction, statement of objectives, presentation of contents in sections, in-text questions for self-check and feedback, a summary, the terminal exercises, and a set of assignments. The print materials are interactive and are written following several basic steps: subject experts meet; modules are drafted; the course team chair reviews the modules; modules are revised; modules and their revisions are reviewed; language is edited, illustrated, and word processed; and then the materials are printed. Each module consists of about 5,000 words and a booklet contains 5 or 6 related modules.

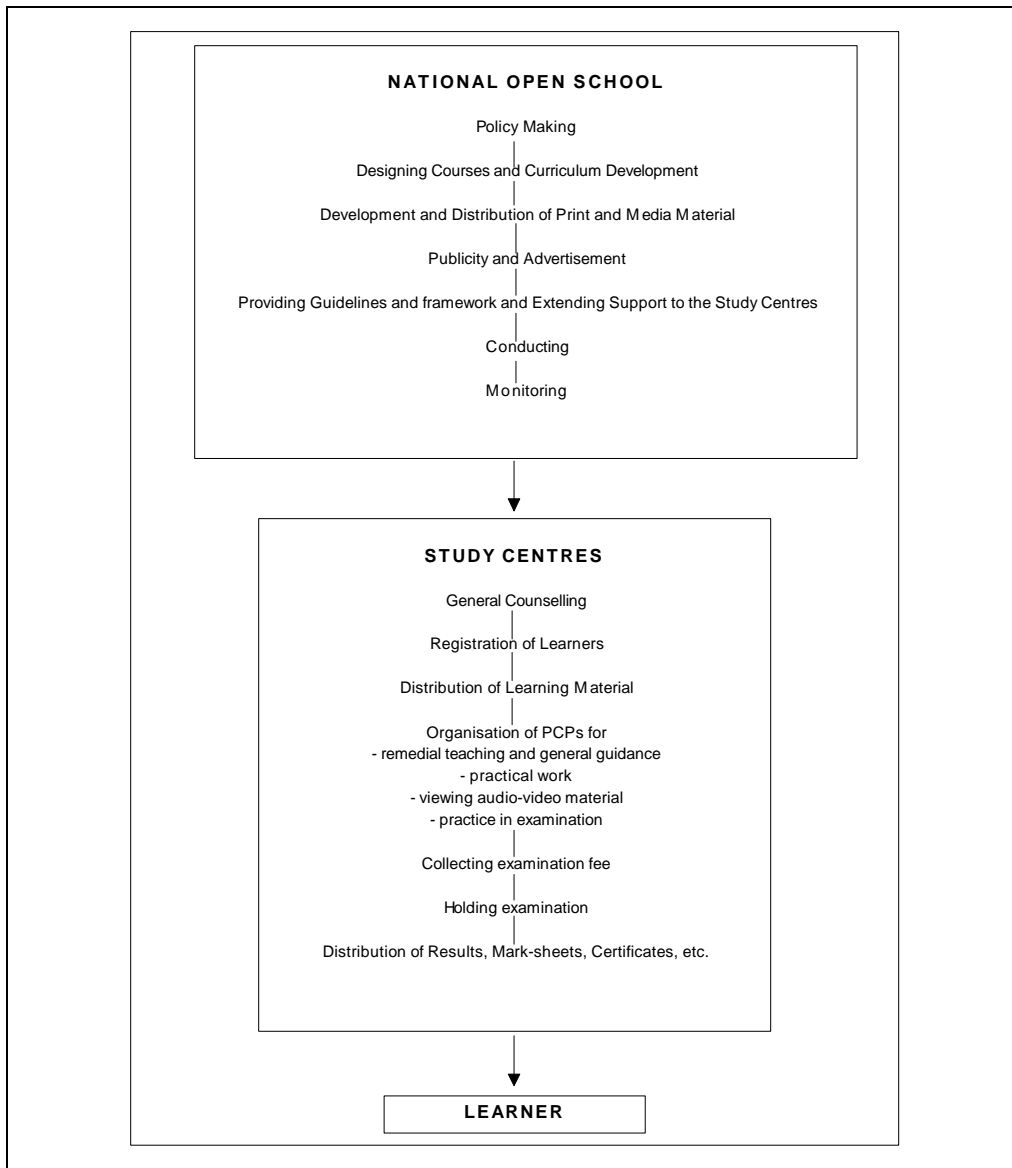
The National Open School uses electronic media only marginally. In fact no media at all were used in the first two phases of development. In the third phase, audiotape and videotape programmes have been developed. These programmes may be:

- developed by National Open School staff;
- purchased from other agencies if their content is relevant, or
- commissioned to freelance producers.

### **Programme Delivery**

Programme delivery comprises a multi-stage process that involves the National Open School, the study centres, and students, as presented in Figure 3.

**Figure 3: Open Learning System Operating at the National Open School**



Source: Dr. Rajesh Kumar, "Sorry, We Don't Want Your Open Learning", a paper presented in Pacific Perspective Conference on Distance Education, Wellington, New Zealand, 1994.

The major components of programme delivery include registering students, distributing learning materials, counselling students academically and otherwise, providing contact classes, and preparing for and conducting examinations. Most of these tasks are conducted at the study centres, which are sited at conventional schools. They are chosen on the basis of certain measurable criteria and their willingness to collaborate with the National Open School. More than 350 study centres are spread throughout the country. Study centres play an important role, as points of educational delivery and public interface for the National Open School. Over time they have emerged as crucial to the open school.

The principal of the conventional school is usually the co-ordinator of the National Open School programme. The co-ordinator, assistant co-ordinator, clerks, and assistants



are paid little for their services, as are the teachers who take classes. The teachers are mostly from the same conventional school; however, the co-ordinator is free to hire outside teachers as well.

The National Open School convenes co-ordinator meetings every year, usually at the beginning of the year, to plan an annual schedule. Further, a bi-monthly newsletter that is circulated from the National Open School keeps the co-ordinators and study centres informed of developments. “Study centre to National Open School” and “National Open School to study centre” communication by mail is regular and frequent.

### Student Evaluation

The National Open School is authorised to conduct examinations and conducted its first one in 1991. The number of candidates who have appeared and qualified in the secondary and senior secondary examinations between 1991 and 1993 is given in Table 2.

*Table 2: Number of Candidates Who Appeared and Qualified*

Levels	Appeared	Certified
Secondary	150,472	37,659
Senior Secondary	110,144	32,064
Total	260,616	69,723

Note: Only students who complete the total credit requirements are certified.

Several innovations to student evaluation are in place at the National Open School. First, unlike the conventional system, a student is not required to write examinations in all subjects at the same time. A student is free to write examinations in one or two subjects, and may write the other subjects at a different time. A student can complete all the subjects in nine examinations spread over five years and may rewrite an examination even after passing the subject, to upgrade credit for that course.

Table 2 indicates that 260,616 candidates wrote examinations of various types — some in one subject, some in two, some in three, and so on. During the period under review, 69,723 candidates completed all their credit requirements and were certified as having successfully completed and passed the examinations.

A second innovation in student evaluation is that the National Open School uses a wide variety of tests — objective tests, short answer tests, and short essays. The question papers are typeset in a special blue ink, comprise various levels of understanding, and are weighted according to the topics studied. Along with the questions, model answers and marking schemes are also prepared. The examiners are oriented and trained to assess student responses on the basis of the model answers and marking scheme. Thus variability of marks between examiners is reduced.

A third innovation is to replace the interim evaluations and pre-tests with assignments. A student is expected to complete at least four assignments before being eligible to sit the public examination. The assignments are tutor marked and are weighted at 20 percent for each subject.

## **Organisation and Management**

Even though the National Open School was established by the Ministry of Human Resource Development in the Government of India, it is registered as a society under the *Society's Registration Act*, and as such, is an autonomous organisation. But because the National Open School was set up and partly funded by the government, it is largely governed by Government of India rules, and, as a result, has only partial autonomy.

The highest statutory body in the National Open School is the General Body, which includes representatives from the Ministries of Human Resource Development, Personnel, and Information and Broadcasting, Door Darshan and All India Radio, the provincial governments, and an expert in each of the areas of distance education, women's development, technology, vocational education, media, and industry. The General Body sets policy for the National Open School. Its Executive Committee, comprising Government of India representatives and the subject experts listed, is the executive wing of the National Open School. The Executive Committee is assisted by an Establishment Committee, which looks after smaller establishment issues. The Finance Committee attends to the School's financial needs and expenditures, establishes budgets, and monitors expenditures. The General Body, Executive Committee, Finance Committee, and the Establishment Committee are headed by the chair, who is also the executive head of the School. By placing the executive head as leader of the policy-making and implementing bodies, an effort has been made to structurally safeguard the autonomy of the institution.

The National Open School is divided into three departments — Academic, Examination, and Administration. The Academic Department includes vocational education, media, student support services, the life enrichment and continuing education programme, basic education, and planning and evaluation, as well as the academic open secondary and senior secondary education. Similarly, the Administration Department includes publications, finance and accounts, material distribution, and admission, as well as normal administrative functions like personnel, purchasing, and maintenance.

The institution employs a staff of 159, of whom about 17 percent are academic staff, 55 percent are examination and administration staff, 15 percent are technical staff, and about 13 percent are support staff. Significantly, the number of core academic staff is small and their salary scale is lower than that of a university lecturer.

## **Finance and Funding**

In the Indian context, it is quite common for government-established institutions to be fully or primarily funded by the Government of India. The situation is different for the National Open School. In 1993–94, the annual recurring expenditure was equal to US\$2.61 million, out of which the government contribution was only US\$.11 million. The remaining US\$2.5 million was generated by the National Open School from tuition and examination fees and the sale of books and materials. During the same period, the government also provided a development plan grant of US\$.47 million.

The National Open School maintains a low per-unit cost of education. Student fees account for 95 percent of the cost of education. A secondary student pays the equivalent of US\$21.70 for five courses, and a senior secondary student pays US\$25.80. The students in exempted categories, including women, people with handicaps, and the socially disadvantaged, pay the equivalent of US\$15 and US\$19 for secondary and senior secondary courses, respectively. The fees include a complete set of learning materials:

30 booklets for secondary students and 50 booklets for senior secondary students, at least 100 personal contact classes in 5 subjects, counselling, laboratory experiment sessions and kits, and other services. This course fee is valid for 5 years. Each student must pay an additional examination fee equivalent to US\$1.50 per subject.

## **RECENT INITIATIVES: THE NEW PHASE**

The first two phases of the National Open School were characterised by developing and refining the open secondary and senior secondary programmes. The third and current phase is geared towards consolidating open secondary and senior secondary education, and providing a necessary emphasis on vocational education, thereby developing the National Open School in its fullness as a national institute of open learning.

The approach adopted was to operate within a comprehensive frame, as indicated in Figure 1. Within each subsystem, a strategy of planned change was adopted, as follows:

- developing a programme of action;
- setting priorities;
- setting quantitative and qualitative targets;
- defining the approaches for implementation;
- developing management structures; and
- mobilising funds for the proposed activities.

Accordingly, a detailed informal exercise was undertaken to diagnose organisational strengths. The exercise included studying documents and records and discussing the National Open School with internal staff, people associated with the National Open School programmes and activities, specialists in distance education and educational technology, policy makers and planners in the Planning Commission of the Ministry of Human Resource Development, and state government officials.

As well, expert groups were constituted in some of the major areas. With their help, perspective documents have been developed in:

- basic education;
- continuing and life enrichment education;
- human resource development;
- regional languages;
- electronic media;
- student support services;
- computerisation; and
- planning and evaluation.

To chart a path of comprehensive growth, the National Open School has constituted a high-power National Consultative Committee to review and guide the School's developments to the year 2002 (the end of the ninth five-year plan). To facilitate discussion, the National Open School has developed a position paper that contains an innocuous organisational diagnosis and fresh proposals. The Committee is still in session.

One major challenge in building an institution is shifting the perspective of an institution among the academic staff and the senior administrators. This challenge was particularly pertinent in the National Open School, because it had to change from a school delivering purely education to a national institution with a larger role to play.

## **CHANGING PERSPECTIVE**

A serious effort was made through discussion with National Open School staff to instil a comprehensive view of the National Open School's mission, and its distinct character as a national institution of open learning where programme delivery and examination are but two of its various activities. In other words, efforts were made to provide a new conceptual thrust — what the Indira Gandhi National Open University represents at the post-secondary level, the National Open School now represents at the school level. On the other hand, the National Open School also acts as the national resource agency for open schools in India, the way the National Council of Educational Research and Training supports the conventional school system.

### **Target Setting**

As part of planned change, targets have been set in various activities.

Over the years, the National Open School has played a significant role in open secondary and senior secondary education. The eighth five-year plan (1992 to 1996) has targeted an additional enrolment of 0.6 million in open schools. In the first two years of the eighth five-year plan, the total enrolment in the National Open School was 0.12 million. Since the enrolment in the other open schools is negligible, the remaining gap of more than 0.4 million must largely be contributed by the National Open School, during the years 1994, 1995, and 1996.

The Chitra Naik Committee recommended open vocational education. As a result, the National Open School has set a target to design at least 80 vocational courses in agricultural, technological, paramedical, home science, home management, commerce, and business vocations.

As well, Continuing and Life Enrichment Education is one of the hallmarks of open learning. The National Open School has set a target of developing and launching eight courses in selected areas between 1994 and 1996.

With increasing success in the campaign for total adult literacy, neo-literates demand significant continuing education. The National Open School is being looked upon to provide support through open learning, a perspective further strengthened by the Joint Initiative on Distance Education in the E-9 Summit in Delhi. The National Open School would develop post-literacy material as well as training modules for adult education instructors, primary teachers, and social activists in the Panchayat (local self-government) and non-governmental organisations.

Keeping these targets in focus, the following initiatives were taken.

### ***Improving the Quality of Learning Materials***

The learning materials the National Open School produces are held in high esteem by instructional technologists as well as teachers. Consequently, many of the reputable

private schools use these materials for their regular students. A few colleges use the material for remedial teaching as well. The learning materials are pedagogically sound, but a special effort has recently been made to further improve the pedagogical quality, structure, and, particularly, the presentation of the material, with proper layout, illustrations, and high-quality paper and printing. The message to students and other users of the learning materials is that open learning is not second rate; on the contrary, open learning provides far superior learning materials than conventional schools.

### ***Development of Programmes in Regional Languages***

The mission of the National Open School is the universalisation of education, greater equity, and social justice. This mission cannot be achieved unless open school programmes are made available in the mother tongue, through regional languages. Currently, the National Open School offers its programmes only in English and Hindi, but a large number of potential students neither speak nor read Hindi or English. During 1993–94, a major initiative was taken to develop curriculum and learning materials in regional languages and to adapt the other subject material in nine regional languages. Significant progress has been made in four regional languages. It should be possible to offer programmes in at least two regional languages in addition to Hindi and English in 1994.

### ***Vocational Education***

To pursue the recommendations of the Chitra Naik Committee, an expert committee, comprising eminent scientists, technologists, agricultural scientists, and para-medical professionals was constituted to develop a perspective plan for “Open Vocational Education”.

Two separate groups of professionals from agricultural sciences and technology have been working on a limited time schedule. The groups have identified 80 different agricultural and technological vocational courses; developed curriculum details in all courses; and developed self-study print materials in 14 courses (as of April 1994). Two other groups of para-medical and home science professionals are working to identify courses, develop curriculum, and prepare material in these two areas.

### ***Life Enrichment and Continuing Education Programmes***

The third mission statement of the National Open School is to develop a learning society. To fulfil this mission, life enrichment programmes are being designed in community health, women’s development, parenting, instructional technology, information science, music, and graphic arts.

### ***Inducting Electronic Media***

The qualitative development of open learning depends on multi-channel learning and, consequently, media play a significant role. During 1993–94, an initiative was taken to harness the educational potential of mass media. More than 20 curriculum-based videotape programmes and four audiotape programmes were developed or procured. Dialogue has been initiated with the Ministry of Information and Broadcasting through the Ministry of Human Resource Development to seek television and radio time.

### ***Projecting Priority Areas***

Several activities are important in an open learning institution, including admission, material production and distribution, student support services, media, planning, and

evaluation. Without relevant management structures to plan, execute, and monitor these activities, though, a number of important areas are neglected despite the substantial amount spent on them. Staff have been recruited to manage these activities on a specific schedule and, until a regular infrastructure is created, these activities will be implemented as projects.

### ***Setting up a Co-ordinating Mechanism and Open School Network***

The National Open School has been assigned the special role of co-ordinating and maintaining standards in open schools in India. The School is expected to facilitate the set-up of state open schools, as well as to develop a consortium of open schools and an open school database.

The initiative in rendering, adopting, and developing learning materials in regional languages is a preparatory step towards that end. Dialogues have been initiated with several states. Further, project reports, at the instance of the provincial governments, have been developed for two states during this period; one of the two states (Haryana) declared its state open school open on March 15, 1994. The National Open School has signed a memorandum of understanding to provide the learning materials, as well as to provide any support the staff need.

### ***Staff Development***

One of the objectives of the National Open School is to train personnel involved in open schooling. In 1993, more than 3,000 person-days of training were devoted to developing curriculum; preparing learning materials, assignments, and question banks; developing learning skills; and planning vocational education.

### ***Computers and Technology Upgrading***

The National Open School has developed a sophisticated computerised information system for its students. During 1993–94, a committee of computer professionals appointed by the National Open School developed a plan for total computerisation.

Depending on the funds available, steps are being taken towards implementing the plan. The following activities have been undertaken so far.

- A local area network that had been set up for student information from enrolment to examination and for analytical review was upgraded.
- A separate set of six computers and digital tape processing facilities were set up for academic activities, including materials design and processing.
- A third local area network has been ordered for administration, finance, stores, and inventory management.
- The library has been provided with computer facilities for complete library management.
- The National Open School has set up a multi-media station for developing digital multi-media software.

### ***International Interface***

Deliberate efforts have been made to develop an international interface, because the National Open School believes that it is through interaction with colleagues all over the world that open schools can change continually. Since the beginning of 1993, several meetings have been convened with The Commonwealth of Learning to align the

National Open School with The Commonwealth of Learning policy emphasis on open schooling. The Commonwealth of Learning has supported some National Open School initiatives; the National Open School has collaborated in documenting open schooling around the world.

The National Open School participated in the E-9 Summit in Delhi that led to a joint initiative on distance education. Subsequently, the National Open School represented the Government of India in the UNESCO follow-up meeting. Senior officers of UNESCO and the Correspondence School of New Zealand visited the National Open School and interacted with faculty. Appreciative articles on the National Open School appeared in *Never Too Far* (Thailand) and *Development Communication* (United States).

During this period, the National Open School hosted an international conference in collaboration with The Commonwealth of Learning and the International Multi-Channel Action Group on Education (IMAGE) on the Role of the Open School in Basic Education. Members of the academic staff have also participated in international conferences on educational technology and distance education in Manila and New Zealand. The National Open School is now working closely with the International Council for Distance Education and is a member of the IMAGE steering committee.

## **UNFOLDING**

The National Open School entered its third phase little more than a year ago. The School is currently characterised more by initiatives than results. Nevertheless, through a carefully planned approach to development, the seed of a full-fledged national institution has been sown.







## OPEN SCHOOLS: THE SCOTTISH EXPERIENCE

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*N. Paine\**

### INTRODUCTION

The Scottish education system has used open and flexible learning in a variety of settings to develop basic skills. To capture the spirit in which open learning is used in Scotland, some of the reasons for using it, and some of the solutions that have been found, this case study will focus on basic education for both children and adults.

It is important to set a context for education in Scotland before proceeding.

Scotland is a small country with a population of 5.2 million people. The latest figures indicate approximately 740,000 students in primary and secondary schools and 56,000 teachers. In addition, 151,000 adults participate in continuing education and teacher training.

As well, Scotland is a country with a diverse geography. Although most of the population live in a densely populated, highly urbanised central belt, a minority inhabit a large rural area in the north, which encompasses over 75 inhabited islands.

From the earliest days, therefore, Scotland has had to find imaginative solutions to satisfy the educational needs of its population. In the days after the Second World War, for example, the old education authority in the island and mainland community off the west coast of Scotland developed a system of correspondence education that was organised from an educational centre in Dunoon. Correspondence courses allowed those students not progressing into four-year secondary education to remain at their primary school for an additional two years to study core curriculum subjects. While primary students worked with the teacher (often in one-teacher schools), the secondary students worked on their own, using correspondence materials with support from the primary teacher and a secondary team that occasionally visited from the Education Department head offices.

As well, the problems of urban deprivation and inequality of opportunity have spurred Scotland on to develop innovative ways to encourage adults back into learning and to increase the staying-on rates of young people after the compulsory age of 16. To indicate the success that Scotland has had in retaining students, while the staying-on rates for

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post compulsory education throughout the United Kingdom are 43.8 percent (1991–92 figures), in Scotland the corresponding figure is 73.6 percent (Scottish Statistics 1993).

Further, Scotland is entirely autonomous in its education. The system is run by the Scottish Office Education Department in Edinburgh and local authorities throughout Scotland. The difference between the education system in Scotland and that in England and Wales is as different as the education system in Scotland and that in Denmark.

## THE MODEL

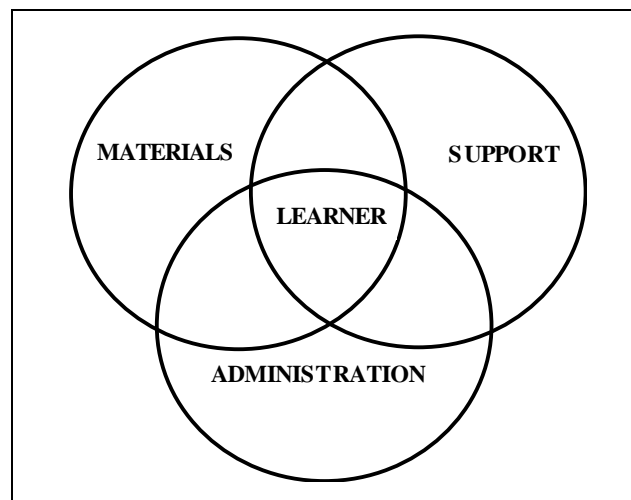
The discussion in this case study is based on a definition of *flexible and open learning* that relates to a simple model of pedagogy.

The definition of *open learning* comes from a book entitled *Open Learning in Transition* that was published six years ago by the National Extension College to commemorate the College's 25th anniversary (Paine 1989). The National Extension College has specialised in distance education methods for adult basic education over most of those 25 years and has contributed substantially in this area.

We prefer to define open learning as both a process which focuses on access to educational opportunities and a philosophy which makes learning more client and student centred. It is learning which allows the learner to choose *how* to learn, *when* to learn, *where* to learn and *what* to learn as far as possible within the resource constraints of any education and training provision. (xi)

The simplest model of an open learning system comprises three interlocking circles.

*Figure 1: Simple Model of Open Learning*



Learning materials must be balanced with a level of support for the learning process. Often the sophistication of the materials and the intensity of the support have a direct, inversely proportional relationship. In other words, the more sophisticated the learning materials (for example, computer-based materials), the less tutorial support needed. The less sophisticated the learning materials, the more tutorial support required.

This model of open learning implies that, however good the learning materials, tutorial support is always required to help the learner learn.

As well, it is important to have a basic administrative and management system that links the learner to the learning materials and to the tutorial support. This need is elementary but fundamental.

The aim of a good, effective learning system is therefore to put the learner at the centre of the learning system, and to create a controlled environment that balances tutorial support with the supply and dissemination of effective learning materials.

The Scottish experience would indicate that open and flexible learning can actually suit the learners of basic skills very well, for several reasons.

- Open and flexible learning allows the learner an element of privacy: the learner can learn quietly at his or her pace, without being “shown up” in the classroom. An adult who is returning to learning after a poor experience at school can find the classroom daunting. Open learning can create a profound relationship between learner and tutor.
- The learner has some choice about the time and place of learning. Open learning is often most suitable for people who cannot readily access a learning centre because they live in remote areas and are geographically limited; hold a job and are time limited; or have some form of disability that makes leaving home or hospital difficult or impossible, so they are socially limited.
- Open learning allows a programme that is tailored to the learner’s special and specific needs. Learning materials can be selected to suit the learner and the learner can progress based on his or her developing competence. The student is neither inhibited by a class or pressured by the rest of the group.
- Learners can find new technology exciting if it is used as part of the delivery method. Learners can be intensely motivated by such an interactive and high-quality learning experience.

## **THE MODEL IN ACTION**

### **Public Libraries**

The Scottish Office Employment Department has supported, for the last four years, an initiative to provide self-study materials in the public library system throughout the United Kingdom. Up to 150 library districts now operate such a scheme, which is being extended to all the library authorities that wish to participate.

The idea is relatively simple. A grant to the library authority from the Employment Department allows them to centrally purchase a range of open learning materials, concentrating on basic education materials that can be loaned to learners on request. Library staff give elementary guidance, and tutorial support is often provided through a local community college or adult education network. The system is ad hoc and often a learner’s first taste of structured learning. If the library self-study materials prove successful, then a more structured learning experience at a college or adult education centre can be the next logical step. By implication, a guidance system for users to help them move on to other appropriate learning opportunities would be needed.

The Scottish Council for Educational Technology has directly supported an initiative in the Monklands District, an area of high unemployment and social deprivation in southeast Glasgow. The library staff concerned were trained in basic open learning tutorial techniques and counselling skills, and advice was given on which learning materials to purchase initially. These materials were supplemented by requests from participants. Following a high-profile launch in the local newspaper, learners were registered and loaned materials. A record of their contacts with library staff and associated learning problems was then completed. Any learner who was unable to successfully complete the course was encouraged to contact the local adult basic education service for tutorial support and links were established with the local further education college.

During the pilot period, over 220 learners requested materials and the learners' satisfaction with the scheme led to the permanent establishment of the programme. Mainstream library funds were diverted to continue purchasing materials to build up an open learning library.

The collection comprised mainly print materials, although a number of packages included audiotapes, videotapes, and computer software. Facilities in the library were available for listening to audiotapes, watching videotapes, and using the computer software. Alternatively, learners could use the materials at home.

### **School-based Models**

In remote communities, schools are often the only learning centre available. They are therefore used extensively by adults either for leisure or for learning. Scotland has pioneered an adult in-school scheme in many areas. Adults join classes of senior secondary students to study for basic qualifications, mainly in core subjects such as English and mathematics, and are given additional tutorial support by teachers when they are not formally teaching.

Where no secondary school has sufficient capacity for adults to learn, electronic links have been established with the mainland of Scotland from the islands or between large and small population centres. An interactive technology known as the "electronic whiteboard" allows a tutor to communicate by voice with the remote learner while simultaneously drawing on an electronic tablet. The image drawn on the tablet is transmitted to an identical tablet that the learner uses. Electronic whiteboards have proved particularly successful for technical subjects such as mathematics and have been used not only for adult education but also for supplementary tuition to school students who are unable to gain a full range of expertise in a local community. Essentially, the teacher uses pre-prepared materials and is able to communicate with one or more students in a remote centre using the electronic whiteboard. As the teacher explains the materials, he or she draws diagrams that are clearly visible to the students at the other end. The students in turn can annotate the diagrams, answer questions, and solve problems while the teacher looks on and comments. The electronic whiteboard is simple, but it is also expensive to buy and limited in use.

The emerging desktop conferencing facilities that allow one side to view the person and the computer screen on the other side have more flexibility and, because they run on standard personal computers, they will ultimately be much cheaper than the electronic whiteboard. However, desktop conferencing almost always requires integrated services digital network (ISDN) telephone lines. These lines are no more expensive than conventional telephone lines, except that two lines are required and special jack points

must be installed at both ends. The highlands and islands of Scotland are particularly fortunate in having an extensive ISDN network already in place and, therefore, they are able to exploit this new technology more successfully than other parts of Scotland.

### **The Innovative Further Education College**

Scotland has 43 further education colleges that offer a range of qualifications from adult basic education up to a higher national diploma (the equivalent of first year university). Every college in Scotland has some open learning development, aimed largely at adults over the age of 25. These programmes cover the full range of subjects, with adult basic education as one subject. A number of models are used.

Annie'sland College has a number of open learning units and operates in a large housing project to the west of Glasgow, which has large unemployment and urban deprivation problems. Students book into an open learning unit, where access to print- and computer-based materials is available. At all times, the open learning units are staffed by tutors, who can offer students elementary tutorial support and guidance. Annie'sland College currently has a number of open learning units, a communications open learning unit (basic English), an information technology open learning unit, and an open learning unit that combines all of these subjects.

The open learning units are popular as drop-in centres for adults, but they are also useful as supplementary learning centres for full-time students who are engaged in other courses.

Alternatively, further education colleges operate more conventional schemes in which learning materials are sent to adult learners and occasional tutorial sessions are held at the college. These schemes are known as "flexi study" and are now an accepted way of learning.

It would be true to say that since further education colleges have become corporate bodies, in other words, independent companies that are unattached to local authorities, they have sought ways to increase student numbers and raise learning opportunities by building open learning systems that are suited to the learners' needs. Open learning systems include library lending schemes, the open learning units just described, distance education schemes, as well as tailor-made learning programmes. These approaches are boosting the participation rates in continuing education and creating new pathways into higher education. They have been driven by a funding mechanism that relates grant money to student numbers.

### **Work-based Learning**

Under the current funding arrangements for continuing education, students attract similar payments from the government regardless of their mode of learning. This policy has given an enormous boost to setting up more open learning initiatives in the workplace. Many companies employ adults who have basic education deficiencies or poor English skills, possibly because English is not their first language. More often, though, these deficiencies simply relate to poor educational achievement. A number of companies have established adult basic education programmes within the workplace, and allow employees time off to study. These programmes usually comprise a combination of on-premises tutorial support, basic learning materials (occasionally computer-based but often print-based), coupled with in-company assessment.

Often success in the programme allows the employee an opportunity for promotion that was unavailable because of poor basic education skills; therefore, motivation is high. Most of these programmes, however, are on a self-referral basis and therefore will not necessarily capture all the employees who need basic education.

## **KEY LESSONS**

A number of fundamental points are worth sharing about open learning for basic education. These lessons have been learned from experience over a number of years and stretch across all of the models discussed so far.

### **The Technology Solution**

It is commonly assumed that the use of high technology dispenses with the need for any kind of tutorial support. The higher the technology, the more self-contained it is; for example, witness the claims made about the power of CD-ROM to offer a “total learning experience” without any tutorial intervention. Particularly in basic education, however, adult learning is not self-contained.

New learning technologies are immensely powerful, partly because of their enormous storage capacity, but also because processing power can be purchased very cheaply. Therefore, learning materials can genuinely reflect the individual needs of learners in an environment that is colourful, challenging, and interactive. And because the computer market has settled down to essentially two world standards, learning materials are freely available that have been developed in other countries, but are applicable almost anywhere in the world.

Exponential leaps in the incorporation of learning technologies into learning programmes at every level of the education system will continue. The problem is that the technology, in itself, is no solution. The simple model of open learning elaborated in the early part of this case study still applies. An infrastructure of tutorial support for the learner and a proper administrative system must exist before the learning technology is effective. Although the new integrated learning systems discussed below satisfy parts of the administrative system, they do not in themselves create a learning environment.

Excitement has accompanied each wave of technological development over the last 25 years. But each wave has proved to offer only a partial solution to the complex problems of creating an environment where a learner can learn successfully. The new technologies of the 1990s come closest to mirroring the myriad ways in which people learn successfully, but the concept of the entirely self-motivated and self-paced learner is as far away as it ever was.

Technology can certainly help with the development of basic education skills in virtually any subject area; but a machine does not create a learning environment.

### **Learning Materials**

Particular attention must be given to developing learner-friendly materials, particularly for basic education. These materials should be designed with the learner in mind, offering opportunities for: summary sections; learning objectives; learner notes; self-assessment questions and other self-testing; plenty of recapitulations; and short modules

that create a sense of achievement as the learner moves through them. These elements should be included whether the materials are print-based, computer-based, or in any other medium.

### **Tutorial Support**

The learner will need help to select an appropriate course. The learner will then need confidence to continue with the course and, if successful, the learner will need post course guidance. This kind of support can be given by the course tutor or by a guidance specialist. It is very important that progress be monitored and success shared.

A tutor's job is to support the learner's progress through the learning materials, not to substitute for the materials or contradict them. A tutor adds value to the learning experience.

### **Evaluation**

The learning experience itself must be evaluated not its various components. Learners are happy to comment on the totality of their experience, and this information can be used to modify the learning system as a whole. The learner must be seen as both a consumer of the learning experience and, at the same time, a contributor to it. Part of making the learner feel important and successful is the activity of being consulted about the learning experience.

### **Integrated Learning Systems**

Recently, integrated learning systems have been introduced to the United Kingdom. These computer-based learning programmes have the added value of a self-contained management system, which means that student progress in key areas of literacy or numeracy is logged and monitored. Questions for the learner are determined by previous responses and therefore success at some level is always guaranteed.

Integrated learning systems are clearly successful at improving competence, but they are very expensive. They point the way forward in relation to exploiting the power of contemporary technology; but in their inclusiveness they leave little scope for the development of local or tailor-made learning materials.

For a typical integrated learning system, a network of computers in a classroom is available to students, who are scheduled to use the systems, often once a day or several times a week, for approximately half an hour each time.

When the students log on, the system recognises how far they had previously reached and begins supplying material at the correct level and in the correct subject area.

After working through the material, the students log off the system and their current progress is computed and added to the management information on the database.

Periodically, the teacher can print progress reports for each student who has logged onto the system and take specific tutorial action, if it is necessary.

## **THE IMMEDIATE FUTURE**

Continuing changes in the Scottish education system will impact on the future provision of open learning. Both continuing reforms at the post age 16 level and changes in the funding and structure of education will have ramifications. The major thrust, however, will not alter the provision of education or the need to provide opportunities for all ability levels and for all age groups.

### **Still Higher Education**

The government has recently published plans to reform the post age 16 education system, affecting schools, continuing education, and adult education. The reforms are expected to be implemented in the 1997–98 school year and involve creating a modular approach for both academic and vocational programmes that will replace the academic “higher” grade qualification and create new vocational qualifications. The programme will also extend the age of school graduation from most at 17 years of age to most at 18 years of age, by offering this programme over one or two years.

The programme will create new pressure to build more self-paced learning as well as better guidance to increase the status of the new vocational qualifications. Because the programme is modular, elements of it will be assessed separately; therefore, they may be used independently.

It is likely that core skills will also be built into the programme in areas such as personal and social development and information technology.

### **Devolved School Management**

Throughout 1995, schools will take over responsibility for the financial control of their institution along lines agreed between the schools and their education authorities. This control will allow individual schools to determine their own priorities and establish their own policies.

A school that wishes to introduce open learning can, for example, target it as a priority and fund the necessary investment in learning material.

### **Strategic Partnerships**

The United Kingdom as a whole abolished the binary line in higher education in 1992, following in Australia’s footsteps five years on. As a result, in Scotland a network of twenty-three higher education institutions has been created, including thirteen universities. As each institution attempts to define its role and recruit sufficient students to secure adequate funding, a number of strategic partnerships have been established that have benefited learners. These include:

- guaranteed places for continuing education students who study advanced courses on relevant degree programmes;
- schools working closely with local colleges to provide wider opportunities for their students; and better articulation for adults studying in schools; and



- agreed sharing of resources to increase access to open learning programmes.

### **The Impact of Current Changes**

The critical point for the growth of open learning in Scotland is for its underlying philosophy to be absorbed into mainstream educational practice. The essence of the open learning philosophy is two-fold: to create opportunities to learn wherever there is an innate need; and to build learning systems that involve the learner in the learning process as far as is possible, allowing the learner to move from being a passive consumer of the learning process to being an active producer of his or her own learning.

### **CONCLUSIONS**

All of these developments are taking place within an overall educational context that sees learning move towards fulfilling the needs of the learner. This shift can be traced along a series of continua:

- An emphasis on learning rather than teaching.
- An emphasis on the learner rather than the teacher.
- An emphasis on active learning rather than passive learning.
- An emphasis on modes of study that encourage access to rather than exclusion from learning opportunities.
- Building a coherent education system that continues throughout life, rather than one that ends with school or post school education.
- An education system that incorporates learning technologies rather than relying on human interaction the entire time.
- An education system that accommodates the learner's time constraints, geographical constraints, and pace of learning rather than requiring all learners to work together.

The impact of open learning opportunities can be seen directly in the statistics on education, which show increased participation in higher and continuing education and an ever increasing number of adults over the age of 25 taking part in formal and informal learning. The ultimate aim is to create not just a learning community but a learning country, where the workforce is able to adapt successfully to the changing demands of an evolving society, new work patterns, and new job opportunities. Without these fundamental changes in both the structure and management of the education system, it is unlikely that Scotland will be able to respond to the challenges of the next century.

Some aspects of open learning in Scotland are not transferable to other cultures because Scotland has a small integrated educational system and a history of local provision. However, many aspects of open learning are transferable, including: the essential student-centred philosophy; the use of technology; the co-operation between sectors in the education system; the attempt to create parity of esteem between academic and vocational qualifications; and the overall target of increasing learning opportunities for all. Much has happened over the last 10 years, but change will be equally volatile over the years to come. It is unlikely that any one factor (such as technology) will revolutionise delivery. The key is to create an environment that is conducive to change and, therefore, able to incorporate any shifts in the political, social, technological, or

educational ground. In most of the benchmarks (participation rates, flexibility, number of adults pursuing educational opportunities) marked improvements have been made but, set against the totality of the country, we still have some way to go.

A recent survey entitled “What Price the Learning Society?” which was carried out throughout the United Kingdom by the National Institute for Adult Continuing Education (NIACE) and published for Adult Learners Week, May 9 to 15, 1994, reached the overwhelming conclusion that the learning revolution has not permeated adult culture. Just 25 percent of adults said that they had studied in the last three years and less than 50 percent said that they had done any learning at all since school. Furthermore, 20 percent of adults claimed to be uninterested in any kind of study; only 3 percent of adults over 65 are currently studying; and 20 percent of adults think that they are too old to learn anything new.

Evidently, not only the underlying infrastructure must change, but the general attitude towards continuing education must change before learning opportunities are created for all.

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## THE ALBERTA DISTANCE LEARNING CENTRE

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*D. Pon, J. Punko, J. Raju, and K. Vandenberg\**

### INTRODUCTION

Correspondence education was first established in Alberta in 1923 with the formation of the Correspondence Course Branch. It was set up to serve elementary students who lived in isolated areas of the province and could not attend conventional schools.

From its early formation, the Branch evolved over the years by extending course offerings to junior secondary and senior secondary students. The Branch has used several names over the years, having been known in turn as the Correspondence School Branch, the Alberta Correspondence School, and currently, the Alberta Distance Learning Centre.

Along the way, the Centre has played a vital role in developing and delivering courses to students at a distance. For example, during and after the war years, schools voiced a great demand for correspondence courses because of teacher shortages. Recently, Alberta Distance Learning Centre courses have been used to address the equity concerns of schools in sparsely populated areas of the province and to provide individualised programmes for students in schools, consortia, and other learning agencies.

In 1983, the Centre moved into a new building at its current location in Barrhead. Major changes took place in 1988 in the way distance learning materials were developed and in the use of communication technologies to develop and deliver high-quality programmes to students.

The Alberta Distance Learning Centre is organised into five functional areas:

- Senior Administration, which provides leadership and overall co-ordination for the other four functional areas;
- Instructional Services, which delivers distance education instructional programmes to students who are registered with the Alberta Distance Learning Centre;
- Programme Design and Development, which designs and develops distance education learning material, including print and communication technologies;

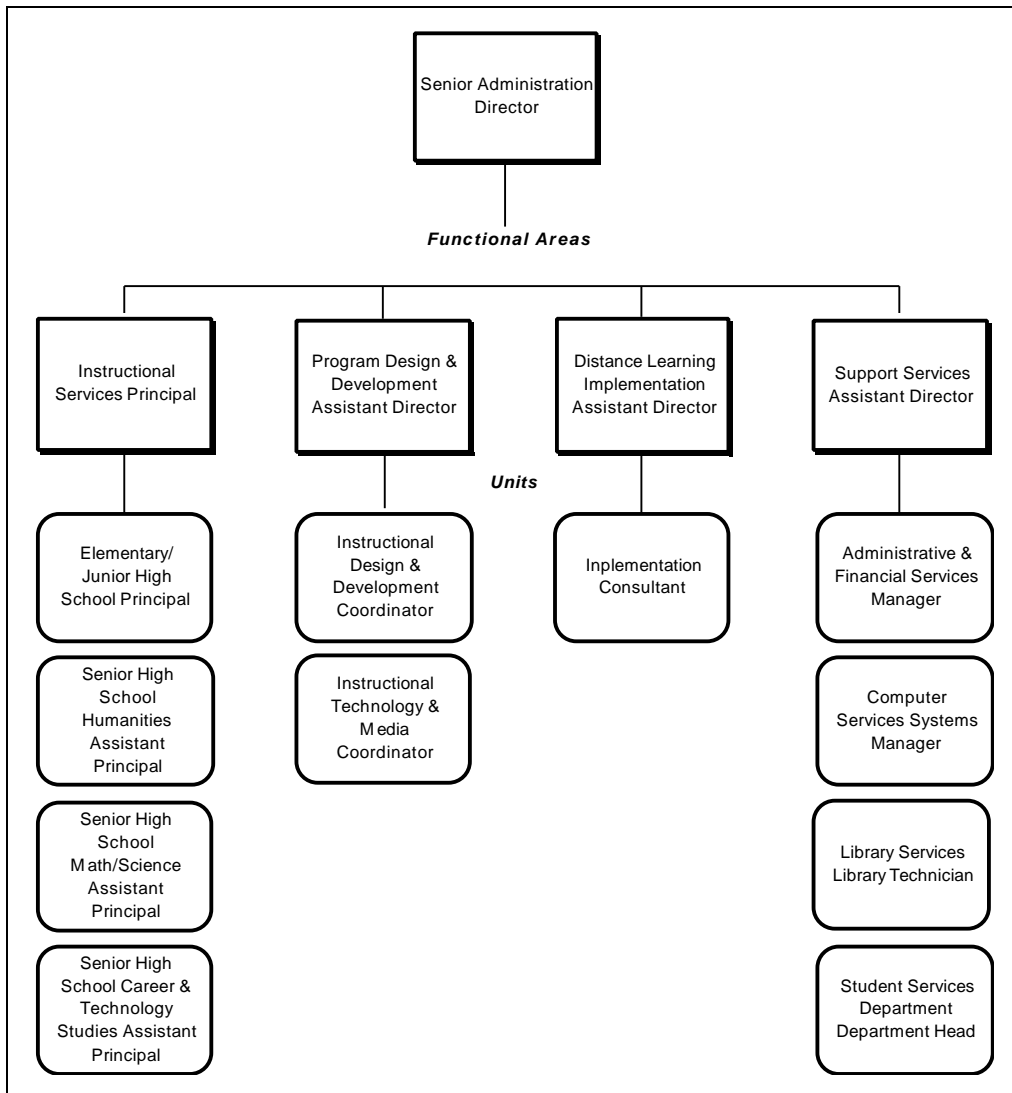
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\* All authors are attached to the Alberta Distance Learning Centre. Diane Pon is an Implementation Consultant; John Punko is the Assistant Director of Program Design and Development; Joe Raju is the Principal of Instructional Services; and Ken Vandenberg is the Assistant Director of, Student Services.

- Distance Education Implementation, which facilitates the implementation of distance education programmes to schools, consortia, and other agencies across the province; and
- Support Services, which provides the overall administration and fiscal support to Alberta Distance Learning Centre operations and related students services.

The organisational structure of the Alberta Distance Learning Centre is shown in Figure 1.

*Figure 1: Alberta Distance Learning Centre Organisational Structure*

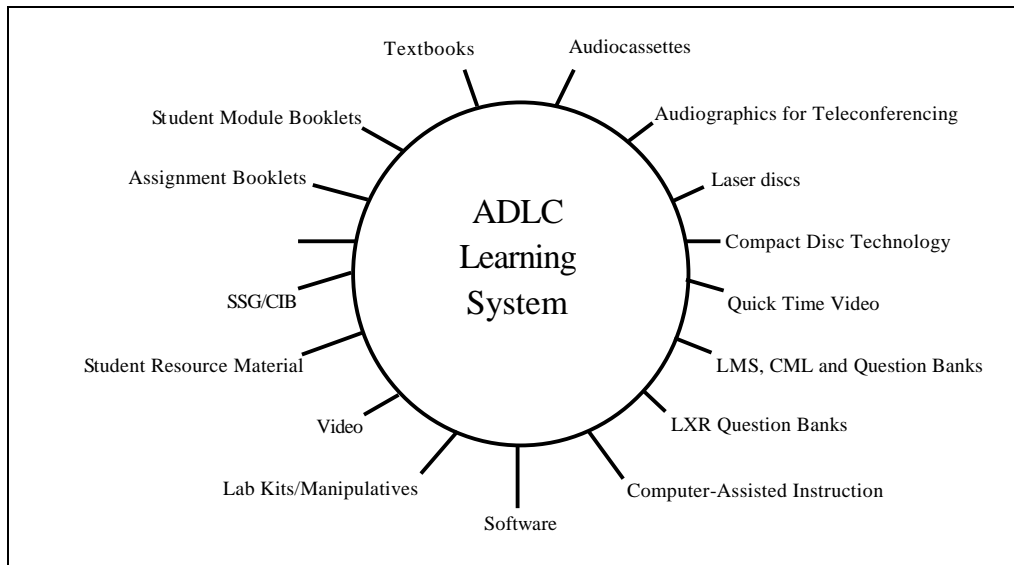


Services at the Alberta Distance Learning Centre are provided by a core of in-house staff, with support from additional people who are either seconded from schools or contracted.

## PROGRAMME DESIGN AND DEVELOPMENT

The responsibility of the Programme Design and Development unit — a major activity at the Alberta Distance Learning Centre — is to design and develop a wide range of distance education print and non-print materials.

*Figure 2: Course Components*



## THE ALBERTA DISTANCE LEARNING CENTRE LEARNING SYSTEM

The Alberta Distance Learning Centre has developed a learning system that includes many components, as illustrated in Figure 2. Such a system offers students an opportunity to construct a meaningful learning environment suited to their personal needs.

Because students learn differently, they need to be offered options as they work through the learning materials if they are to learn the most they can. The linear approach has been replaced with multiple pathways, which provide different routes through materials to suit different learning styles. The materials are student-centred rather than teacher-centred.

Students are required to interact with the learning materials rather than to passively read the print materials or view a videotape. Students work from the simple to the complex and are guided to levels of critical and creative thinking. They can structure their learning materials to their own situations and work independently at a distance or within a conventional classroom.

## **PRINT MATERIALS**

The development of print materials is a major activity of the Instructional Design and Development unit. Print materials are produced in modules, which are self-instructional units that have an integrated theme, provide students with learning opportunities that focus on mandated knowledge and skills, and serve as one component of a total curriculum. All courses developed at the Alberta Distance Learning Centre are based on an approved provincial curriculum.

The specific requirements of a course determine the number, size, and type of module used. The content of a module is also flexible. The module may involve various media, such as audiotapes, videotapes, computer software, manipulatives, and laboratory kits. In addition to one or more booklets, the print portion of the module may also include texts, pamphlets, or other resource materials.

The main booklet in a module is the student module booklet, which contains learning opportunities for students. It also acts as an organiser for students, guiding them through their experiences, offering pathways and choices to make the experience as personal and meaningful as possible.

The activities portion of a student module booklet requires students to interact with the materials, and thus to take an active part in their learning. Answers to practice activities, the information necessary for discussion, and feedback are provided. When students finish a section, they are directed to complete an assignment and submit it to a teacher for evaluation. The teachers assess how well students understand main ideas and apply the knowledge learned.

The distance education module is not a textbook. A textbook, and other resources such as audiotapes, videotapes, computer software, or reference books, provide subject information. The module booklet, on the other hand, motivates students and provides learning opportunities. Its organisation is logical, so students can understand the options available to them. Distance education authors base their teaching on sound educational practice, as do classroom teachers. In their module booklets, the authors try to emulate good classroom teachers.

A learning facilitator's manual for teachers is developed for each course, and a student support guide is produced for parents of elementary and junior secondary school students. These materials provide answers to questions and solutions to problems found in the student module booklet, as well as assistance in teaching the course to students.

## **NON-PRINT MATERIALS**

The development of non-print materials is the responsibility of the Instructional Technology and Media unit. In the last five years, the Alberta Distance Learning Centre has made significant advances in the use various learning technologies.

### **Computer-Assisted Instruction**

Computer-assisted instruction is a powerful instructional medium for distance education. In most cases, all of the course instruction is delivered via computer with little or no reliance on a textbook or other print materials. A student's understanding of

course concepts can be assessed using the computer. If desired, a record of the student's achievement can be recorded in the student's file.

Computer-assisted instruction has many advantages in presenting course content in an interactive way. Feedback to students is immediate, whether the student enters an answer by the keyboard; moves an object across the screen; clicks the mouse to select a choice; watches a movie, then responds; or sees an animated or graphic demonstration of a concept. Each of these interactions cater to different learning styles. In addition, tailor-made responses to common student errors can be programmed into a course on the computer.

The software "Authorware Professional" has been used to create the computer-assisted instruction learning packages. The learning packages run in an Apple Macintosh environment and are being converted to run in Windows.

This technology has been used to develop mathematics courses. So far, only Mathematics 30, a grade 12 academic course, is fully developed and available to students on CD-ROM. Other senior secondary school mathematics courses are at a beta testing stage and will be available in the near future.

Classroom teachers using the Mathematics 30 computer-assisted instruction courseware compact discs have reported improvement in class averages on final government examinations.

### **Computer-Managed Learning**

The Alberta Distance Learning Centre has made extensive use of a software product called the Learning Management System (LMS), which runs on the Digital Equipment Corporation VAX computer. LMS is a question bank storage and retrieval system that has proven to be an important tool in meeting individualised learning needs; both teachers and students find it useful in distance education. It allows questions to be coded according to course, module, and objective; cognitive level; difficulty level; and question type (multiple choice, true or false, short answer, random numerical, and teacher-marked). Question codes can be used to tailor tests for individual or class use. Students can use the computer to ask for tests to be printed and to enter answers to those tests.

Teachers have control over the sequence of material to be tested, the integrity of the test (open-book or supervised), and the passing grades required to ensure that students are mastering the material before they proceed to a new topic. LMS generates parallel versions of tests so that students can make several attempts to demonstrate their mastery of a subject.

The management functions of LMS enable teachers to track student progress, to put together a report card, and to identify subject areas that students find difficult.

Currently, the Alberta Distance Learning Centre supports question banks in mathematics, social studies, and accounting. Work is underway to make question banks available in the science courses.

## **LXR Test**

The LXR Test software programme is used to develop test banks and runs in the Macintosh environment. It is a valuable resource for teachers who are creating assignments, quizzes, and tests. Recent enhancements allow sorting by course, module, objective, and question type. Further enhancements are currently being made that will allow sorting by cognitive level and degree of difficulty.

Question banks have been developed for a number of mathematics, social studies, and science courses, with the intent of eventually having banks for all these subjects.

## **Audiotapes**

Audiotapes are used extensively in many courses to support student learning. They are used in all second-language courses because of the current emphasis on the conversational approach to learning a language. The audiotape presents vocabulary in conversations between speakers who are fluent in the language, so that students train their ears to hear the proper pronunciation of words. In turn, students complete conversational exercises on an audiotape, which is then submitted to a teacher for evaluation and feedback.

Many of the current courses have companion audiotapes that are used in conjunction with the print materials. The audiotapes present the ideas in the course and suggest ways students can complete their work. A number of single-concept audiotapes have also been developed for students who find certain ideas difficult to understand.

## **Videotapes**

Many of the recently developed distance education courses integrate videotapes as a mandatory part of the curriculum. The videotapes present information in a dynamic fashion, which print materials cannot always do as well. For example, visual illustrations of chemical processes enhance learning in a correspondence science course, whereas the subject would be difficult to explain in print. Tutorial instructional videotapes are also being developed to teach course concepts.

## **THE IMPLEMENTATION OF DISTANCE EDUCATION**

The implementation of distance education plays a central role in the distance education activities in Alberta, and at the Alberta Distance Learning Centre. The Distance Education Implementation unit is responsible for implementing the distance education programme for the provincial ministry of education, Alberta Education. It has five major roles that are important to school jurisdictions and networks:

- to consult in all aspects of distance education to schools, school jurisdictions, established networks, and distance education consortia. Consulting includes assistance with programmes, network design, pedagogy, evaluation, budgeting, administration, staffing, and policy;
- to evaluate and monitor distance education programmes and delivery systems, as requested by school jurisdictions and branches of Alberta Education;



- to develop, present, and co-ordinate information and in-service sessions as required for the implementation of the distance education programme in Alberta;
- to co-ordinate the research effort at Alberta Education and to keep abreast of developments in distance education in Alberta, the rest of North America, and other parts of the world; and
- to act as a communication link between Alberta Education and teachers, facilitating the flow of information to teachers, and giving Alberta Education the benefit of firsthand knowledge of programmes, processes, problems, and successes in the field.

## **DISTANCE EDUCATION FUNDING**

In 1989, the Alberta government established the distance education programme grant to help schools provide students with equal access to courses through distance education. The purpose of the grant was to give financial aid to the less able school jurisdictions so that their students would have the same opportunities as those in other jurisdictions. As a result, a formula that would be fair and equitable was calculated. A set of criteria was identified to address this issue. These criteria are reviewed regularly and modified as needed, to ensure that Alberta Education provides the best possible education to all Alberta students, regardless of where they live.

All school jurisdictions with senior secondary schools that meet the following criteria are eligible for a distance education programme grant for the 1993–94 school year:

- fewer than 150 funded senior secondary school students are enrolled as of September 30;
- at least one course is offered through a distance education programme;
- distance education grants are generally limited to rural school boards; however, urban school boards may be eligible if there is only one secondary school in the school jurisdiction and the above criteria have been met;
- urban Francophone secondary schools are considered eligible if there is only one Francophone secondary school in the school jurisdiction;
- a jurisdiction's adjusted equalised assessment is less than \$370,000 per resident student; and
- all courses with more than 15 enrolled students are ineligible for credits towards the distance education programme grant, unless they are approved by the Distance Learning Implementation unit of the Alberta Distance Learning Centre.

## **GROWTH IN DISTANCE EDUCATION**

In the 1992–93 school year, 66 school jurisdictions were eligible for distance education funding, a slight increase of 1.5 percent. Similarly, the number of eligible schools has remained relatively stable. In the 1992–93 school year, eligibility increased 3 percent to 126 eligible schools with 8,706 eligible students. Distance education course enrolments have increased steadily over the last three school years; the 1992–93 course enrolments were 12,284, an increase of approximately 8 percent. Small secondary schools accessed \$4.7 million in distance education funding for the 1992–93 school year, representing about a 13 percent increase from the previous school year.

Overall costs of operating distance education programmes have been increasing over the years, while provincial grants in support of distance education have been reduced for 1993–94 and the following two years.

**Table 1: Distance Education Grant Information as of December 1993**

	1990–91	1991–92	1992–93
Eligible Jurisdictions	67	65	66
Eligible Schools	127	122	126
Eligible Participating Schools	115	115	119
Eligible Students	8,178	8,200	8,706
Distance Learning Course Enrolments	9,803	11,312	12,284
Distance Learning Credits	43,902	49,711	55,094
Number of Learning Management System Sites	82	80	90
<b>Total Money Paid</b>	<b>\$4 million</b>	<b>\$4 million</b>	<b>\$4.7 million</b>

Private schools started receiving distance education funding in the 1993–94 school year, making use of a separate distance education fund set up for private schools. Public schools will still access the full amount of distance education funding.

Along with the funded distance education schools, approximately 60 non-funded schools in Alberta also offer distance education courses. Some common names given to these school programmes are: Outreach Program, Alternative Learning, Learning Resource, and Stay-In-School.

Completion rates for students taking distance education courses at the jurisdiction and consortia levels average over 90 percent. Success rates for students taking distance education courses at the jurisdiction and consortia levels average over 80 percent.

A considerable number of successes are associated with distance education programmes in Alberta schools. The following are examples of some of these successes.

Terra School, an Edmonton-area school, serves a small population of female secondary students whose studies are interrupted by pregnancy. By using Alberta Distance Learning Centre print materials and related computer technology, students are able to continue their studies under more flexible arrangements than are possible in a conventional secondary school setting. Although the school does not qualify for distance education operating grants, it nonetheless uses Alberta Distance Learning Centre materials to provide a meaningful learning alternative for its students.

### **Distance Learning Options South and West Central Distance Education Consortia**

In addition to the wide variety of secondary school courses that two Alberta consortia offer by regular distance education delivery, post-secondary courses have also been introduced for students in grades 10 through 12. The West Central Distance Education Consortium, in association with the Southern Alberta Institute of Technology (SAIT) and Olds College currently offers courses in occupational health and safety, power engineering, soils, and horticulture.

Distance Learning Options South has an agreement with Lethbridge Community College to offer secondary schools as many as nine post-secondary courses. These courses range in topic from psychology to aquatic facility management.

### **North Cottage High School**

A small secondary school in Red Deer, North Cottage High School allows students, who for a variety of reasons could not cope in the large conventional school setting, the opportunity to stay in school. Distance education courses are used to provide more individualised opportunities for each student.

### **Banff Community High School**

By using distance education print materials and computer technology, the Banff Community High School is able to co-ordinate various programmes at the school:

- athletes training for Canada's ski teams can take advantage of the flexible nature of distance education and enrol at the school to keep working on their secondary school studies;
- the many transient workers in Banff's tourism industry are able to take courses through the School; and
- conventional programmes are offered to local students in a combination of distance education and conventional instructional deliveries.

### **Lord Beaverbrook High School**

More and more large urban schools are realising that distance education materials and learning systems offer a valuable alternative to the conventional classroom. In Calgary, Lord Beaverbrook High School has created a school within a school for its 2,400 grade 10 to 12 students. Students are able to use distance education materials and appropriate technologies to complete their studies. This is especially attractive to the student who cannot proceed at the same pace as the rest of the class, or who has outside obligations that make regular attendance difficult.

### **County of Lacombe**

The County of Lacombe is participating in a pilot project for the 1993–94 school year, that uses the VISual Interactive Technology (VISIT) software. VISIT is a computer-based technology that allows students and teachers to electronically "visit" each other. VISIT, a product of Northern Telecom, uses Alberta Government Telephone's new Centron digital telephone technology to link Macintosh computers in remote sites. The system has four components:

- a live, two-way video contact that provides full-motion, black-and-white video images of each site on the computer screen located at the other site;
- a live, two-way audio contact via a regular telephone connection;
- a shared computer screen overlay on which either party can draw or paste computer images; and

- a rapid file-transfer capability, which allows any computer file on either computer to be sent rapidly to the other computer.

The VISIT project will be piloted in senior secondary school courses, including English, social studies, mathematics, and Japanese, at four local county schools.

### **SchoolNet Pilot Project**

Alberta is participating in the Canada-wide SchoolNet initiative launched last year by Industry Canada. The Alberta Distance Learning Centre will co-ordinate the initiative in Alberta and work with the federal government and other provincial ministries to establish projects that promote electronic networking of schools across Canada. Approximately 1,000 schools (kindergarten to grade 12) are participating in projects that relate to topics in science and mathematics. Thirty Alberta schools have been selected and designated as official SchoolNet project sites.

## **INSTRUCTIONAL SERVICES**

The major function of the Instructional Services unit is to teach the 25,000 students who are registered annually with the Alberta Distance Learning Centre.

### **Teaching Staff**

The Alberta Distance Learning Centre has a teaching staff of approximately 130 teachers. Thirty-three teachers work full-time at the facility in Barrhead. These teachers tutor students over the phone and correct the assignments students submit. The number of assignments range from 3 to 33 per course, depending on the grade and subject level.

The in-house teachers are involved in the development of learning materials, in curriculum development, in the provincial student evaluation processes, and with school jurisdictions — participating in field visits to schools and consulting with students and parents.

The Professional Development Committee is comprised of teachers from various departments. The Committee publishes four newsletters each year and arranges appropriate workshops and training sessions as teachers require.

In addition to the full-time staff, more than 90 teachers work on contract. These teachers work off-site and mainly correct assignments. About 65 percent of assignments received at the Alberta Distance Learning Centre are corrected by teachers on contract.

### **Student Registrations**

At the end of the last school year (August 31, 1993), student counts in the various divisions were as follows:

Elementary (grades 1 to 6)	861
Junior Secondary (grades 7 to 9)	1,940
Senior Secondary (grades 10 to 12)	21,413

Total 24,214

### ***Elementary Students***

Elementary students are mainly children who are learning at home because their parents have opted to teach them at home or to enlist the help of other tutors. The students mail completed assignments to the Alberta Distance Learning Centre for correction. Monthly progress reports are mailed to the school jurisdictions, where student progress is monitored. When students have satisfactorily completed the required assignments, they are promoted to the next grade.

The greatest increase in registrations is in the elementary grades, as more parents opt to teach their children at home.

### ***Junior Secondary Students***

Junior secondary school students register with the Alberta Distance Learning Centre for a variety of reasons, but most of them study at home. Some have opted out of school for discipline reasons. Others have chosen to take part of their education through the Alberta Distance Learning Centre while still remaining in a conventional school for some subjects. Students are required to write final tests in all core subjects.

### ***Senior Secondary Students***

Senior secondary school students fall into three main categories. About 50 percent of the students are adults, working towards a secondary school diploma to upgrade their education. About 40 percent of the senior secondary students take only one or two courses from the Alberta Distance Learning Centre while still attending conventional school full-time. Their school may not be offering an equivalent course, or students may be repeating courses through the Alberta Distance Learning Centre. A small percentage of senior secondary students are children learning at home. Students must pass final tests to earn credits for their course.

While most of the Alberta Distance Learning Centre students are located in Alberta, some can be found in other parts of Canada and around the world.

## **Course Materials**

Elementary and junior secondary school courses cover the key core areas of language arts, mathematics, social studies, and science, with the addition of health and a variety of complementary courses in junior secondary courses. Senior secondary school courses cover academic and career courses, and second-language courses are available in French, German, Spanish, and Ukrainian.

## **Student Achievement and Recognition**

On departmental examinations written in the final year of their schooling, Alberta Distance Learning Centre students receive marks equivalent to the provincial average and, in some instances, score consistently higher. When these students return to conventional classrooms, most experience little or no difficulty integrating with their peers.

Recently an awards programme was initiated to recognise outstanding achievement. Top students in each course receive certificates if they receive a final mark of 90 percent or higher. As well, top students in each grade receive plaques at awards ceremonies, which are held in Alberta's two largest cities, Edmonton and Calgary.

### **Challenges Faced**

Like most distance education institutions, Alberta Distance Learning Centre faces the challenge of encouraging students to complete their courses. The Centre emphasises effective teaching to help reduce the distance between learner and facilitator.

One of the factors that increases course completions is the rapid turnaround of assignments. While most assignments are sent through the mail, students are encouraged to send them to the Centre by fax. Teachers then try to return lessons promptly after they are corrected.

Course delivery methods are currently based primarily on print materials. However, as more students have access to communication technologies, the Alberta Distance Learning Centre will use computers and other media more widely.

## **SUPPORT SERVICES**

The Alberta Distance Learning Centre's Support Services unit employs a staff of 40, who serve clients through student services, computer services, library services, and administrative and financial services.

### **Student Services**

Student Services is responsible for counselling and admitting students to Alberta Distance Learning Centre programmes. Conducting diagnostic and placement tests, evaluating out-of-province documents, and providing programme information are also the responsibility of this unit, as are course testing and the reporting of final marks.

### **Computer Services**

Computer Services provides technical support for all computer operations at the Alberta Distance Learning Centre, including the support of distance education courseware development and the maintenance and enhancement of the computerised student database.

### **Library Services**

Library Services provides the research resources required to develop distance education courseware. Aside from the collection in Barrhead, the library has computer links to other libraries across the country, giving the Alberta Distance Learning Centre's teaching and course development staff access to a tremendous range of resource material.

## **Administrative and Financial Services**

Administrative and Financial Services provides help to students through its Lesson Recording and Registration, Accounts and Verification, Records and Stenographic, and Finance and Personnel sub-units. Staff in these sub-units provide both front-counter and behind-the-scenes support that is essential to the operation of every public service institution.

## **CONCLUSION**

The Alberta Distance Learning Centre is a leader in distance education in Canada through its provision of high-quality courses in basic education. The development of multi-media courses is an important aspect of the Centre's current work and it is anticipated that, in the future, technological advances will have an even greater impact on course development and the delivery of programmes to students.







## OPEN LEARNING, CURRICULUM DEVELOPMENT, AND THE OPEN ACCESS SUPPORT CENTRE IN QUEENSLAND

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*G. Postle and A. Higgins\**

### INTRODUCTION

The development of learning materials and teaching techniques for students learning in non-traditional ways is affected by concepts of what *schooling* and *curriculum development* mean.

This case study uses the example of providing education for isolated students to show that, as the ideas of what constitutes *schooling* have changed from a *teacher-school-fixed curriculum* model towards a separation of these elements, to be defined as *open learning*, so the notions of what curriculum is provided and who provides it have changed.

The events described in the case study are set in Queensland, an Australian state that serves arguably the greatest number of school-age distance learners in Australia.

### CURRENT CONTEXT

Methods used to deliver education to isolated areas of Queensland have included the following:

- providing small, one or two teacher *schools* that are conveniently located for a few students;
- using *itinerants*, a scheme where young, inexperienced teachers visit homes in isolated areas at irregular intervals to provide some instruction in basic education;

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\* Glen Postle, Associate Professor at the University of Southern Queensland, is now contracted to the Queensland Department of Education's Open Access Support Centre as Co-ordinator. Andrew Higgins is employed by the Department of Education, Queensland, and is Secretary of the Australian Rural Education Research Association.

- developing a system of *correspondence* education whereby papers containing instruction in the basics were mailed to homes; and
- the development of schools of *distance education*, strategically located across the state, to enhance the interaction between teacher, student, and parent.

Distance education schools currently provide education for students who have difficulty accessing conventional education.

### **Organisational Structure of the Distance Education Model**

Seven schools of distance education operate in Queensland, each with a specific catchment area. Each school has a principal, deputy principal, and a number of teaching and administrative support staff. Teaching support is provided on a 1:15 teacher–student ratio.

Direct contact with students is mainly through high-frequency radio, supplemented with a range of activities that include home visits, teleconferencing, activity days at the school, and computer links. Distance education schools offer both primary and secondary programmes. The Brisbane School of Distance Education is the largest distance education school in the state and the only one that offers senior secondary education (years 11 and 12).

The schools of distance education are administered through regional offices, which are responsible for staffing and resourcing the schools. Centrally designed and developed curriculum programmes provide the main link with the central office, the Open Access Support Centre, which is a state-wide support centre that is responsible for designing and developing primary and secondary curriculum materials for distribution to each of the schools of distance education. The Centre is located in Brisbane, and is staffed with people who have expertise in educational and instructional design, audiovisual production, computer software, and print and non-print production.

### **Central Model of Curriculum Development for Distance Education**

The curriculum development model used by the Open Access Support Centre is similar to the “research–development–dissemination” model.

The curriculum materials are written by teachers seconded for the duration of the project. These teachers are selected because of their potential to contribute to the development of quality learning materials. Very few have had experience in teaching at a distance.

Considerable input is sought by the curriculum developers from parents, teachers, those responsible for the development of state syllabus guidelines, and educators who have worked in the area of distance education.

When the materials are complete, they are despatched to the schools of distance education.

## **School of Distance Education Model of Curriculum Development**

In most instances, teachers in schools of distance education use the centrally developed curriculum materials to structure the programmes they develop for their students. In some cases, however, teachers use the materials as prescriptive statements of what is to be taught. A different approach is expected: the centrally developed materials are meant to be used as exemplars of good practice. Teachers are expected to control the pace of learning and to provide feedback to students, to provide enrichment and remedial work where necessary, and to assess student progress. More often than not, teachers are expected to modify and adapt the centrally developed materials. This level of curriculum development requires considerable knowledge of the designs employed by course developers in the Open Access Support Centre, as well as knowledge of principles underlying distance education.

## **Development of the Open Access Support Centre**

In 1990, the Queensland government published *Focus on Schools*, which became the centrepiece of a government strategy to change education in Queensland at all levels. Key strategies in this document pointed to the formation of an Open Access Support Centre, which would provide educational opportunities through programmes and services for all students who, because of disadvantage, were unable to access conventional education. The Centre was to be formed by bringing together a number of existing units, one of which was responsible for the design, development, and distribution of distance education materials. Another unit, a materials production unit, had been responsible for the development of curriculum resources for all schools, particularly audiovisual materials.

One of the major challenges in establishing the Centre was to refocus the work of these units. *Focus on Schools* indicated that the major goal for the Centre was to facilitate greater access to educational opportunities for all learners, regardless of situation or circumstance. Open access education would achieve this goal. *Open access* is a new phrase widely used in Australia, particularly in government circles, to imply a kind of “half way house” to open learning. *Open access* implies only one aspect of open learning (ease of access) and not necessarily the flexibility and learner autonomy embraced by open learning. Since the Open Access Support Centre has been established, the Queensland government has adopted a much broader social justice strategy that emphasises not only access but also participation and equity. This move is supported by open learning philosophy. The Open Access Support Centre responded to this move by carrying the debate past the “half way house” concept towards open learning, even though the appropriateness of this approach to compulsory schooling is still in question.

The dilemma facing the Open Access Support Centre is how to move the focus from distance education towards open learning in a context where the dominant curriculum development and curriculum design frameworks are unsympathetic to the strengths of open learning, even though the system is sympathetic to social justice principles that embody an open learning philosophy.

## **FACTORS STIMULATING CHANGE**

Although the Queensland Department of Education introduced the concept of regionalisation in 1949, it was not until quite recently that the devolution of curriculum decision-making has been taken seriously. The concept of the “self-managing school”

has been promoted widely, and the government has provided considerable support in order to bring this about. However, even with support, some confusion surrounds the roles and responsibilities of participants in the curriculum development process. Any resolution of this confusion has been hindered by the debate focusing on “either–or” positions, advocates of either centralised models or school-based models taking the centre stage.

The absence of clearly defined roles and responsibilities has posed particular difficulties for a state-wide centre such as the Open Access Support Centre. For example, without clear roles, the transition from a correspondence model to a distance education model has been hindered. The correspondence model was highly centralised: teachers located in the Correspondence School were totally responsible for the development of the learning materials; and they were also responsible for teaching the students for whom these materials were designed. In comparison, the distance education model was based on an idea that a centrally located agency designed the learning materials but the teachers in the schools of distance education used these materials to teach their students. Clearly, the intention was to have the teachers use the centrally designed learning materials as a basis for the learning programmes they would use for their own students. The absence of policy and guidelines has led to a number of concerns about the curriculum materials developed at both the central and school levels and the processes used to develop them.

### **Continuation with Elements of the Correspondence Model**

At the central level, there has been a tendency for too much prescription, a characteristic of the correspondence model. In the primary programme, for example, the writers selected all supplementary textbook material. Because the study material for students is written around these textbooks, a great deal of inflexibility resulted in the approach teachers use in the schools. It must be stressed that the scope and variety of this material is quite outstanding, but the fact that the materials are written around these textbooks has taken away from teachers the decisions about resources that should belong to them. The use of textbooks has also built into the design of the materials a currency that will be dictated by how long the textbooks are available. Without being told anything different, or in some cases of not wanting to believe anything different, some parents have persisted with an implementation of the new materials in much the same way as the correspondence model. For example, they tend to feel obliged to cover all the material supplied. The fact that the materials to be covered have increased substantially and that the role of the home tutor has changed from supervisor to tutor has been a source of unrest among parents.

### **Influence of Mainstream School Structures and Practices**

Much of the centrally designed materials have been organised around conventional school structures — the school term, the school day, and so on. This organisation is understandable, as the curriculum developers at the central level are keen to ensure that the distance education materials are perceived by teachers and parents as at least the equal of the curriculum provided in conventional schools. However, this organisation also leads to inflexibility, as teachers and home tutors interpret the provision of daily lessons as work to be covered regardless of what the situation warrants.

A related issue here is the failure of those responsible for the development of the state syllabus documents to consider the implication that what they suggest and expect for

conventional schools should be the same for distance education, particularly for subject areas such as physical education, health, and science or for teaching approaches that deal with attitudes and values or assessment.

A further issue here concerns a tendency for writers to draw upon classroom experiences for the design of many of the student learning experiences. Again, this approach is understandable, given the fact that many writers are selected because of their superior classroom teaching ability and most have limited experience, at least initially, of the context for which they are writing. Because they are “good” teachers they are also well-versed in current educational theories and practices, at least in how they might apply to classroom practice. Materials developed around a classroom pose particular problems for the home tutor who is following the correspondence model; they impose ever greater problems for home tutors who have a number of children in the family across a number of year levels.

### **Confusion Over Who Provides Professional Development to Teachers**

While a key responsibility for the development of curriculum materials at the central level has been assigned to the Open Access Support Centre, the Centre has no formal involvement in professional development for teachers in the schools of distance education. Because the centrally developed curriculum materials are provided as exemplars for the teachers, it would seem important for teachers to be introduced to approaches that would help modify and adapt these materials for their students. The difficulty in proposing some involvement stems from the fact that the Open Access Support Centre is a state-wide centre operating in a decentralised system, while the schools of distance education are administered regionally, where responsibility for staffing and resourcing clearly resides.

## **CURRICULUM DEVELOPMENT: FROM CORRESPONDENCE TO OPEN LEARNING**

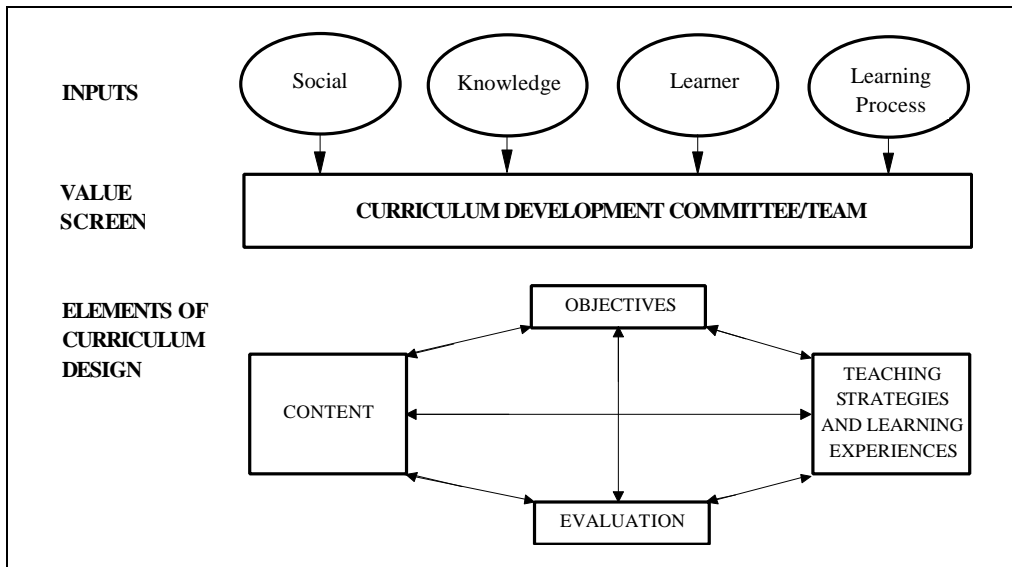
Hughes (1966) depicts a model in a flowchart he developed to explain curriculum development in schools in Australia. Figure 1 (next page) is an adaptation of Hughes’ model but captures the implications of its major components.

While Hughes’ model was created to explain the function of a syllabus committee in a centralised model of curriculum development, it can just as easily explain the function of curriculum development at the school level.

For example, at the central level (the Open Access Support Centre) the inputs considered by the curriculum development team would originate from research literature, government policy statements, mandates, and syllabus documents. Consideration of this data would result in a design that would identify key learning outcomes, detail the scope and sequence of the programme, outline suggested teaching strategies and learning experiences, and propose evaluation requirements.

At the school level, the same framework could be used, but the decisions made and the people making the decisions would be quite different. For example, the inputs would originate from what is known about community expectations and the centrally developed curriculum framework and programme, as well as what is known about student needs and interests.

*Figure 1: An Adaptation of Hughes' Curriculum Development Model*



The lack of clear policies and guidelines for distance education curriculum development has led to much debate about the relative virtues of centralised curriculum development as opposed to school-based curriculum development. The Hughes' framework offers much in resolving any unproductive conflict in the process of curriculum development.

## HISTORICAL CONTEXTS

### The Reigning Paradigm

Almost since the time of the ancient Greeks, education has been characterised by the gathering of a number of students with a knowledgeable leader (teacher) in a place specified for the conduct of education (a school). Usually, the material to be taught existed within the community and had been accepted as “worthwhile” knowledge (curriculum) necessary for the functioning of neophytes in the community.

The key elements in this paradigm include:

- the teacher, who is central to the teaching–learning situation;
- the students, who gather in one place to participate in the same learning experiences, usually delivered at the same time, in the same manner, and in the same order; and
- a common curriculum, which is based on a general acceptance of what constitutes “worthwhile knowledge” that will allow students to function in a community.

This paradigm generally remains unchallenged today, but in the early days of public education in Queensland, using the paradigm’s key elements to guide action created what Imershein (1977) refers to as *anomalous conditions*. In particular, the circumstances associated with delivering education to the more remote parts of Queensland have not fit the paradigm during the last hundred years.

The passage of the *Education Act* of 1875 in Queensland, at a time when similar Acts were being contemplated or passed elsewhere in Australia, sought to make education “free, secular and compulsory”. Under the *Education Act*, public servants were required to ensure that all children of the compulsory age of schooling (6 to 14 years) received some education.

But the *reigning paradigm* of educational provision could not easily supply the method of achieving this goal, because it was impossible to provide a teacher to every remote family that had school-aged children; not only were too few teachers available, but too many families lived too far from each other to be gathered together in sufficiently large numbers to warrant the provision of a school.

Educating children who live in isolated communities in Queensland has posed major problems for educational administrators ever since schooling began in the state. For example, in 1869, Randall Macdonnell, an inspector of schools in Queensland, wrote that:

There are cases where the settlers are too few, too far apart or too recently established in their homes, to be able to comply with the regulation in regard to average attendance (at school) or the contribution to the costs of the school building. In some places the people sometimes contrive, by their united labour, to erect a rough structure . . . and if they succeed in obtaining the services of a person moderately competent as an instructor, the Board may recognise the school provisionally, and grant a small stipend to the teacher, 'till the time comes when the residents are in a position to contribute their quota of funding a permanent vested school.

The Queensland government persisted in its attempts to ensure that teachers and children were brought together in one place to learn. They used young, poorly trained teachers, mostly young women, to staff small and remote schools, all in an attempt to sustain the reigning paradigm.

However, it was clear to all involved in providing education to school-age children that the reigning paradigm was not able to do the job. Members of the educational community were only too aware of anomalies. But a long drought and rising costs forced the government to consider alternatives to the establishment of numerous small schools in remote areas. In 1875, the government in Victoria, another Australian state, adopted a system of itinerant teachers, whose tasks included visiting as many remote families as possible. As a way of sustaining the reigning paradigm, Queensland adopted this scheme in 1901.

The itinerant teachers used the existing curriculum and textbooks in their lessons. In theory, each teacher attempted to visit a family by horse and buggy at least four times a year. In practice, however, itinerant teachers rarely visited each family more than twice each year. The teacher left textbooks, library books, and exercise books for the children, along with detailed instructions about which lessons to cover before the next visit. Mothers usually supervised the children, even if they themselves had little, if any, more education than the children. The system of itinerant teachers maintained the personal contact existing between teacher and pupil, but substituted the home for the classroom, thus still sustaining a weaker version of the reigning paradigm.

While this system provided an education for all children, the poor educational outcomes achieved by many children because the visits were so infrequent provided the impetus to search for another way of doing things.

The following analysis of the reigning paradigm emerges when Hughes' curriculum framework is applied.

- *Social*: The aim of the curriculum is to ensure that all children conformed to a similar background (Aboriginal children were largely excluded from schooling at that time) and were able to function within a homogeneous society, comprised very much of Celts and Anglo-Saxons.
- *Knowledge*: The use of common texts and readers organised by set timetables proposed that the state could and should determine what knowledge would be valuable. The system of standards, grades, and common examination indicated a disregard for the influence of circumstance or location. Knowledge of a common content prevailed.
- *Learners*: It could be argued that the state believed in *tabula rasa* insofar as pupils were concerned. The teacher imparted knowledge to pupils, leading them from darkness to light. Very few, if any of the young, inexperienced, and poorly trained rural teachers would have been familiar with Plato's or Rousseau's views on education. Most lived in some fear of inspectorial visits should their pupils fail to recite the correct facts on examination.
- *Learning Process*: Records of inspectors' visits to schools in the later part of the nineteenth century reveal that drill and repetition comprised the main teaching techniques. The repetition of factual content completely dominated other significant learning elements such as demonstrating manual and intellectual skills, or understanding by combining content and skills to make the outcomes not only useful but also valuable.

### **The Correspondence Paradigm**

The challenging paradigm, contradicting the idea that education only occurred in schools, came from New South Wales, another Australian state, where the government established a correspondence system. Whereas Queensland had been intent on maintaining contact between teachers and students, the new system relied heavily on the availability of young, mobile, and independent teachers, particularly young women in rural schools and men as itinerants. First World War casualty rates for young Australian men dramatically reduced the availability of these men for teaching in remote areas. In addition, the "soldier settlement" schemes of the early 1920s added pressure on the Education Department to provide more schools and itinerant teachers. In 1921, B. J. (Barney) McKenna, the new Director-General of Education, established a "correspondence school" that commenced its operations in 1922. Staff from Queensland visited New South Wales and transplanted this system to Queensland.

The Minister for Public Instruction at the time, A. H. Barlow, described the correspondence system thus:

So that educational assistance may reach parents whose children are situated at a distance from permanent country schools and away from the tracks followed by itinerant teachers, typed copies of instructions, directions, explanations and illustrations, forming a series of lessons upon the most important subjects included in the primary school curriculum, are posted each week from the Primary Correspondence School in Brisbane . . . . The work of each class is divided into weekly portions so as to cover a half year's work in twenty (20) lessons. Typed copies of weekly lessons carefully graded are transmitted with accompanying directions, some intended for the guidance of parents.



Written lessons are then returned to the home from which they have been received. Thus, there are three sets of work in circulation at one time, one on the way to the pupil, one at home in the process of study, and one returning for correction . . . . The work is so well systematised and explanations so explicit, that except in the case of totally illiterate adult coadjutors, the pupil's progress may be assured.

Subjects studied by pupils included English (comprising reading, spelling, dictation, recitation, word-building, derivation, grammar, composition, and writing) and arithmetic and mensuration.

During 1922, the enrolment of the Primary Correspondence School rose to 730 students.

The key elements in the correspondence paradigm included:

- the “classroom”, which was located in the home where the parent (sometimes a governess) supervised the progress of one or a small number of students;
- the “curriculum”, which was centrally designed and delivered and, while it generally reflected an acceptance of what was “worthwhile knowledge”, was restricted to the availability of suitable textbooks with which parents could reasonably be expected to cope; and
- the teachers' interaction with students, which was based on written communication with the parent or governess who was acting as mediator in the learning process.

The introduction of the correspondence system resulted in subtle changes to the curriculum framework as it related to children living in most isolated places, unable to attend a school. Using Hughes' curriculum framework, the key inputs can be described as follows.

- *Social*: The continuing use of the learning materials common to school-based learning showed that the state continued with its intention to fully integrate students whose living conditions and circumstances varied significantly from the “norm”. As before, very few Aboriginal students attended school and their cultural understandings had no place in the dominant, white, Euro-centric society.
- *Knowledge*: The use of restricted materials, as in schools, continued with a belief that the state determined what was worthwhile knowledge. The redirection of this information into written notes to be transmitted to students by either parents or itinerant teachers inadvertently further narrowed the idea of worthwhile knowledge. Without newspapers, radio, or even visitors to remote homes, the world view of isolated families was reduced. Parents, many of whom had little schooling themselves, could pass even less on to their children. Certainly, the correspondence system produced basic literacy as a major outcome, but it tended to narrow the student's outlook on life more so than a school might have done, because opportunities to interact with even neighbouring children were limited.
- *Learners*: Students using the correspondence system communicated by mail with teachers in far-off Brisbane. Most students received two brief visits from the itinerant teacher each year. Otherwise, they interacted socially with siblings or parents and various farm workers. As learners, they were isolated within the correspondence system.
- *Learning Process*: The correspondence materials prepared in the early years reflected classroom instruction written for parents to be applied in a “study” setting at home, not unlike that found in a school. The materials were drawn from standard readers. Students first learned to read and, afterwards, they learned to follow the

instructions for themselves as they became less dependent on the mother, home tutor, or governess for direct tuition.

- *Value Screen:* Although not articulated as such, the value screen for both classroom and correspondence work assessed the same essential elements, including Anglo-centrism, Empire, nationhood, respect for family, and a puritan work ethic.

During the 1920s and 1930s, when broadcast radio was introduced, many isolated properties found themselves in contact with the wider world. They could hear about the world's events first-hand and also hear the views of world leaders or experts on a wide range of important issues. The Australian Broadcasting Commission adopted a view of schooling that was similar to that of the British Broadcasting Corporation during the 1930s. Both provided programmes that supplemented the educational curriculum. Radio engineers and teachers could have used the technology to teach directly, but this did not happen until the 1960s.

The School of the Air radio service commenced in Cloncurry in western Queensland in 1960. It provided regular contact between teachers and isolated students in that children could hear others discussing the same lessons on which they worked. Also, teachers provided on-air assistance to home tutors, arranged school camps, and held parents' meetings, generally creating a "school" atmosphere among the isolated. Unfortunately, the School of the Air activities did not coincide with activities in the correspondence lessons.

The chief advantages of the correspondence system lay in its administrative simplicity: the curriculum generally followed that used in conventional schools and a routine could be regularised in a way that ensured participants understood their well-defined roles.

However, those involved in the system identified a number of anomalies. The School of the Air demonstrated the importance of providing opportunities for students and teachers to interact directly. Although the School of the Air lessons and correspondence lessons did not coincide, those involved saw that the School of the Air lessons provided a way for up to 20 students of the same age to interact as they would in a classroom.

The correspondence system relied on fixed textbooks, often purchased at great cost, which ensured that the curriculum was rarely upgraded. Curriculum changes came about only when the required textbooks were no longer available from the publishers. Sometimes this meant that the learning materials and the skills, values, and attitudes being taught through them did not reflect the reality of the world in which the children would live. The parents also found that they could cope only with a limited range of subjects because they had no training for their role and had to rely upon their own, often limited, rural life experiences. The teaching methods tended to limit the education of the children. The centrally developed and delivered curriculum provided little opportunity for the materials to be modified or adapted to suit local conditions. Teachers located in Brisbane could not respond to the diversity dictated by local contexts, nor could the parents with their limited training in using the materials.

## **The Distance Education Paradigm**

The Queensland government established a ministerial committee in the early 1980s to study the question of education by correspondence. This committee acknowledged the concerns many of the participants expressed. One of the major changes the committee recommended was to establish schools of distance education that would be strategically located throughout the state. The schools of distance education would improve the

interaction between teachers and students and provide greater opportunities for the curriculum to be modified or adapted to suit local conditions and the individual needs of the students. The construction of the first schools at Longreach and Charters Towers in the late 1980s saw the first regionalisation of distance education.

The key elements of the distance education paradigm included:

- the classroom, which is located in the home where the parent (or governess) supervised the progress of one student or a small group of students; links with teachers in schools were provided by technology (for example, print and radio);
- the curriculum, which was centrally designed and delivered and provided opportunities for students to cover all subject areas. The curriculum reflected the same expectations of what is “worthwhile knowledge” as for students in face-to-face situations. It provided exemplars around which the teachers in schools of distance education could plan their own programmes; and
- the teacher, who assumed the role of manager of student learning using both a centrally designed curriculum as a guide and the parent (or governess) as a tutor in the full sense of the word.

These changes constituted a fundamental change in the way in which isolated students received their education. No longer did they rely on “the papers” but could now see their teachers, hear them daily through high-frequency radio, and link each lesson to the learning materials in a more individualised way. On the surface, the role of the parent or governess had changed little with the introduction of the schools of distance education, but significant, more subtle differences had taken place. For example, because teachers had daily contact through the learning materials, they were able to adopt the role of guide and manager of teaching and learning. Teachers could offer a greater degree of individualised support for the home tutor as they got to know the needs and interests of their students.

One of the most important changes with the introduction of schools of distance education concerned the actual design of the centrally developed primary curriculum materials. No longer were they organised in a tight linear sequence. The new programme provided an integrated programme covering all subject areas, using a “whole language” and literature-based approach, including a wide selection of supporting texts to accompany the print materials. A range of audiovisual materials support the print materials. This change in the design of materials assumed a wider role for the parent. Where the parent or governess had been previously asked to supervise the work of students, the new materials required a greater tutoring role. This change placed an extra burden on teachers in the schools of distance education, who were required to direct both the student and the home tutor.

Not a great deal has been said of secondary distance education at this stage. To this point it was not an option taken up by isolated families because many parents felt they could not supervise students at the secondary level. Other families had preferred to send their children to urban boarding schools outside the state-funded system. Recently, because of the downturn in the rural economy and drought, more parents seem to be turning to secondary distance education programmes, which are offered by one school of distance education located in Brisbane. However, secondary enrolments in the other schools of distance education have also increased recently. The main concern with this development has been the difficulty in using the same delivery model (using home tutors) for secondary students.

The distance education paradigm includes a much wider range of students, from pre-school to adult, than did the correspondence model. It also provides some assistance to the few isolated students whose special needs allow them to remain in their homes without seeking continuous special attention in larger urban centres. Assistance is provided in two ways. A small, centrally located unit develops individual programmes for children who have been assessed as having moderate to severe learning disabilities. As well, each of the schools of distance education is staffed with “learning support” teachers who are responsible for assisting teachers and parents with programmes for students with learning disabilities.

Despite these developments, the members of the distance education paradigm have identified issues that suggest the presence of anomalous conditions. Perhaps a challenging paradigm is emerging.

In terms of Hughes’ curriculum framework the distance education paradigm recognises the social and epistemological changes occurring in Australia, but fails to address issues that concern the learner and the learning process, as follows.

- *Social:* Before 1950, Australia and particularly rural Queensland saw few migrants other than Anglo-Saxons. Only the Chinese miners made an impact in the bush, but most returned to China. People from the Pacific Islands who came to Queensland in the nineteenth century worked on coastal farms and did not penetrate the western Queensland towns.

After 1950, Australia adopted large numbers of European migrants, who moved into the “outback”. By the 1980s, Asians came to Australia in increasing numbers and they, too, have had a major social impact.

These social changes were not reflected in the updating of the Queensland correspondence materials of the 1950s and 1960s.

The revision of distance education materials in the late 1980s recognised the multi-cultural factor in Australia and Queensland’s recent history. The recognition of other cultural values, including Aboriginal values, brought a modern view of the world to isolated students. The spread of television to the outback in the 1970s reinforced a new era in Queensland’s education system.

- *Knowledge:* Television, satellite communications, efficient news gathering, and broadcasting exponentially expanded the knowledge accessible by children. Teaching became no longer a matter of drill and reciting known facts, but more an issue of how to find and manipulate relevant facts. Distance education recognised this complexity by adopting the literature-based, “whole language” approach. This move away from the certainties of knowledge in the correspondence system is a major source of concern to families accustomed to the former ways.
- *Learner:* Teachers who were preparing distance education materials in the late 1980s and early 1990s considered social and epistemological concerns, because they had been dealing with them in the everyday classroom settings from which they came.

Yet isolated learners brought pressure on these teachers to prepare materials in the “correspondence” mode, assuming the following:

- the dominance of the home tutor or governess role;
- infrequent contact with teachers; and
- a need for excessive and detailed instructions about using the materials.

These “correspondence” assumptions depended on a stable environment of social and learning factors, but both had become fluid in the 1990s. As a result, the

translation of 1990s classroom practice and social and epistemological understandings did not match the understanding of isolated learners.

- *Learning Process*: With a move away from the idea that students needed only a fixed *corpus* of knowledge came a range of “open” teaching techniques that emphasised recognising and classifying important content from the whole range of available information; data would then be manipulated to address the tasks to hand. This range of teaching techniques made the learning process much more complex than could be put into practice easily by unskilled home tutors or governesses.

The schools of distance education link the “on-air” lessons and personal visits very closely to the written and audiovisual learning materials. Skilled teachers now play as great a role in the education of isolated students as teachers in the small schools that began to close in the early part of the twentieth century. It is unsurprising to find that parents and home tutors believe that modern distance education materials are too complex while, on the other hand, teachers find them too prescriptive.

### **The Open Learning Paradigm**

Open learning at the school level has its origins in correspondence and distance education paradigms and, to some extent, is an adaptation from tertiary and further education sectors. However, at the school level, the roots of open learning also extend back to the 1960s in the teaching and learning approaches associated with open education. Unfortunately, the development of any useful concepts from open education were lost as the idea became confused with school architecture and classroom organisation.

Open learning is generally characterised as learner-centred education, with a focus on meeting the needs of the individual rather than accommodating the individual to the requirements of a system or institution. It has been defined as a system “in which the restrictions placed on students are under constant review and removed wherever possible. It incorporates the widest range of teaching strategies, in particular those using independent and individualised learning”.

In adopting this definition, a tentative list of “rules” can be offered around which it may be possible to develop concrete exemplars. These rules include the following:

- Open learning negates the constraints of place, time, and method.
- Open learning allows meaningful student choice.
- Open learning produces flexibility in materials and delivery.
- Open learning enables students to achieve their potential.
- Open learning provides ready access to a range of curriculum information and resources.

A paradigm emerges from these rules, but whether they are sufficiently strong enough to guide the practice of its members is debatable. A possible list of key elements could include:

- the “classroom”, which is generally located in the home, but links to “schools” are provided by communications technology (computer, fax, telephone);
- the curriculum, which is centrally designed and based on curriculum frameworks that reflect system-wide guidelines and expectations. The curriculum offers models of good practice around which teachers can plan their own programmes. Desirable characteristics of curriculum design will include the removal of barriers imposed by

administrative convenience (for example, fixed duration courses and rigid divisions between levels of subjects) and the creation of multiple options (including recognising prior learning and matching delivery to the mode the learner prefers);

- the teacher, who manages the curriculum at the school level and decides on student needs, teaching methods, resources, and assessment; and
- “schools”, which are accessible all year round.

The open learning paradigm originated from elements of the correspondence and distance education models. The factors that caused the correspondence model to prove inadequate were a more fluid and multicultural society, the impact of the rate of change of knowledge, improved communications technologies, and better understanding of the learning process.

The distance education model is changing and moving towards an open learning approach because of the effect of factors that include the Education Department’s acceptance of a social justice framework, demands by small schools for access to distance materials, the benefit that must be derived from distance materials that justify their high development costs, and a desire among parents for a more flexible learning model. As well, the education community’s greater understanding of the meaning of *open learning* contributes to its greater acceptance.

Open learning has subsumed the simpler elements of correspondence learning such as the presentation of printed materials and has added a wide range of technological elements such as audio, video, and computer-based learning designed for isolated learners. The subsumption of distance education elements, including a more sophisticated understanding of the learning process and a more flexible approach to learning materials, are adding to open learning’s capacity to respond to a wider range of teaching and learning situations.

The Open Access Support Centre is preparing its materials on the cusp of the change from distance education to open learning. It is because the Open Access Support Centre is pioneering this change that it is finding difficulty in coming to terms with a new way of “doing business” that not even educators and curriculum specialists within the broader Departmental community are able to provide insight or assistance.

## **ANALYSIS OF FACTORS**

The preceding historical analysis shows that while the way education is offered to geographically isolated students has changed in several ways, one major paradigm of educational delivery in Queensland remains: it is that of the known curriculum delivered by trained teachers to students of similar age in a fixed place, the school.

This paradigm has within it some significant weaknesses in its basic assumptions, including the following:

- The presence of a teacher is necessary for the conduct of education.
- Students should be gathered together for purposes of learning.
- Students should follow a common curriculum.
- Students should be of similar age.

The historical analysis of the provision of education to students of all ages living in remote places has challenged some of the major assumptions of the dominant educational paradigm in the following ways.

- The removal of a teacher from the learning process in the correspondence school model showed that, under restricted circumstances, untrained parents and home tutors could successfully lead completely dependent (non-reading) students to become fully independent learners, capable of digesting a whole range of syllabus material by reading and writing alone.
- The closure of small schools and the introduction of an itinerant teacher service, with very limited student contact time, showed that large education systems could successfully teach even one student in complete isolation from any other students, albeit with negative effects for the students' socialisation.
- The tertiary open learning system has demonstrated that education, even in the regular absence of teachers, can prepare, produce, and deliver a very flexible curriculum to meet a wide range of student needs, particularly those of the independent learner.

The significance of each point should not be lost on the dominant paradigm because either by acting singly or together, they have the capacity to change how schools operate. The following working examples elucidate these points.

- A wide range of subjects can be taught in schools where there is no teacher with the requisite training. For secondary education, this means that all students in the state have access to all subjects at any suitable time. Only a teacher or supervisor capable of giving general supervision to students is needed. Consequently, access to all subjects that suit a student's life goals need not be denied.
- It is possible to introduce the "home schooling" concept to almost any family that is willing to meet the necessary conditions, even if they suffer no disadvantage of isolation or distance.
- It is possible to allow adults of any age access to the normal curriculum to study subjects that they believe are necessary for their life goals using teaching techniques and materials prepared in a highly professional manner.
- The materials prepared in the open learning mode can be made commercially available to any person, system, or country that wishes to use them, provided they are constructed on themes and concepts, rather than around commercially prepared textbooks.

Among the other significant factors to be managed during the period of change were:

- the inclusion of the social justice issues that themselves provide a synthesis of elements within the open learning paradigm;
- preparing parents, home tutors, and governesses for a new approach, not only in the provision of learning materials, but also in new ways to tutor students;
- incorporating features of suitable conventional school practices into the curriculum materials to make them useful in small schools, but without ignoring the role of the home tutor; and
- complying with the industrial relations demands associated with restructuring a large educational unit of up to 250 staff.

## **SYNTHESIS OF ISSUES**

### **Equity**

Australian education systems subscribe to the principle that, in a society in which some groups are manifestly disadvantaged when it comes to enjoying the benefits education can bring, the disadvantage must be addressed. Queensland's schools strive to ensure equal opportunities for all students and equitable outcomes for identified groups of students. Special programmes exist for groups, including girls, Aboriginals and Torres Strait Islanders, students with disabilities, students living in remote areas, and those in low socio-economic places. Also the Queensland teacher transfer system ensures fairness not only for teachers but also for students in its methods of ensuring that all schools are staffed equitably. However, it is still the young and inexperienced who find themselves in remote or small schools.

Queensland is moving towards a schooling system that is based on self-managing principles. Within this approach there is significant scope for:

- a more sophisticated funding arrangement that allows schools to fund alternative forms of education to increase access; and
- a greater latitude for principals to access open learning techniques.

Where schools would be required to be more responsive to community needs, they must also have the capacity to access a greater range of learning options but, at the same time, be held more accountable for learning outcomes.

### **Participation**

The principle of participation in schooling is universally accepted in Queensland schools. Rising retention rates, although affected by youth unemployment conditions, demonstrate the strength of participation in schooling. Schools may not always be able to respond to parent and community pressures to enhance subject offerings because of size, teacher mix, or experience and will, therefore, need to be more flexible in the approaches they use. Open learning is a strategy allowing for this type of flexibility.

The issue of participation is of particular significance to rural and remote schools because students have fewer employment opportunities and fewer role models on which to base their future employment or life options. Although the Department of Education does provide information to students on careers and, through its various policies, widens student horizons, some students are unable to study in areas they deem necessary for their futures.

### **Access**

A key feature of Australian educational history is the states' provision of access to education for all children within designated age ranges, regardless of their background, location within the state, and any disability they may have. In other words, state schools are non-selective and attempt to provide a guarantee of access to any local school.

This principle of access subsumes the longheld Queensland belief that public education should be free, secular, and compulsory, since an education system that is neither free nor secular can deny access on financial and religious grounds.



These values are significantly different from the values that pertained during the correspondence school era. They recognise, as do the distance education materials, that people have different views of society and the place of knowledge within it.

Similarly, the learning process used in schools has changed to include greater curriculum flexibility, designed to serve the much wider range of career and learning choices now open to students.

At this time it is possible to detect the presence of anomalous conditions, a prerequisite, according to Imershein (1977), for a paradigm shift. This is evidenced by:

- the Department of Education's concern to extend ideas about social justice;
- requests from many conventional schools for access to the curriculum materials supplied to schools of distance education;
- difficulties experienced by some schools of distance education in using the materials for a more diverse student group (for example, students of travelling families);
- concerns expressed by some teachers about the level of prescription contained in curriculum materials; and
- an emerging issue being argued in the wider community is that the fundamental assumptions about the contemporary content of schooling (for example, a need for repeated retraining and increased personal responsibility for learning) call for a different mode of schooling that empowers learners and reduces dependency rather than the opposite.

The rigid curriculum framework associated with correspondence and distance education has been dissolved by open learning to serve a very wide range of student interests. Although a tertiary model might include almost any subject, a similar provision within a state-based primary and secondary model would operate within broad state guidelines or those established by relevant boards of studies.

## **CONCLUSION**

In the analysis of the historical context, an attempt was made to show that the concept of open learning arose out of concerns and difficulties with the provision of education using correspondence or distance education modes. The formation of the Open Access Support Centre coincided with a proliferation of debate about distance education and open learning. At the same time, the Centre was completing curriculum projects spawned in different contexts.

It was at the Education Department's insistence that outdated materials were replaced. The Department accepted the distance education paradigm as an appropriate model to follow, because it improved access to modern learning by remote students. The distance education model fitted well within the overall Departmental position on curriculum development, which tended to be highly centralised at that time (1989).

Since 1989, with the adoption of the social justice principles of access, equity, and participation, the Open Access Support Centre has found itself caught between the distance education model and an open learning approach.

In essence, the difficulties staff face in preparing curriculum materials (as opposed to creating administrative structures in times of difficult funding) arose from their role as pioneers of the open learning approach to curriculum development.

When the curriculum staff began to develop the learning materials without suitable exemplars for primary students, they found themselves being pulled in two directions:

- (1) backward, towards the known methods associated with correspondence education; and
- (2) forward, towards the flexibilities of the open learning paradigm.

In terms of the curriculum model being used here, the strengths of the open learning system's social and epistemological concepts pulled against the correspondence model of the isolated learner and the learner's context.

With 20/20 vision in hindsight, it would have been better to develop a fully coherent curriculum theory and philosophy for preparing learning materials in the open learning mode before starting the task. Political and administrative realities combined with a naive approach ensured that while the Open Access Support Centre has delivered its goods on time, the exercise will have to be done again (in a more orderly way) to capture the realities of living and learning in the late twentieth century.

Clearly, the philosophy from which curriculum positions emanate must be understood before learning materials and teaching strategies are developed for non-traditional school-aged students. Because political and administrative demands have compelled the Open Access Support Centre to progress in advance of establishing its philosophical and curriculum positions, the Centre's materials, while of very high quality in themselves, reflect an outmoded curriculum model.

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## THE INDONESIAN OPEN JUNIOR SECONDARY SCHOOLS

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*A. S. Sadiman\**

### BACKGROUND

As stipulated by the Constitution and consonant with state philosophy, the Indonesian government is committed to social justice. In order to meet that commitment in the field of education, the government strives to realise educational equity.

The Broad Outline of State Policy of 1988 stated that, for the fifth five-year development period (1989–90 to 1993–94), the priorities of Indonesia's educational development are improving the quality of all levels and types of education, and extending junior secondary education in preparation for universal nine-year basic education.

At the primary level, Indonesia has achieved almost complete universal education, with 93.5 percent of the primary school age population already accommodated within existing primary schools.

At the secondary level, however, the situation is not so comforting. The existing conventional junior secondary schools cannot alone provide enough room for all primary school graduates. It is anticipated that during the fifth five-year development period the junior secondary school age population (13 to 15 years of age) will increase to 12.9 million in 1993–94 from 12.5 million in 1988–89. Although the participation rate is also expected to increase to 66.7 percent (8.6 million) in 1993–94 from 53.4 percent (6.7 million) in 1988–89, the rate at which primary school students are able to move to the secondary stage is still a major concern. By the end of 1993–94, 85 percent of primary school graduates (3.85 million) will need to be accommodated at the junior secondary level. This ambitious target will pose serious challenges to teachers, school buildings, learning spaces, and related facilities.

The minimum qualification for junior secondary school teachers in Indonesia is Diploma Two education, but a great number of teachers are still underqualified. In 1987–88, only 40 percent of the teachers held Diploma Two qualifications or more, with the remaining 60 percent holding only Diploma One or less. Approximately 21 percent of the teachers are secondary school graduates, while 39 percent others hold the

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Diploma One qualification. The under-qualified teachers are found not only in the outer islands and rural areas, but also in the Jakarta municipality (Kemmerer et al. 1990).

The inadequate number of qualified teachers in relation to the number of students is another problem. In 1988–89, there was a shortage of 140,671 general secondary school teachers and, in 1992, 75,809 more teachers were needed to meet the growing demand (Suryadi 1988).

The third problem relating to teachers is their uneven distribution. Most teachers prefer an assignment in a city, not in a village or remote area. The result is an unbalanced distribution of secondary school teachers. As well, the teachers' educational background is often mismatched with the subjects they must teach at school. For example, a social studies teacher may well be assigned to teach mathematics or science.

The shortage of school buildings, learning spaces, and related facilities is a serious problem, as are the unfavourable socio-economic conditions and geographic constraints that may cause students to miss conventional junior secondary school education. Recognising these problems, the Indonesian government has responded by erecting 2,000 new school buildings and adding classrooms, as well as by developing and distributing learning materials and conducting pre-service and in-service training for teachers.

Despite these efforts, 160,000 primary school graduates will not gain admission to conventional junior secondary schools in 1994.

With increased industrialisation taking place in Indonesia and the realisation that industrialisation requires better education and skills development, the government has adopted a new policy of universal nine-year basic education.

The available data reveal that, in 1980, 53 percent of the Indonesian workforce were uneducated. Only 34 percent had basic education, 11 percent had secondary education, and only 2 percent graduated at secondary education levels. Since national productivity depends heavily on the quality of labour, it is important for Indonesia to improve the educational background of its workforce. It is expected that by the end of the second long-term development plan (the year 2018), 52 percent of the Indonesian workforce will have basic education, 32 percent will have secondary education, and 5 percent will be secondary education graduates.

The fifth five-year development period has been devoted to preparing to implement the universal nine-year basic education policy. The government and the community are combining their efforts to provide the school age population with the following opportunities for educational advances.

- *Conventional Junior Secondary Schools:* The capacity of conventional junior secondary schools will be increased to accommodate more primary school graduates.
- *Small Junior Secondary Schools:* Small schools have been designed for primary school graduates in remote areas where it is not efficient to establish conventional junior secondary schools.
- *Open Junior Secondary Schools.*
- *Schools for Children with Handicaps:* Schools for children who wish to acquire junior secondary school certificates.
- *Integrated Junior Secondary Schools:* Schools where children with handicaps and children without handicaps learn together.

- *Package B Learning Groups*: A non-formal education system that offers a junior secondary school equivalence programme.
- *Madrasah tsanawiyah*: Islamic junior secondary schools.
- *Pondok Pesantren*: Traditional Islamic schools.
- *Junior Secondary School Equivalence Programme for Adults*.

From this list it is clear that open junior secondary schools are expected to play an important role in supporting the universal nine-year basic education policy.

## **OPEN JUNIOR SECONDARY SCHOOLS**

### **What and Why**

Open junior secondary schools have been designed for disadvantaged primary school graduates who, for geographic reasons or socio-economic reasons, or both, are unable to attend conventional junior secondary schools.

The open junior secondary schools can reach disadvantaged children in remote places and in urban areas, freeing them from having to travel long distances to a conventional school, which may be expensive or arduous, or both. The open junior secondary schools offer scheduling flexibility, which is a great convenience to those who must work for a living or help their parents during regular school hours. For example, when participating in distance education, students need not follow a rigid timetable. Distance education administrators can consider the students' needs and adjust to their circumstances.

The open junior secondary schools make good use of existing resources, effectively employing the teachers, equipment, and facilities of the existing conventional junior secondary schools and thus not requiring significant additional budgetary provisions.

The open junior secondary schools were initiated with a pilot project in five locations in 1979, three in Java (Plumbon, West Java; Adiwerna, Central Java; and Kalisat, East Java), one in Sumatra (Kalianda, Lampung), and one in West Nusa Tenggara (Terara, Lombok). The open junior secondary schools in these five locations have produced hundreds of graduates each year since 1982. The pilot stage lasted until 1984 and was originally planned to immediately expand the system to meet the shortfall predicted in the school building programme. This plan, however, was not implemented until 1989, because the government was able to set up more school buildings.

There are 10,548 students enrolled in 34 open junior secondary schools throughout Indonesia. In addition, 19,781 more students are enrolled in open junior secondary schools run by the Central Java provincial government. Enrolments reveal a wide range in the number of students, from 73 in Surian to 4,378 in Grobogan.

### **Curriculum**

The open junior secondary school curriculum is the same as the conventional junior secondary school curriculum. Students must study 13 subjects in the open junior secondary school, including mathematics, biology, physics, English, the Indonesian

language, Pancasila moral education, geography, economics, national history, arts, physical education and health, religion, and vocational skills.

Open junior secondary school graduates have the same rights and opportunities as conventional school graduates if they wish to continue their studies or decide to find jobs. Both goals are given due consideration when open junior secondary school learning materials are developed. Some guidelines for developing learning materials follow.

- For subjects that will serve as a basis for further studies, the content is comprised of the learning objectives and topics specified in the curriculum. These subjects include the Indonesian language, Indonesian philosophy and ways of life, physics, mathematics, social studies, and the English language.
- For subjects that are not a prerequisite for further studies, the content is developed on the basis of practical curricular objectives. It is possible that the content presented to students varies from one school to another; nevertheless the lessons are geared to achieving the same objectives.
- For subjects related to skills training to enable the students to join the community at large, the content is chosen on the basis of student needs and the availability of appropriate learning resources in their environment. Thus the subject matter is more functionally related to their later lives.

## **Learning Materials**

As a distance education system, the open junior secondary schools rely on self-study materials to deliver the lessons. Most of the learning materials are print-based. The first nine subjects (mathematics, biology, physics, English, the Indonesian language, Pancasila moral education, geography, economics, national history) are presented in print modules, while the four non-academic subjects (arts, physical education and health, religion, and vocational skills) are in the form of brochures. The brochures are currently being phased out and will be replaced by print modules.

The print materials are enriched and supplemented with audiovisual materials, such as slide-tape programmes, audiotapes, and radio programmes. Starting in 1995, the print materials will also be supplemented with videotape programmes. Each audiovisual supplement is accompanied by a teacher's guide and a student's guide to facilitate utilisation.

So far, the Communications Technology Centre for Education and Culture has developed a total of 92 slide-tape programmes for five subjects, including mathematics, biology, physics, social studies (history, geography, and economics and co-operatives), and Pancasila moral education.

Videotape programmes have been developed to supplement biology, mathematics, physics, and English lessons, while radio programmes have been developed to supplement lessons on the Indonesian language, English, Pancasila moral education, biology, mathematics, history, economics and co-operatives, geography, and the four non-academic subjects (arts, physical education and health, religion, and vocational skills).

The videotape programmes number 177, while the radio programmes number 85. Each radio programme is broadcast three times by a public radio network in each province.



To further assist students with the lessons, 130 audiotape programmes have been developed relating to 10 subject areas.

All of the learning materials have been designed and developed by the Communications Technology Centre in co-operation with the Directorate of General Secondary Education through the involvement of selected subject matter teachers, who have had special training. The audiotape and radio programmes are produced by the Centre's production houses in Yogyakarta and Semarang; the slide-tape programmes are produced in the Centre's studio in Jakarta, while the videotape programmes are produced both in Jakarta and Surabaya.

During the pilot stage, the self-study print materials were designed, developed, and printed in Jakarta and distributed throughout the country from there. With expansion, however, the printing of learning materials has been delegated to the provinces.

## Teachers

Two types of teachers are employed at the open junior secondary schools: *guru pembina* (subject teachers) and *guru pembimbing* (facilitators).

A *guru pembina* is a qualified subject teacher of the mother school, which is a conventional junior secondary with which the open junior secondary school is affiliated. The subject teacher is assigned to assist open junior secondary school students in learning, and is in charge of planning and implementing the learning activities of open junior secondary school students. As well, he or she is also responsible for evaluating the academic achievements of open junior secondary school students.

Among other duties, the tasks of a *guru pembina* are:

- to plan learning activities during face-to-face instruction as well as independent learning activities at the learning centres;
- to advise and supervise the *guru pembimbing* in managing, encouraging, and assisting students at the learning centres;
- to provide guidance to individual students;
- to organise the delivery of learning materials;
- to organise the use of learning facilities for face-to-face instruction; and
- to provide face-to-face instruction to open junior secondary school students.

A *guru pembimbing* is a facilitator whose tasks are to assist the *guru pembina* in organising learning activities at learning centres and in administering student achievement tests. A *guru pembimbing* may be a member of the local community who is qualified and willing to manage learning activities at the learning centres. The tasks of the *guru pembimbing* are:

- to help students overcome their academic and personal difficulties individually or in groups. If unable to help students solve their problems, he or she passes the problems on to a *guru pembina*;
- to distribute learning materials to students;
- to provide students with guidance so that they can learn as scheduled;
- to write a report to the *guru pembina* about student learning activities;
- to organise and supervise student learning activities at learning centres;

- to serve as a liaison between the open junior secondary school and the community;
- to look for and organise the use of village facilities for student learning activities; and
- to assist the guru pembina in planning learning activities for students.

### **Learning Mode**

The instructional process in all open junior secondary schools consists mainly of active learning and independent study with minimal help from the teachers. Students are expected to study individually at a learning centre four or five days a week for three or more hours a day, usually in the afternoon. The learning centre is located near their homes and is housed in a community or public building, such as a primary school building, a village hall, a mosque, or even a private house that the owner has offered for use.

The students study with supervision and, where possible, with the help of their facilitator. When the students face difficulties, they are encouraged to discuss them with their peers at the learning centre. If, through discussion with their peers, the students still cannot solve a problem, they can ask their facilitator for help. However, since the facilitator is not a subject teacher, he or she may not be able to solve the problem and is advised to note and submit it to the subject teacher for resolution.

Because the open junior secondary school students learn from radio programmes as well as print materials, the open junior secondary school principal distributes the broadcast schedule to students through their subject teachers and facilitators. By design, open junior secondary school students are required to read the related print modules before listening to the radio programme. After listening to a radio programme, the students are advised to discuss what they have just heard with their peers and the facilitator at their learning centre.

Instructional radio broadcasts are intended to:

- improve the students' audio communication competence as an aid to learning English;
- present subject content in more interesting ways (through dramatisation and the use of sound effects and music);
- develop imagination in students;
- assist students to consolidate the subject content studied through print modules; and
- give essential points greater emphasis.

In addition to radio programmes, the open junior secondary school students also learn from other media, including slide-tape and videotape programmes. These media can:

- substitute for direct experience;
- supplement print modules;
- reinforce the essential points the students should learn;
- motivate and encourage students to learn; and
- serve as enrichment materials.

Once or twice a week, open junior secondary school students should receive face-to-face instruction from their subject teachers at the mother school. When this is not feasible,

the face-to-face instruction may be conducted in a designated place close to the students' homes. In either case, the classes may be scheduled to last approximately six hours a day. During them, the subject teachers reinforce concepts the students have already learned in their learning centre and provide remedial assistance. As well, the face-to-face instruction enables the students to meet each other, to use equipment that is not available at the learning centres, and to have their work evaluated.

The students' attendance at the mother school is also intended to encourage them to study together and to enable access to resources that may not be available at their learning centres or at home. Slide projectors, videotape players, and related programmes, as well as laboratory equipment for science experiments, are usually available at the mother schools.

## **Management**

During the pilot stage (1979 to 1984), the open junior secondary school was initiated, developed, and managed by the Communication Technology Centre for Education and Culture. But, since 1984, when its feasibility and social acceptability was recognised, the management of the system was transferred to the Directorate of General Secondary Education. Since the government set up new school buildings to accommodate more primary school graduates, however, the system was not expanded until 1988.

At the national level, the Communications Technology Centre shares responsibility with the Directorate of General Secondary Education. The Centre is responsible for developing learning materials, improving the system, and controlling the quality of the output, while the Directorate is responsible for disseminating and implementing the open junior secondary school system. The Directors of the Centre and the Directorate and other senior Ministry staff make up a technical team that oversees the maintenance and development of the open junior secondary school system.

At a provincial level, the office of the Ministry of Education and Culture finances, coordinates, and supervises the open junior secondary schools. Local governors are also persuaded to participate in the development and expansion of the system, including the provision of financial support. Since an open junior secondary school is affiliated with a conventional junior secondary school, the mother school principal automatically serves as the open junior secondary school principal as well.

## **Evaluation**

Several types of evaluation are carried out in an open junior secondary school. First is a self-evaluation during which the student marks his or her own work on the basis of an answer key.

Second, tests prepared by teachers to measure the students' learning achievements are administered. Similar to the results obtained at the conventional junior secondary schools, open junior secondary school students are given a report of their learning achievements at the end of each semester. At the end of the school year, the students are promoted to a secondary grade if their learning achievements justify the promotion.

Third, open junior secondary school students take the same final exam as the conventional junior secondary school students. Those who pass the exam are awarded exactly the same certificates as students at the conventional junior secondary schools.

An evaluation of the system was conducted in 1983 by the Yogyakarta Teachers' Training Institute. It was found that there was no significant difference between academic achievements of the open junior secondary school students and those of the conventional junior secondary school students. It was also found that the open junior secondary school system had gained a high degree of acceptance within the community.

The latest study carried out by the Communications Technology Centre team (Hariandja et al. 1993) shows that, on average, 93 percent of the open junior secondary school students pass the final exam.

## **Problems and Solutions**

The open junior secondary school system is new to the students, the teachers, the principals, the educational officers in charge of supervision, the learning material developers and producers, and the schools' management staff. It is therefore not only the students who must adjust themselves to the open junior secondary school; large numbers of adults involved in the system must learn new ways, as well. This is not easy and often takes time, and inevitably problems have arisen, some of which are outlined below.

### ***Students' Learning Style***

From the first to the sixth grade, primary school students learn through face-to-face interaction with their classroom teachers. In an open junior secondary school, however, students are required to be active, to learn by themselves, and to be independent learners. They do not see the teacher every day. Instead, they study print materials and listen to radio, audiotape, or slide-tape programmes, and discuss their problems with their peers. They manage their learning by themselves. All these changes are serious challenges for the students and they may take a long time to become accustomed to the new way of learning.

### ***Print Materials***

Because it is very difficult for young students to learn independently through a print-based system, they need print materials that are visually appealing, easy to follow, and full of frequent feedback. The print materials currently available in the Indonesian open junior secondary school system need much improvement. The language should be easier to understand, and the style less formal, more personal, and more friendly. Visual illustrations and examples would help clarify important points.

### ***Materials Production and Distribution***

During the pilot stage, all print materials were developed and printed in Jakarta. In 1989–90, all the printing was done in Bandung, West Java, and the materials were distributed directly to each open junior secondary school. Since 1991–92, the printing and distribution of open junior secondary school modules have been entirely decentralised and carried out by three provincial projects (Aceh, North Sumatra, and Lampung). These projects are responsible for arranging to print a number of copies of each module and for distributing them to all open junior secondary schools within their respective areas of responsibility.

This new policy has caused a problem in relation to the procedures that require the Head of the Provincial Office of the Ministry of Education and Culture to obtain tenders from 10 printing companies before contracting the work. This task is difficult to accomplish.

As well, the master copies to be duplicated generally do not arrive on time; therefore the reproduction and distribution of the materials are delayed.

The reproduction and distribution of print materials does not always run smoothly, so at times they reach students late. On other occasions, the number of copies is insufficient, so that students must take turns reading the same copies.

### ***Personnel***

A shortage of competent and full-time personnel to handle the system is a serious problem, both in the Centre (the capital city) and at the implementation site. The person holding the post of print module development co-ordinator, for example, does not work full-time. At the national level, no single sub-directorate within the Directorate of General Secondary Education assumes co-ordinating or managerial responsibility for open junior secondary schools. This lack of full-time staff makes progress and quality control difficult.

Besides weaknesses in the managerial staff, not enough writers are capable of writing secondary quality materials; therefore new candidates need to be recruited, trained, and given ample time to acquire the skills necessary to complete the writing assignments.

At a provincial level, there is still a shortage of competent personnel for implementing the open junior secondary school system. Before starting the open junior secondary school, a five-day training programme for principals, vice-principals, and teachers of open junior secondary schools is conducted, as is a second five-day training programme using 13 print modules on the management of open junior secondary schools. However, for optimum results, the training still needs improvement. This can be accomplished by revising the training modules and supplementing them with audiovisual materials.

### ***Individual Utilisation of Audiovisual Media***

Currently, the use of audiovisual media (slide-tapes, videotapes, and audiotapes) that supplement the self-study texts for open junior secondary school students is carried out in the mother school. The software and hardware are not available at learning centres, and therefore each student does not have the opportunity to view and listen to the tapes individually.

### ***Limited Budget***

As well, the budget is always a problem, as it is for any educational programme. For example, the budget for developing and reproducing learning materials and hiring implementation staff in the field is limited. To alleviate the financial burden, the central government has persuaded the community and the local government of each province to contribute to the implementation of open junior secondary schools.

### ***Learning Centres***

A learning centre where open junior secondary school students spend most of their study time should be inviting, stimulating, interesting, and enjoyable. Various learning resources should be housed there to allow students to fully interact with and learn from those resources. The existing open junior secondary school learning centres, however, are not stimulating nor conducive to serious study.

### ***Two-way Communication***

It is important to strive for two-way communication to achieve more effective learning in the open junior secondary schools. One learning principle that should never be neglected is the need for students to receive immediate feedback at every phase of learning. In the current open junior secondary school system, ensuring the implementation of this principle is not an easy task, because open junior secondary school students do not meet their qualified subject-matter teachers every day. Furthermore, fast two-way communication by telephone or by other means are still beyond the students' reach. We can take some consolation in the fact that print modules provide feedback in the form of answer keys, but this is insufficient. Students need other forms of feedback and, in the future, an interactive approach to the development and production of learning materials (including audiotape and radio programmes) will ensure better results.

### ***Scale Effect***

A project that proves to be successful on a small scale does not necessarily run smoothly when it is implemented on a larger scale. The greater the geographical area covered and the more personnel involved, the greater the problems.

Unsatisfactory preparation of new sites, insufficient financial support to run the system, and very slow communication from the centre to the field and vice versa, are some of the problems that should be anticipated.

### **Development**

Since 1989, to support the government policy on universal nine-year basic education, the open junior secondary school system has spread to other provinces and, in 1992, 34 open junior secondary schools were established by the Ministry of Education and Culture in 25 provinces.

In addition to these open junior secondary schools, there also emerged a growing number of open junior secondary schools that were initiated by local authorities (provincial governments) with little or no financial support from the Directorate of General Secondary Education. East Java, for example, opened 15 open junior secondary schools; Central Java, five; and Jakarta, two.

The expansion of open junior secondary schools is not only concerned with the quantity of schools but also with adjusting the system to different site conditions such as the distance between the student's home and the mother school, transportation facilities, local traditions, and the availability of learning resources. Such differences cause open junior secondary school implementation to vary from place to place. In Central Kalimantan, for example, the geographic conditions would require students to travel by boat on a large river to the mother school for face-to-face instruction from their teachers. This trip is often very difficult and dangerous, so the teachers now visit the local learning centre.

Unlike other provinces, East Java has established open junior secondary schools in the cities to accommodate socio-economically disadvantaged students. Since many teachers at conventional junior secondary schools are under-utilised, they are assigned to serve as facilitators and their respective junior secondary schools are designated as learning centres. This policy requires adjustments in other components of the open junior

secondary school system. The students do not have to go to the mother school for face-to-face instruction, for example, since they have already met the teachers in their learning centre.

Despite these adjustments, however, the basic learning and teaching processes remain the same; that is, open junior secondary school students spend most of their schooling time in independent study.

### **Future Plans**

In view of the positive results of the open junior secondary school system and to ensure successful implementation of the universal nine-year basic education policy, the Indonesian government has decided to expand the system throughout the country. By the end of the fifth five-year development period (1994), there will be at least two open junior secondary schools in each of the 27 provinces and, by the end of the sixth five-year development period (1998), every second level district will have at least one open junior secondary school. Altogether, approximately 350 open junior secondary schools will be established throughout Indonesia.

The quality of the system will improve. Each component of the system will be improved to provide better distance education at the junior secondary level.

School clusters will be established in the near future to speed the provision of educational opportunities to primary school graduates who want to continue their education. In every third level district, several primary schools and one junior secondary school will join together to form a cluster. The primary school principals will assume the responsibility to identify potential candidates in their schools to become open junior secondary school students. The existing junior secondary school in that district will automatically become the mother school, the primary school principals and teachers will become the facilitators, the primary school buildings will be the learning centres, and the appropriate grade six students will become the students of the open junior secondary school.

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## ZAMBIAN OPEN SECONDARY CLASSES

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*R. Siaciwena\**

### INTRODUCTION

Zambia occupies an area of 752,614 square kilometres in central southern Africa. Its population is about eight million. At 3.7 percent, Zambia's population growth rate is one of the highest in the world. Consequently, about 50 percent of the Zambian population is 15 years of age or under (Sikwebele 1991). This large population of school-age children puts considerable pressure on Zambia's conventional school system, which is comprised of seven years of primary education, two years of junior secondary education, and three years of senior secondary education.

Despite the fact that Zambia was one of the richest countries in Africa at Independence in 1964, its population was one of the least educated of the African countries that gained political independence at that time. On the eve of Independence, only 110,200 people had attained six years of education; 32,000 had completed an eight-year full primary course; 4,420 had passed the two-year junior secondary course; and 961 people held the Cambridge School Certificate for senior secondary qualification. The 1963 census showed that, of a total population of 3.4 million, about 67 percent of adults of both sexes over the age of 21 were illiterate (Mwanakatwe 1974).

To a very large extent the low levels of education in the Zambian population at Independence and the consequential under-development of human resources determined post-Independence education policies, and the nature, pattern, and rate of educational expansion. In particular, the severe shortage of trained and educated people led to an emphasis on the development of human resources. Consequently, the conventional school system expanded rapidly and learning opportunities for adults increased.

The priority granted to adult education at Independence was based on the premise that adult education "is undoubtedly a dynamic factor in promoting all forms of development" (Mwanakatwe 1974, 142). It was strongly felt that "only [the] government's full participation in adult education . . . could ensure the even spread of facilities in the country and a reasonable measure of efficiency" (Mwanakatwe 1974, 142).

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The National Correspondence College (formerly the Correspondence Courses Unit) of the Ministry of Education was established in 1964 to provide correspondence courses at the secondary level. It started in Lusaka as a pilot project financed by mining companies, and moved to Luanshya on the Copperbelt in 1966. From an initial enrolment of 150 students in 1964, the National Correspondence College has grown into one of the largest secondary distance education colleges in Africa. Tate (1991, 15) observed:

The National Correspondence College is the oldest, the largest and performs probably the most socially and politically sensitive role of the three main distance education agencies seen in Zambia . . . . Current enrolments were reported to be about 30,000 . . . . This is approximately 20% of the total secondary enrolments and again illustrates the importance of the National Correspondence College in providing secondary education in Zambia.

As the National Correspondence College expanded, it became evident that it was not attracting “immediate school leavers and people in rural areas” (Daka 1987, 2). To deal with this problem a scheme now known as “open secondary classes” was established, specifically for primary school leavers who fail to secure places in conventional secondary schools because of their limited number. Thus the National Correspondence College has two main categories of students:

- directly enrolled adult students, who are studying either junior secondary or General Certificate Education (GCE) “O” level courses (senior secondary equivalent) (students receive learning materials from and send written responses for marking directly to the National Correspondence College); and
- open secondary class students, who study in supervised groups at various centres throughout the country.

This case study looks at open secondary classes, which constitute an important component of the secondary distance education system in Zambia.

## **THE ORIGIN AND EVOLUTION OF OPEN SECONDARY CLASSES**

The Zambian open secondary classes originated in the experimental “School Leavers Scheme of Correspondence Instruction” , which was established for primary school leavers in 1968 (Daka 1987). Before then, all students of the National Correspondence College, regardless of age, enrolled directly and studied as independent students. According to Jenkins (1989, 49), “for younger students, who had been unable to get a place in conventional schools, correspondence study was expected to be too demanding”.

This experimental scheme required students to study on their own, following a paced study programme. It was abandoned in 1970, mainly because many students failed to keep to the schedule and “consequently, the drop-out rate was very high and the first examination results were very poor” (Daka 1987, 2). At the same time, however, it became clear that the number of children in the primary school sector was expanding faster than number of children in the conventional junior secondary sector. For several reasons, secondary school enrolments remained strikingly static from 1968 to 1972 (Mwanakatwe 1974), when less than 21 percent of the 73,859 who completed the full primary course were able to proceed to junior secondary in the conventional school

system. As a result, “night schools were invaded by children thus driving away working adults for whom the scheme was originally designed” (Daka 1987).

This situation provided an impetus for the Ministry of Education to make another attempt at extending secondary education to primary school leavers through correspondence tuition. The Supervised Study Group Scheme was established in 1972 with the following key features:

- Students studied under supervision in groups of 50 to 100.
- Groups were supervised by secondary school graduates or an adult who worked part-time.
- Supervisors were not required to teach and did not need to be qualified teachers.
- Supervisors were responsible for maintaining discipline and serving as liaison between the National Correspondence College and the study groups.
- Groups met Monday through Friday for three hours in the afternoon.
- Enrolment was on a “first come, first served” basis and depended upon the ability to pay heavily subsidised fees.
- Groups met at any suitable place, including church halls, community centres, or at primary or secondary schools.
- The National Correspondence College provided the learning materials and maintained student records.

As the Supervised Study Group Scheme developed, so did the problems. Daka (1987) observed:

This approach worked well but it revealed certain problems and pressures. For example, Supervisors were very unstable. Most of them left when they secured permanent jobs or places to further their studies. Pupils themselves wanted to be treated like their friends in regular schools. They wanted Supervisors to actually teach them. They wanted to have more hours of study, and they wanted to wear uniforms just like in regular schools. Pregnant girls were forced to leave by fellow students . . . What started as a different non-formal system of education, has gradually started to come closer to the formal system due to pressures.

Principally because of the need to deal with identified problems and as a means to improve the performance of the Scheme, changes were introduced towards the end of the 1980s. Concomitant with the changes, “supervised study groups” were renamed “open secondary classes” in 1987. The most significant features of the changed Scheme are that:

- supervisors are trained primary school teachers with a full secondary education or a minimum of three GCE “O” level courses;
- supervisors are in charge of one or two groups and are employed full-time;
- the specified maximum number of students is 50 per class; and
- selection is based on grade seven examination results — cut off points vary from region to region and are decided by local chief education officers.

The total number of open secondary classes has fluctuated over time. In the early stages of the Scheme, there were 29 centres and, by 1978, the number had increased to 143. In

1979, the number had jumped to 290 but, by 1990, it was back down to 256 open secondary classes or centres (National Correspondence College 1990).

## **COURSES**

Open secondary classes are a component of the distance education system of the National Correspondence College. The College offers general academic courses, most of which run parallel to courses offered in conventional secondary schools. Open secondary classes are therefore an important alternative to conventional secondary education. Courses that require a lot of practical or experimental work, or both, are not offered through distance education.

The majority of open secondary class students study at the junior secondary level. Some centres, however, offer GCE “O” level courses. It takes three years for open secondary class students to complete the two-year junior secondary level courses.

The National Correspondence College offers English language, mathematics, history, civics, geography, environmental science, and bookkeeping at the junior secondary level. At the GCE “O” level, the College offers English language, mathematics, geography, history, human and social biology, economics, commerce, and accounting. The major advantage of offering courses that parallel those in the conventional school system is that students may flow freely between conventional secondary schools and open secondary classes.

Open secondary class students who succeed in the junior secondary (grade nine) examinations can secure places in conventional senior secondary classes. In 1989, for example, 336 open secondary students (49.12 percent of the 684 who passed their junior secondary examinations with full certificates) were selected for grade 10 (senior secondary) in regular schools. Similarly, many students who, for a variety of reasons, fail to continue in regular secondary schools join open secondary classes.

Although the National Correspondence College offers courses in parallel to the conventional school system, the College continually reviews and revises its courses and course materials, and develops new courses. For example, environmental science recently replaced health science at the junior secondary level; commerce has been added at the GCE “O” level; human and social biology has been introduced in place of human biology; and religious education and a certificate in accounts and business studies will soon be offered.

## **STUDENT ENROLMENT**

Student enrolment is an important criterion for judging the effectiveness and importance of open secondary classes, considering that they were established mainly to deal with a numbers problem. In a comparatively small but significant way, open secondary classes are helping to increase access to secondary education as the following facts show.

According to Curran and Murphy (1992), 14,100 students were enrolled at various centres throughout Zambia in 1987. This enrolment is remarkable considering that it constitutes 7.9 percent of the total grade seven (end of primary education) enrolment, when less than 20 percent of grade seven school leavers are able to enter the conventional secondary school system every year.

In 1990, 11,138 students enrolled for open secondary classes. This decline in annual intake is mainly due to the development of other forms of secondary education such as private schools and basic schools (primary schools to which junior secondary (grades eight and nine) are added). The Ministry of Education (1992, 33) notes that “in 1982 there were seven such schools. Today there are more than 600 and they account for approximately 47 percent of the school-based grade eight enrolment of 63,500”.

Open secondary classes are also contributing significantly to the spread of secondary education opportunities to rural areas. In 1990, out of a total enrolment of 11,138, nearly one third of the students (29.6 percent) were studying in predominantly rural provinces (Eastern, Luapula, Northern, North Western, and Western provinces). About 40 percent were in predominantly urban provinces — Lusaka and Copperbelt. The rest of the students were in provinces that are a mixture of urban, peri-urban, and rural areas (Central and Southern provinces).

In their gender balance, open secondary classes compare very well with conventional schools. For example, 4,955 female (44.49 percent) and 6,183 male students (55.51 percent) enrolled in 1990 and, for the same year, the Ministry of Education (1992) noted that “1.45 million children enrolled in primary schools in 1990, of whom approximately 47% were girls; at secondary level there were 170,000 enrolled, of whom 31% were girls”.

## **METHOD OF INSTRUCTION**

All students are expected to participate in study groups on a daily basis. The main medium of instruction is print material and the National Correspondence College produces and distributes print materials to all open secondary classes. The College also provides timetables and supplementary reading material and books whenever they are available. Printed lessons are supplemented by radio broadcasts, which are transmitted by the Educational Broadcasting Services of the Ministry of Education.

Students complete written assignments that are marked by part-time tutors in Luanshya, where the National Correspondence College is located. The College keeps students' assignment records and the system is designed to promote effective teaching and learning. Tate (1991, 17) notes that:

Lessons are designed to be interactive with self-marked practice exercises and teacher marked assignments for assessment. Though turnaround time for work marked by part-time tutors is only one to two weeks, the mail system to and from students is slow, so worksheets and self-marked exercises with model answers provide immediate feedback . . . . Random sampling of marking done by all tutors and supervisors is used to maintain standards, provide feedback on course content, and as a basis for in-service training.

Some supervisors do actually teach the students they supervise although they are not adequately qualified to teach all of the six subjects offered at the junior secondary level. The positive role of face-to-face teaching has been acknowledged by the former Director of the Department for Continuing Education in the Ministry of Education, who stated that “we have evidence that where Supervised Study Group work is supplemented by effective face-to-face teaching examination results are consistently good” (Daka 1987, 4).

However, a policy to guide supervisors (256 of them in 1990) on how much *live* teaching has to be done has yet to be developed. Such a policy must take into account, and cater to, the implications of involving supervisors in face-to-face teaching in relation to their training and remuneration. Direct teaching by supervisors also has implications for the decentralisation of marking students' assignments and the role of supervisors.

## **DROP-OUT AND PASS RATES**

Although providing secondary education through open secondary classes can be justified on the grounds of widening access to this level of education, drop-out and pass rates are a major concern. In most of the distance education institutions, drop-out and pass rates constitute a measure of performance. The National Correspondence College, which is the main source of statistical information, does not always find it easy to acquire the statistical data from supervisors of open secondary classes. For example, the National Correspondence College Report (1989, 17) observes that:

there were no reports pertaining to grade eight and nine drop-outs at National level. Instead we had drop-outs at grade nine from conventional secondary schools joining the open secondary classes programme. They could not find places in grade 10 at conventional level because they were below the cut off point. We admitted them in various centres throughout the country.

Figures from earlier years of the Scheme indicate an improvement in student drop-out rates. For example, in 1972, the rate was 44.51 percent compared to 15 percent in 1979–80. However, not all the students who drop out constitute “wastage” in its strictest sense. A significant proportion of drop-outs either secure employment or find places in traditional secondary schools.

Pass rates have improved over the years. Curran and Murphy (1992, 20–21) have observed that:

The costs of Zambia's study centre system in 1988 were affected by economic shortages, particularly the shortage of paper, which made the commercial cost of printing inordinately high. However, Perraton . . . showed that the open secondary classes would be cheaper than conventional secondary schools if more than 14 percent of the students enrolling passed the examination. The indications from the eight study centres for which data are available are that more than 30 percent of students pass.

This observation is strengthened by the figures in Table 1. “Pass rate” here refers to students who passed with full certificates.

**Table 1: Pass Rates in Selected Years Based on Returns from Some Centres**

<b>YEAR</b>	<b>PASS RATE</b>
1984	22.00%
1987	29.50%
1988	49.00%
1989	38.00%

AVERAGE	34.63%
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Source: National Correspondence College Reports

## MANAGING OPEN SECONDARY CLASSES

The management of open secondary classes is a collaborative activity that involves the National Correspondence College, the district education officer in every district, the provincial education officer in every province, and the supervisors of the open secondary classes.

In each of the nine provinces of Zambia, the Adult Education Officer (Continuing Education) advises the Provincial Education Officer on all matters relating to continuing education in the province, including open secondary class activities. This Education Officer is responsible for all aspects of open secondary classes, including ensuring that those appointed as supervisors are properly qualified and that only approved open secondary classes operate in the province (Daka 1987).

At the district level, the Continuing Education Organiser is the advisor to the District Education Officer on all continuing education matters in a district, including open secondary classes. He or she must ensure that all materials required at open secondary classes are available to students. He or she is also responsible for organising seminars and workshops for supervisors and for collecting student fees. The continuing education organiser serves as a liaison officer between the National Correspondence College and the open secondary classes. Supervisors do communicate directly with the College, however.

The National Correspondence College also employs officers who are responsible for the professional aspects of the open secondary classes. They tour the districts to deal with local problems and to conduct training seminars and workshops for supervisors.

The current management system seems to be without serious organisational problems. However, a vital link is missing — the involvement of the communities and students in managing open secondary classes in various localities. Policy, structural, and administrative provisions in this area are lacking. Daka (1987) expressed the need to educate teachers, parents, and educational administrators in the value of open secondary classes. This may be achieved by creating structures that allow the participation of various categories of education personnel and communities, including learners, in the management of open secondary classes. Evidence that the importance and desirability of involving communities in the management of centres has long been recognised by the National Correspondence College (1979, 17) can be found in the following extract:

There is a need to build up close relations with communities by S.S.G. [Supervised Study Groups now known as open secondary classes]. This will make S.S.G. succeed in rural areas where the scheme is not yet fully recognised as an alternative way of offering junior secondary education.

## **THE FUTURE OF OPEN SECONDARY CLASSES**

The future of open secondary classes should be assessed in terms of the problems that threaten their existence on the one hand and the need for, and importance of, this educational activity on the other. Tate (1991, 18–19) identified 13 problems that affect distance education at the National Correspondence College, including inadequate funding, which results in materials production difficulties and shortages of learning materials and equipment. Other identified problems include costly postage, large class sizes, lack of qualified staff, and cumbersome administration systems.

These problems are not insurmountable and must be addressed if open secondary classes are to play their full and necessary role in promoting the quantitative and qualitative development of secondary education in Zambia.

The nature of the problems that affect the operation of open secondary classes suggest a number of things. First, the National Correspondence College needs greater administrative and financial autonomy. One way to achieve autonomy is to turn the College into a para-statal body, giving it the status of a quasi-government institution. Second, the College needs to be upgraded so that it can offer attractive conditions of service that will enable it to recruit and retain qualified and experienced people. Above all, the College needs adequate resources.

One possible solution to some of the problems is to consider relocating the College to a geographical area where it can more easily engage in cost-saving and professionally rewarding collaborative activities with other distance education institutions.

The importance and future role of open secondary classes should be seen in a wider context. Zambia's education system is in crisis in terms of access, quality, confidence, and financing (Kelly 1991). The measures proposed to deal with these crises show that "the highest priority in the allocation of recurrent and capital funds will be given to providing for the serious quantitative and qualitative deficiencies in grades one to seven" (Ministry of Education 1992, 89).

Only modest developments are proposed at the secondary level. Combined with the high population growth rate this will certainly increase the pressure for secondary education. In fact, 112,000 of the students who completed primary school in 1985 could not enter the conventional secondary sector. It has been projected that the number of potential secondary students will increase to 250,000 by the year 2000 (Curran and Murphy 1992). The basic schools, which appear to be taking the pressure off conventional secondary schools, are an unsuitable and inappropriate alternative, because they offer an inferior education and "must give way to the needs of the primary sub-sector" (Ministry of Education 1992, 93). The future of private schools is bleak because many of them cannot maintain standards acceptable to the Ministry of Education.

In this context, open secondary classes appear to be a necessary alternative. This view is supported by the team the Ministry of Education appointed in 1991 (with financial support from the World Bank) to review investment strategies in Zambia. The team's report recommends strengthening the National Correspondence College so that it can deal better with the needs of open secondary classes and also to enable it to provide better service to the directly enrolled distance education students.

The report further proposes measures for enabling the Ministry of Education to more effectively promote the development of the second chance equivalency programmes. It states:



The principal way which this will be done will be making more resources available from the development and running of open secondary schools. The freeze on the further opening of basic schools . . . means that there will be a larger clientele seeking admission to the open schools. Moreover, the review that is to be undertaken of basic schools may lead to a decision to convert some basic schools into open schools. The Department of Continuing Education will need the resources, therefore, to be able to cope with considerably expanded enrolments in this programme. For this purpose it will need additional funds for the production of materials at the National Correspondence College and for the payment of supervisors in open secondary schools (Ministry of Education 1992, 141).

## **CONCLUSION**

Open secondary classes are a necessary and important innovation that, over the years, have enabled thousands of primary school graduates to pursue secondary courses outside the conventional school system. Open secondary classes have enhanced the visibility and status of the National Correspondence College's entire distance education programme.

The classes have experienced many problems. Some are typically associated with innovations operating in a government system of administration, and others are attributable to the deteriorating economic environment. However, open secondary classes have persisted, seemingly because of the recognised needs that they meet and perhaps, more importantly, because of the commitment, dedication, and perseverance of the National Correspondence College's full- and part-time staff.

In 1993, the National Correspondence College employed eight permanent academic staff (plus two vacant posts), five administrative staff, three open secondary class officers, and about forty other staff working in eleven different sections of the college. There were over thirty part-time tutors.

Current policy discussions, educational developments, and the economic realities in Zambia favour the expansion of open secondary classes. But as the report of the team appointed to review investment strategies in education in Zambia recommends, strengthening the system must be preceded by a comprehensive, systematic evaluation. This evaluation should lead to the formulation of policies for the organisational and administrative structure, management, and tutor recruitment, and should guide the range and balance of media.

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## **THE DEVELOPMENT OF A NEW DISTANCE EDUCATION PROGRAMME IN BRITISH COLUMBIA**

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*A. Stack and D. J. Power\**

### **INTRODUCTION**

The following case study describes and analyses the development of a new primary programme for distance learners in British Columbia. This development project began in 1989 and is currently in a revisions phase.

The case study is divided into two parts. Part One is written from the perspective of the Technology and Distance Education Branch of the British Columbia Ministry of Education. It begins with background information about the Branch, moves into an overview of the new primary programme, discusses the team approach model, and, finally, remarks on the current status of the programme. Part Two is written from the perspective of the company that was contracted to do much of the development work. This part focuses on the use of a telecommunications system as a tool for course development.

### **PART ONE: DEVELOPMENT OF THE NEW PRIMARY PROGRAMME**

#### **Background to the Technology and Distance Education Branch**

The Technology and Distance Education Branch of the British Columbia Ministry of Education is part of an education system that provides instruction for British Columbia distance education students from kindergarten to grade 12. Originally called the “British Columbia Correspondence School”, it was established in 1919 and is the second oldest publicly supported correspondence school in the world, pre-dated only by the New South Wales Correspondence School in Australia.

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Since its establishment in 1919, the Branch has undergone many changes, with most occurring in the past ten years. Until 1984, the Branch was responsible for providing all services to students, including developing and delivering courses, as well as co-ordinating student enrolment, counselling, instruction, and evaluation. In 1984 the decision was made to decentralise the operation. Over the next five years, nine regional correspondence schools were set up throughout the province to provide the student support aspects of the system, including enrolment, counselling, instruction, and evaluation, while the Branch retained the responsibility for course development and delivery. These nine regional correspondence schools are primarily (85 percent) funded by the Ministry and are operated by the local school districts.

The mandate of the British Columbia Technology and Distance Education Branch until recently has been mainly to provide educational opportunities to students who cannot attend a conventional school because of distance or illness; because they are temporarily living outside the province; or because they are travelling. The Branch has also assisted students who attend conventional schools but, for a variety of reasons, cannot access the courses they need. Students may also be adults who are taking courses for interest or vocational purposes. This mandate has now broadened with the recent restructuring of the Ministry of Education; as a result, technology and distance education have been brought together into one Branch. It is likely that technology and distance education principles will have increasing application throughout the whole education system in the province.

The Branch recently defined a mission statement and goals that reflect the broadened mandate and changing context of its operation. A draft (March 1994) of the mission statement and goals follows.

**Mission Statement:**

The purpose of the Technology and Distance Education Branch is to support the goals of education by providing distance education and technology-based services and materials (resources).

**Goals:**

- *A Vision for Distance Education:* Develop, communicate, and support a vision for distance education that will incorporate the effective use of a range of education technologies in the instructional design and delivery of distance learning to individual and home-based learners, in a cost-effective, equitable, and easily accessible manners.
- *Partnerships with Regional Correspondence Schools:* Establish long-term working relationships (partnerships) with school districts and regional correspondence schools concerning the effective implementation of district technology plans that will support and connect to the provincial strategic plan for education technology.
- *Partnerships with Public and Private Interests:* Work with the public and private sector partners to establish predictable, low-cost, and equitable access to provincial, national, and global information services and learning resources. Partners include provincial and federal ministries, agencies, Crown corporations, education partner groups, and private sector companies, including software developers, educational publishers, and telecommunications providers.

- *High Quality and Efficient Service:* Provide distance education courses, learning resources, and on-line services in support of British Columbia educators and students in a cost-effective and efficient manner and conduct the business of the Branch in ways which demonstrate a commitment to reducing bureaucracy, on-going improvement, respecting and empowering management and staff, seeking staff involvement in the decision-making process (that is, participative management), and obtaining feedback from those we serve.
- *Research and Development:* Conduct research into the effective use of technologies in the design, development, and delivery of educational services for distance and home-based learners.
- *Work Experience and Career Development:* Provide distance learners with work experience and career development opportunities through the use of technology and community partnerships with regional correspondence schools.
- *Information Technology Skills:* Support the development of information technology skills by students and educators.

Enrolment statistics for the British Columbia distance education system come from a computer system that provides each of the nine regional correspondence schools with a method of tracking enrolment data and student progress, and which allows for mark entry and inventory control. The computer system also produces reports that detail student activities. Students are categorised as follows.

- *Elementary:* Students enrolled in courses from kindergarten to grade 7.
- *Full Grade:* Students under 19 years of age who are taking a full programme of studies from grades 8 to 12.
- *Out of School:* Students under 19 years of age, not registered in a conventional school, who are enrolled in one or two grade 8 to 12 distance education courses.
- *In-school:* Students registered in a conventional school but who are also enrolled in one or more grade 8 to 12 distance education courses.
- *Adults:* Students 19 years of age and older who are enrolled in one or more distance education courses.

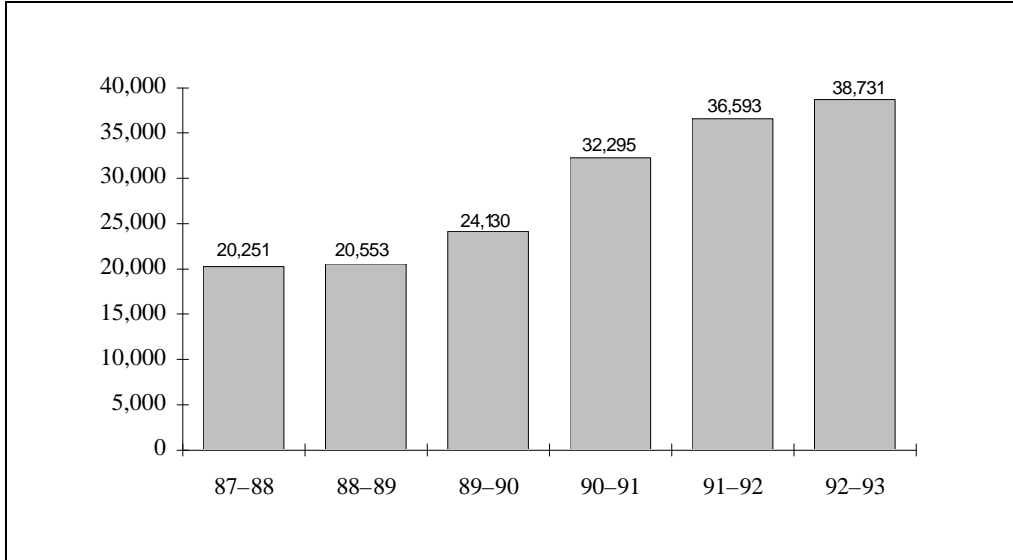
## **Enrolment**

In the 1992–93 school year, more than 2,800 elementary students and over 38,000 students enrolled from grades 8 to 12. These numbers represent a significant growth as shown by the graphs in Figures 1 and 2. Within the elementary enrolments, the number of primary students (kindergarten to grade 3) is currently estimated to be about 1,200 students.

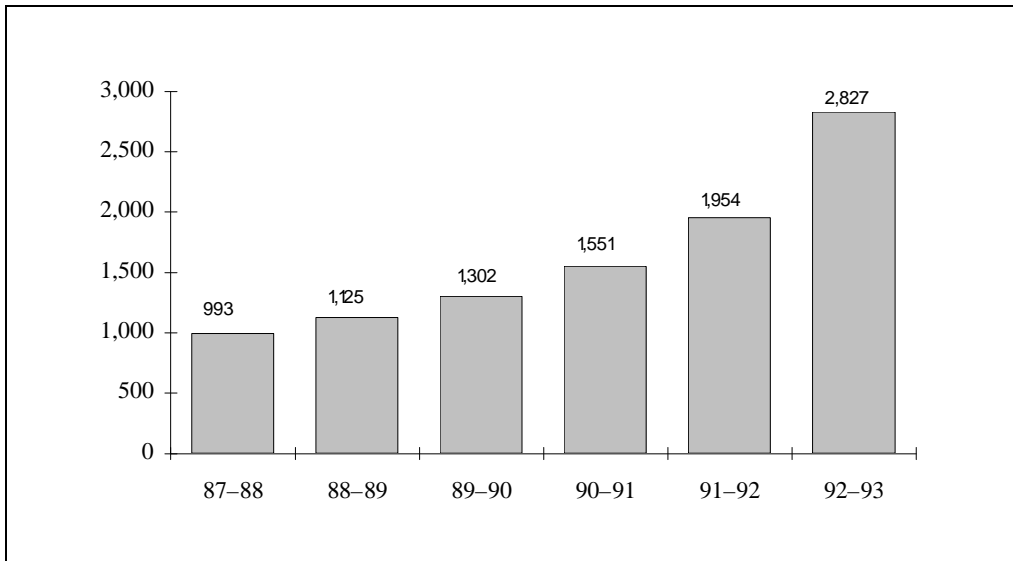
The main reasons for the growth in enrolment, particularly at the elementary level, appears to be the accessibility of the regional correspondence schools and the introduction of a new *School Act* (in 1989) that recognised the rights of parents to provide their children with an educational programme at home. Parents may choose to enrol their children in a distance education programme through their regional correspondence school, or they may choose alternatives, such as teaching their children at home. Before this change in the *School Act*, it had been necessary for a school district

superintendent to approve the enrolment of any child under 15 years of age in a correspondence programme.

**Figure 1: Secondary Enrolments (Course Count) — 1987 to 1993**



**Figure 2: Elementary Enrolments (Head Count) — 1987 to 1993**



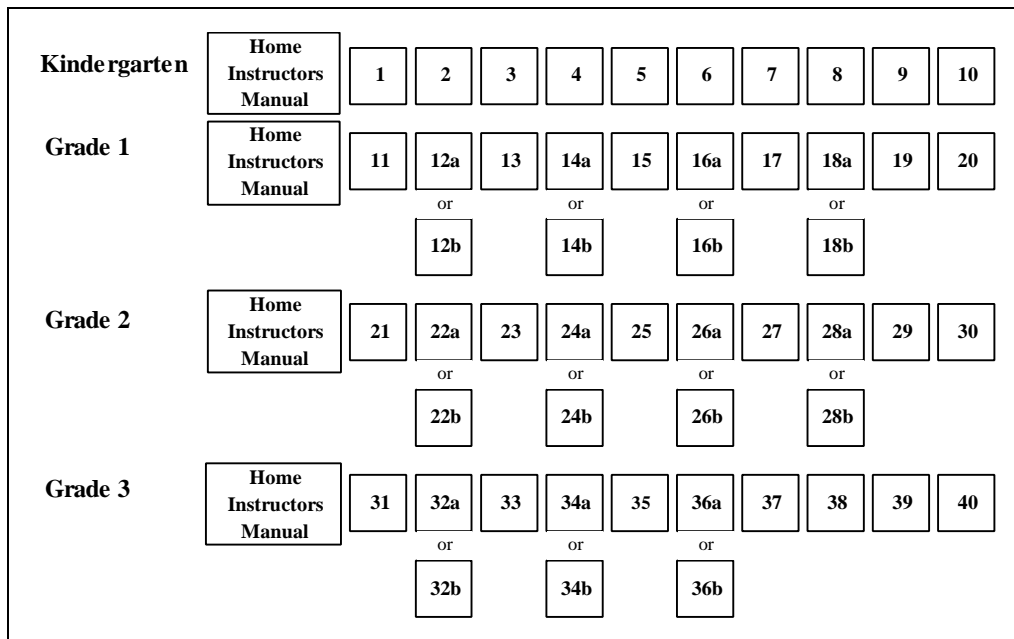
## **Overview of the Distance Education Primary Programme**

### ***Ministry of Education Policy Changes***

The new distance education primary programme consists of a series of 51 thematic modules that integrate all subjects (except mathematics, which is a separate course in

grades 1, 2, and 3) and the goals that have been identified for all primary children in British Columbia. Each module consists of 18 days of learning and gives specific instructions and suggestions to home instructors (usually parents) for facilitating their children’s learning. There is flexibility in how students work through the modules, but in most cases they complete 10 modules in each year of the primary programme. Extra modules have been developed to allow for additional flexibility. In addition to the modules, a home instructor’s manual has been written for each grade, an introductory videotape provides an overview of the whole programme, and an introductory audiotape accompanies each module, plus resources (books, videotapes, filmstrips, audiotapes), and supply kits. Figure 3 shows the structure of the modules designated for each grade. These 51 modules consist of a total of about 16,000 pages and 4,100 original illustrations, and were developed over two years.

**Figure 3: 51 Primary Programme Modules**



To understand why the new programme was developed, it is necessary to consider some major initiatives that have occurred in the Ministry of Education during the past seven years. In March 1987, the provincial government established the Sullivan Royal Commission on Education and the Commission’s report, entitled *A Legacy for Learners*, was released in August 1988. The government took this report very seriously and in January 1989 issued a document of policy directions to implement recommendations of the Sullivan Report. A new *School Act* soon followed as did a proposed timeline for introducing a new primary programme, intermediate programme, and graduation programme. A primary programme team of seconded teachers was formed and, after much consultation and responses to drafts of their work, the primary programme foundation document was distributed and mandated in May 1990. Its aim is to provide “a statement of purpose and direction for the education of primary-aged children in British Columbia”. This document formed the basis for the development of the new primary programme for distance learners.

It was clear from the beginning that the changes the Ministry proposed for the new primary programme would have major implications for the Distance Education Branch.

For example, the new programme identified five major goal areas: aesthetic and artistic development, emotional and social development, intellectual development, physical development, and development of social responsibility, and clearly stated that all five goals were equally important. A major concern was the feasibility of ensuring that a distance education course could promote and evaluate emotional and social development.

The shifts and changes that have occurred within the Branch led to a change from an autonomous approach to a more collaborative approach in course development. The Branch had operated autonomously from the time it started until the 1980s. Procedures for developing courses, and for enrolling and instructing students had undergone few changes. For example, all elementary level courses were written by the instructors who marked students' work and were employed in the Branch. All production work, including editing, artwork, formatting, and proof-reading, was carried out by Branch staff. Most of the secondary level courses were also written by Ministry employees. This era ended during the 1980s with the establishment of the nine regional correspondence schools and the resulting reduction in staff at the Branch.

As well, the Branch became increasingly involved with other branches of the Ministry, and more directly involved in implementing Ministry initiatives. For example, recent Ministry priorities related to equity, skills initiatives, and technology began to have a direct impact.

As a result of reducing Branch staff, along with the need to implement new curricula and policies, a great deal of the course development and production work is now contracted, by necessity, to individuals and companies. As well, there has been an increased interest in forming partnerships with other distance education institutions, particularly the Open Learning Agency in British Columbia and the Alberta Distance Learning Centre.

In summary, a new primary programme was developed because of changed Ministry policy, while the approach used in the development reflected changes within the structure and operation of the Branch.

### ***Sequence of Developing the Primary Programme***

From September 1989 to May 1990, the Branch co-ordinator had a series of planning meetings with the primary teachers working in the regional correspondence schools, and with Ministry staff, and in particular with a member of the primary programme team who was designated to work with the Branch. By March 1990, a development plan had been drafted; in May the funding was approved, and in June the work began.

The development of the kindergarten and grade 1 programme was to be completed within one year. Due to the complexity of the project, the time restrictions, and the fact that the Branch was already fully occupied in the development of other required courses, it was necessary to contract out the work. In the end, there were separate contracts for the writers and one large contract with a company, Simpson and Power Communications Ltd., to provide all other course development and production services up to the preparation of camera-ready copy.

The first stage consisted of creating a project plan to develop the kindergarten and grade 1 modules, as well as the development of a prototype module. This work was completed by the end of August by a group of contracted regional school teachers and by Simpson and Power Communications Ltd.



The serious work began in September 1990. By then, nine writing contracts were in place as well as the development contract for Simpson and Power. This stage began with a three-day workshop for the whole development team to finalise the instructional design, discuss roles of team members, and provide instructions to the writers in the use of the computer and telecommunications system. These technological aspects will be discussed more fully in Part Two of this case study.

The development of the 24 kindergarten and grade 1 modules was completed by March 1991. The remaining tasks of printing the modules, and of ordering the resources and supply kits was completed by the Branch during the spring and early summer. Students began the new programme in September 1991.

A similar procedure, with some variations, was followed the next year for the development of the grade 2 and 3 modules.

### **Focus on the Team Approach**

It is important to remember that the writers had separate contracts with the Branch while the other team members were part of Simpson and Power Communications Ltd. The one exception was the content advisor, who was a member of the primary programme team, seconded by the Ministry to develop the new primary programme foundation document for the entire province. In effect, there were two development teams: the Ministry team, including the project administrator, the writers, and the content advisor; and the Simpson and Power team, including the project manager, the instructional design manager, the instructional design consultant, editors, graphic designers, the layout and page designer, and the proof-reader. The selection of the writers for the first year of development was made solely by the Branch. Simpson and Power was involved in selecting writers for the second year.

The writing contracts were separated for two reasons. One reason was the decision to have as many regional correspondence teachers as writers as possible. This decision reflected the Branch's historical approach of having elementary courses written by the instructors who worked in the Branch evaluating student work. The theory behind this approach is that experience in working within the distance education system is required to effectively write distance education materials. The process used for selecting writers was to send out a secondment opportunity notice throughout the province; with distance education experience listed as a preferred qualification. Six regional school teachers were selected, along with one classroom teacher. Then two additional service contracts were negotiated with teachers not currently working within a school district. In the second year of development, the process for selecting writers included a request that applicants prepare a sample module plan as well as write a sample activity. This change responded to one of the main concerns in the first year, which was that writing ability varied from teacher to teacher.

The other reason the Branch kept control of the writing contracts also reflected an historical approach to course development, in which the Branch maintained separate contracts with writers, editors, and artists, with project management remaining the responsibility of one of the Branch co-ordinators. There was a reluctance to reduce the Branch's control over the total process by making the writing part of the company's contract.

Given the imposed timeline, the project could not have succeeded without a large team of writers and editors. Other advantages of the team approach included:

- the stimulation and energy that comes from a group of committed and enthusiastic individuals focused on a common task;
- the support that individual team members provided each other;
- the pool of expertise that various individuals brought to the project;
- the variety of approaches and interests that the writers incorporated into the modules. It is interesting that within the structure of the instructional design and the writers' template, each writer's "voice" came through. There is a freshness and variety throughout the modules that would be less likely to have occurred if one or two writers had written the whole programme. As far as possible, writers were able to choose the module themes that most interested them.

The greatest disadvantage of the team approach was the burden placed on the editorial team to ensure overall consistency and balance. The plan at the beginning was to have each editor work closely with three writers, with the senior editor and instructional design manager overseeing the process. The first task of each writer was to submit a detailed plan of their 18-day module, showing the development of the theme for the 18 days of learning and identifying the goal areas, skills, and subjects in relation to the proposed activities and projects. Any proposed changes in resources (books, videotapes, audiotapes) and any proposed additional supplies required (for example, art supplies like plaster of Paris) were also indicated. This plan was approved by the manager of instructional development before the actual writing began. Updates of the resource lists and supplies were given to the Branch administrator who, with the help of other Branch staff, was responsible for co-ordinating this aspect of the project. The task of the senior editor and instructional development manager was to co-ordinate the writing and editing process.

Unfortunately, the planned close working relationship between writers and editors did not work out well in practice, mainly because of the time constrictions and the difficulties some of the writers experienced. Instead of a back and forth interaction, the process became more linear, where a writer submitted a draft for editing, which often was not completed until much later. Meanwhile, the writer went to work on another module. The editors complained that in many cases they were substantially rewriting material, going beyond the editor's role. A further complication was the interaction with the primary programme team member whose role as "content advisor" was to ensure that the philosophy of the new programme as defined by the primary programme foundation document was followed in the distance education modules.

As the project proceeded and deadlines loomed, tension within the team increased, resulting in some personal and professional conflicts. The need to provide ongoing contact and support during the rough spots became a key consideration of the project manager and Branch administrator. It is a testament to the underlying commitment of the team members that despite these difficulties, the project itself was always kept in the forefront.

A list of "things learned" includes the following.

- Effective, creative teachers are not necessarily effective writers.
- Some individuals are able to grasp the principles for writing distance education lessons while others are not able to fully realise that a "teacher" will not be working beside the student to explain or adjust the lesson as required. The tendency of these writers is to write lesson plans for teachers rather than self-paced lessons for students.

- On the whole, despite some writing difficulties, regional teachers were valuable to the team in keeping the needs of distance education students and parents in mind.
- The larger the writing team, the more important and difficult the editing task becomes.
- The larger the writing and editing team, the greater the need for a detailed instructional design with content and skills development clearly mapped out.
- Writing and editing contracts should be administered as one area of responsibility.
- The project team must have an overriding commitment to the project in order to be able to work through the stresses that are inevitable in any project. It is the intangible negative energy that can drag a project down.
- Keeping in touch with team members is vital, either through telecommunications, the telephone, or by face-to-face contact. Sometimes a short telephone call can make all the difference to a writer who is feeling alone and suffering from “writer’s block”. Support is a vital part of the project, including tangible support such as providing a needed book or information, and intangible psychological support such as talking through ideas.

### **Current Status of the Distance Education Primary Programme**

The distance education primary programme is now in its third year of implementation. Generally, the programme has been well received by distance learning students and parents. Home instructors often comment on the greater flexibility it offers and how it is more practical to teach with younger children around since they can be involved in so many of the activities.

Of course not all parents and students are pleased with the new programme. It demands more involvement from parents as home instructors and some find it to be overwhelming, particularly if they have older children who were on the old programme. Also, since skills have been embedded in the activities and projects, they are less apparent than in the old programme, leading to concern that some skills are missing. Often, though, once a parent has worked through a few modules, he or she begins to feel more comfortable. The role of the regional correspondence teacher in working with parents has thus become even more important than in the past for the successful implementation of the new programme. One other criticism from parents is the overriding philosophy of the programme, which, in keeping with the primary programme foundation document, deals with social and emotional goals as well as intellectual goals.

The programme is now entering a revisions phase. Since it was initially implemented, some education policy in British Columbia has changed. Skills development and the use of technology are now more emphasised, and the primary reporting policy is changed. It is important that these changes be incorporated into the overall programme.

Also, now that the programme has been in effect for two years, it was important to evaluate its effectiveness. After much discussion between Branch staff and the regional correspondence principals during which the idea of a formal outside evaluation was rejected, two days of meetings were held with a primary revisions committee made up of Branch staff, nine primary regional teachers, and one regional principal. Based on their experience with the programme, the group identified a list of twelve priorities for revisions and made a series of recommendations. A group of four regional primary teachers then worked together for one week to more clearly identify the skills that are

covered throughout the modules and to select modules that will become “core” modules in the programme. The revisions to the “core” modules are planned to begin in the fall of 1994.

It seemed appropriate that the four regional teachers completing the preliminary planning work had participated in the original planning meetings during the 1989–90 year and were writers in the project. There was a satisfying sense of having come full circle.

## **PART TWO: USING A TELECOMMUNICATIONS SYSTEM FOR COURSE DEVELOPMENT**

### **Description of the Project Model**

A variety of instructional models have been employed by distance education institutions over the years. In most cases, the chosen model has unique features based upon various requirements of the project, criteria set by the development team, or by financial or other types of constraints. As anticipated, the development of the new British Columbia distance education primary programme posed unique challenges for the creation of a project model consisting of a viable development and instructional plan.

*Figure 4: Primary Programme Project Model*

<b>Phase 1</b>	Front End Planning and Analysis	
<b>Phase 2</b>	Project Planning	Ministry/SPC
<b>Phase 3</b>	Programme and Course Planning	Ministry/SPC
<b>Phase 4</b>	Development and Formative Evaluation	Ministry/SPC
<b>Phase 5</b>	Production and Formative Evaluation	Ministry/SPC
<b>Phase 6</b>	Reproduction, Delivery, and Summative	
<b>Phase 7</b>	Maintenance and Revisions	

*Figure 5: Project Team*

<ul style="list-style-type: none"> <li>• Ministry Administrator</li> <li>• Project Manager</li> <li>• 20 Teacher/Writers</li> <li>• Content Advisor</li> <li>• Manager Instructional Development</li> <li>• Instructional Design Consultant</li> </ul>	<ul style="list-style-type: none"> <li>• Senior Editor</li> <li>• 4 Editors</li> <li>• 2 Graphic Designers</li> <li>• Layout and Page Designer</li> <li>• Proof-reader</li> </ul>
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As shown in Figure 4, Simpson and Power Communications Ltd. (SPC) was involved in four of the seven phases of the project. Specifically, the company was responsible for:

- assisting in the development of the project model (time, costs, and so on);
- implementing and modifying the project model;
- creating a course development plan (instructional issues);
- assisting in identifying writers;

- assembling a course development and publishing team with distance education experience;
- supervising the course development and publishing team;
- delivering 51 camera-ready home instructor's guides (15,300 two-colour pages);
- delivering 51 introductory audiotapes; and
- delivering an introductory videotape for the primary programme.

### **Description of the System and Technology Used**

The two most challenging logistical aspects of the project were to handle the volume of material that had to be developed (51 300-page modules, or 15,300 pages) and the difficulty of developing course materials with team members spread throughout British Columbia.

Through detailed cost analysis, findings indicated the need to use the cost-effective and efficient desktop publishing approach along with a communications system that would enable all team members to send and receive written text, personal and public messages, and other information easily and expediently from their place of work to other team members. The success of the project, therefore, depended on identifying a system that would enable the implementation of our course development and other instructional design plans with relative ease over a vast geographical area. In other words, the success of the project depended on processing large amounts of information and sending it over great distances quickly and efficiently using on-line communications. The telecommunication infrastructure in British Columbia, combined with the appropriate hardware and software, became the system used to communicate and implement our plans.

#### ***The Communications Technology System***

Before the project team was assembled, Simpson and Power and the Ministry of Education had become members of an electronic mail service in British Columbia called *Mindlink*. A key advantage to this type of on-line communicating was that the receiving party did not have to be available at the time the message was sent. It was saved in an "electronic mailbox" until the team member was available to retrieve it. Located in Vancouver, *Mindlink* charged Simpson and Power a one-time membership fee, as well as a per use fee for each team member. The diversity and accessibility of *Mindlink* made it a cost effective system.

Each teacher/writer was loaned a Macintosh computer and an Apple printer by the Ministry while they were primary project team members. Along with the computer, they were given a 2,400 baud modem with two software applications: Microsoft Word 4.0 for writing and Mac 240 for electronic mail communications. (This technology represented a significant step forward at the time; higher speed connections are now possible.) All team members, including the instructional design, editorial, and publishing staff had the same communications software. At Simpson and Power's head office in Vancouver, a "data line" for the electronic mail system was installed. Although it cost slightly more than the traditional telephone line, it ensured that all information would arrive without line interference as is sometimes the case on a regular line.

### ***Types of On-line Communication***

Eventually, all team members were registered with the *Mindlink* electronic mail service and this became the on-line communications network. *Mindlink* developed a custom user menu for the team that enabled them to

- send personal electronic mail messages;
- send “parcels” (usually large files);
- have group or public discussions in a team area called “Discussion Corner”; and
- use a library function in which to put templates or files for team consumption.

The teacher/writers used the system to send draft copies of material to each other and to their editor; and to send personal messages as well as general messages to the entire team. This was the first time *Mindlink* had been used for such a large scale project and it was a learning experience for them as well.

### **Setting Up and Using the System**

#### ***Workshop for Teacher/Writers***

Some of the teacher/writers were computer literate and some were not. One of Simpson and Power’s biggest challenges was to train the team to use both Microsoft Word 4.0 and Mac 240, the communications software. It was decided that the best way to address this issue was to bring everyone involved to Vancouver for a writers’ workshop, which would include a day set aside for hands-on computer training.

Simpson and Power made arrangements to rent the facilities of an Apple Computer distributor that ran a Macintosh computer school and had enough networked computers for the entire teacher/writer group. The group worked through both software applications in a one-day session. A writer’s guide was prepared for each teacher/writer and included a review section of the two computer applications. By the end of the workshop, most teacher/writers were adequately trained and began to use the system as soon as they returned home.

#### ***Provision of Ongoing Technical and Moral Support***

A time limit of two weeks was established to get everyone “up to speed”. For those who did not completely grasp the technology, Simpson and Power provided ongoing support via the telephone and by practising on-line with them. In one case, a team member was flown in to spend a full day with a teacher/writer because she simply could not grasp the technology. After the one-on-one session, though, she became a regular user and sent messages and files on a daily basis. Throughout the project, the Simpson and Power team provided encouragement and moral support for the teacher/writers through constant contact and on-line dialogue.

#### ***Use of the Writer’s Template***

As part of the writer’s guide package, Simpson and Power provided each teacher/writer with a floppy disk that contained a writer’s template. This template was developed by the instructional design and editorial team members to help writers conform to the editorial and instructional design conventions the team had established. For example, each day of learning in the home instructor’s guide had a uniform type size and layout for first and second headings. Moreover, module section heads such as “Math Time”

and “Reading Time” were pre-set in the template. The writers simply had to type over a highlighted space in order to follow the format perfectly. This technique did not affect creativity in any way; it simply provided pre-set word processing and design parameters that, in this case, the team had determined.

### ***Individual Responses***

In general, most teacher/writers warmed to the technology in a short time. Within the two-week time limit, most were working comfortably with both software applications. Every teacher/writer used the electronic mail system almost daily.

Approximately 40 percent of the teacher/writers had varying degrees of difficulty with some aspect of the technology, ranging from a few rough spots to the individual mentioned earlier who required a one-on-one tutorial for an entire day. In retrospect, it was fortunate that most of the writers were quick learners. It cannot be emphasised enough the importance of the front-end training for all team members in a development project of any size. The time and effort put into this training paid off handsomely in the long run.

## **Other Forms of Communication Used**

### ***Different Approaches***

Throughout the project, the team used a variety of communication techniques, including one-on-one telephone conversations, fax messages, audio-conferencing, and face-to-face meetings. As the project evolved, it was clear that no one technology or communications technique was perfect. In some cases, a combination of techniques worked best, such as sending a visual idea via fax and following with a telephone call. In other instances, several teacher/writers and editors would arrange an audio-conference and have a group discussion, with pre-conference notes sent via the electronic mail “Discussion Corner”.

In summary, it was shown through this project that the telecommunications-based communication system employed solved logistical problems that would have otherwise made the project impossible to attempt. Clearly, the electronic mail system allowed for efficient and effective communication, and for the movement of large amounts of digital information from one end of the province to the other in seconds. The project could not have been completed in the prescribed amount of time or for a reasonable cost without the telecommunications system in place.

Although the project team had unlimited access to state-of-the-art technology, it was true that for emotional support and morale boosting, nothing proved better than a group face-to-face meeting. Four such meetings were held over the duration of the project and they were a necessity. The telecommunications system was not designed to solve human problems, but it was an effective catalyst in addressing them. Eventually, however, it was found that face-to-face meetings, the human touch, were needed occasionally to rekindle the spirit of individual team members and of the team as a whole.

## **CONCLUSION**

This case study has attempted to convey the challenges and opportunities for professional growth which the development of the new distance education primary programme offered. It was an ambitious undertaking that required risk-taking by both

the Ministry of Education, in funding and supporting the project, and by the company responsible for delivering the finished product. It is hoped that the information contained in the case study will be useful to others who may be embarking on similar distance education projects.





## **THE NEW ZEALAND CORRESPONDENCE SCHOOL: THE INVISIBLE SCHOOL**

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*O. Tate\**

### **ESTABLISHMENT OF THE CORRESPONDENCE SCHOOL**

The Correspondence School is the only open distance education school in New Zealand. The *Education Act* established compulsory primary education in New Zealand in 1877; 45 years later, the government, realising that it also had a responsibility to provide education for all, set up the Correspondence School to serve students living in remote areas for whom schools were inaccessible. At first, correspondence lessons were sent to 83 children, from beginners to form 2, some of whom could neither read nor write. By the end of the year, the roll had increased to 352 students.

### **DEVELOPMENT**

The Correspondence School is an expression of the strong desire long evident in the New Zealand community for equal education in its fullest sense — equal access to school, to a range of subjects, and to quality teaching.

The School was originally conceived as a school of last resort — not an alternative or open school, but a school for children who could not attend “proper” schools and “had to go on correspondence”. Initially the School was set up to educate rural students, but other groups not properly served by the conventional school system have since been added. Thus a dual idea of distance education has developed — distance education as a last resort yet also filling the gaps in the state education system. This dual idea has persisted until today.

A timeline for the development of the Correspondence School follows.

- |      |  |
|------|--|
| 1922 | The first primary students were enrolled.                  |
| 1929 | The first secondary students were enrolled.                |
| 1931 | Radio broadcasts began.                                    |
| 1935 | Teacher visits to students in their homes were organised.  |
| 1937 | The Correspondence School Parents’ Association was formed. |

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\* Ormond Tate is the former Director of the New Zealand Correspondence School.

- 1940 Annual residential schools for isolated students began.
- 1942 Adult part-time students were permitted to study school-level subjects with the Correspondence School if the nearest secondary school had no evening class in that subject.
- 1944 Students attending other secondary schools were allowed to study subjects with the Correspondence School in special circumstances.
- 1950 Special education programmes began.
- 1976 Pre-school education programmes began.
- 1989 Control of the Correspondence School passed from the Department of Education to an independent Board of Trustees.
- 1992 Private, full fee-paying students, who do not meet the requirements of Ministry of Education enrolment policies, were enrolled.

## **THE CORRESPONDENCE SCHOOL TODAY**

The Correspondence School is part of the state education system and is bulk-funded by the Ministry of Education, which also determines criteria for enrolment and approves fees.

### **Organisation and Structure**

The Correspondence School is governed by a Board of Trustees comprising:

- six elected parent representatives;
- two elected staff members;
- one student member elected by full-time students from forms 4 to 7;
- five co-opted members; and
- the director.

The School is managed by the director, an associate director, and a team of senior staff. The three main functional areas include:

- teaching and student support;
- educational resources; and
- personnel and operations.

In common with all state educational institutions in New Zealand, the Correspondence School operates under a Charter that contains compulsory administration and curriculum guidelines, together with sections specific to the School. The Board of Trustees has, as required, developed policies from the Charter and legislation covering issues such as equity in learning programmes, curriculum, health and safety, equal employment opportunities, and the Treaty of Waitangi. The Board and senior management, in consultation with staff and parents, has formulated a strategic plan for which an implementation plan has been devised that contains annual objectives, as well as medium- and long-term objectives. The Board's policies and policy implementation are reviewed and the achievement of objectives is assessed and reported each year. Figure 1 illustrates the government, management, and operation of the Correspondence School.

*Figure 1: Government, Management, and Operation of the Correspondence School*



The School teaches at many levels:

- early childhood (pre-school);
- primary;
- secondary;
- special and remedial education; and
- adult continuing education.

Students may study with the Correspondence School full-time or part-time, or they may be dually enrolled at the Correspondence School and at a conventional school.

## STUDENTS

### Full-time Students

The Correspondence School provides an education to 4,500 full-time students. Children are eligible to become full-time students if they meet four main criteria.

- *Distance, Inaccessibility, and Itinerancy:* Includes children who live at least five kilometres from a school or school bus route or, for children under ten years of age, a distance of three kilometres; children for whom physical terrain and conditions such as rivers, hills, sea inlets, or lack of roads make access to a school difficult or dangerous; children whose parents are itinerant so that they would have to change schools at least three times a year.
- *Ill Health or Disability:* Includes children for whom sickness or physical disability prevents consistent school attendance; school girls who are pregnant or young mothers can choose to enrol under these criteria.
- *Emotional, Psychological, and Social Problems:* Includes children whose personal state or social behaviour seriously affects their participation in school activities; some children may have been suspended or expelled from school or be in the care of social welfare or a correctional institution.
- *Overseas:* Includes the children of New Zealand citizens living overseas for whom no suitable English language education is available.

In 1989 and 1990, just before, and at the time the School was handed over to a newly elected Board of Trustees, the Minister of Education cut Correspondence School funding by approximately 14 percent. Since then the School has established a small business unit to generate extra funding from the sale of educational resources, consultancies, and by sub-leasing its facilities, but predominantly from fee-paying students.

In New Zealand, education in state schools is compulsory for students aged 6 to 16, and free for those aged 5 to 19 inclusive. Education in the Correspondence School is free for pre-school students aged 3 to 5 and special education is free to students under 5.

Currently, the full-time enrolment is as follows:

- |                                |       |
|--------------------------------|-------|
| • Early childhood              | 532   |
| • Early special education      | 272   |
| • Primary                      | 1,313 |
| • Secondary                    | 1,943 |
| • Fee-paying primary secondary | 557   |

Enrolment is open at all times of the year for 5 to 19 year olds and there is considerable interchange between conventional schools and the Correspondence School. Even in the middle of the school year, an average of 55 full-time students are enrolled every week.

For the most part, full-time students study the same curriculum as students in conventional schools and kindergartens. Almost all of the courses are written by school teachers according to national syllabi and the examination prescriptions in the New Zealand Curriculum Framework and the New Zealand Qualifications Authority Framework, and are comparable to the teaching in conventional schools. Almost every school subject is offered at each level. Practical subjects, such as general science, physics, chemistry, biology, agriculture, horticulture, word processing, typing, graphic

design, technical drawing, woodwork, clothing, home economics, and arts and crafts, are also taught by sending packages of material, tools, and equipment to students.

## **Dual Enrolment**

The Correspondence School also works in conjunction with schools in equalising educational opportunity. Students in small, rural conventional secondary schools may study some subjects by correspondence, thus enabling these schools to offer a similar choice of courses and subjects to larger urban schools. Dual enrolment helps to provide similar opportunities for jobs and for further education to make the schools viable and to encourage people to stay in rural areas.

Students in larger conventional secondary schools may also study some subjects by correspondence; in fact, in 1994, over 95 percent of all secondary schools have 8,800 students enrolled for one or two subjects with the Correspondence School.

A Ministry of Education policy controls the enrolment of students who also attend conventional secondary schools. The principal of a secondary school may enrol students to study one or more subjects with the Correspondence School if one of the following criteria is met:

- the subject is not taught at the school;
- too few students are at that level so a class in the subject is not viable; or
- a subject teacher cannot be recruited.

Dual-enrolled students have the same choices and study the same courses as full-time students.

School principals may also enrol primary students who need remedial work in basic subjects or extension work for the gifted, and Correspondence School teachers devise individual programmes for these students in consultation with the class teacher. Simpler alternative courses in English, mathematics, science, and social studies are offered, and teachers also draw on an extensive resource bank of remedial teaching units, compiled over many years. Some 800 primary students are enrolled in both the Correspondence School and conventional primary schools.

Both of these services to primary and secondary schools are free to the schools and students concerned. The programme is a form of targeted funding to meet educational needs specified in the relevant Ministry of Education enrolment policies.

## **Part-time Students**

Approximately 7,500 adults study part-time by correspondence, mainly to improve their qualifications or employment prospects, or for interest. This number is limited by funding from the Ministry of Education and has had to be reduced from 13,500 in 1989. These students range in age from 16 years to over 80 years. Three-quarters of them are women and twice the expected proportion of students are from rural areas and small towns.

Adult part-time students may enrol at any time places are available. They pay an enrolment and administrative fee, but no tuition fee. Most enrol because it is difficult for them to attend day or evening classes at conventional schools or polytechnics, because

the courses they want are not available locally, or because they like the flexibility of open learning. The majority of adult students study form 5, 6, and 7 courses and are quite successful in passing examinations and obtaining qualifications. Adults can study the same subjects as other students, plus some especially developed for them, for example, short courses in life skills, money management, consumer know-how, writing effective English, personal care, and pregnancy and childbirth. Some study remedial reading or basic numeracy, or both, and increasing numbers enrol for English as a second language.

## **OPENNESS**

The New Zealand Correspondence School started as a distance education agency to provide improved access to education and thus, from its inception, it embodied openness. The School has become more open through the years as it has removed many barriers to learning, become learner centred, and used a wide range of teaching and learning strategies and media.

The following are some of the advantages of openness.

- *Accessibility:*
  - Students may enrol and start at any time of the year.
- *Study:*
  - Students may choose any course or courses at any level. (Full-time school age students must meet the requirements of the New Zealand curriculum framework.)
  - Students may study subjects at different levels or of different lengths, or both.
  - Courses are matched to student achievement and ability.
  - Parallel courses of different difficulty are offered, as are individually chosen and adapted courses.
  - Students may start on a course at an appropriate point.
  - There are often choices of activities and topics within courses.
  - Many courses have a core section plus a choice of optional sections, and a choice of route through the course.
  - Some courses have a choice of media for some sections; for example, print, videotape, or computer programme.
- *Place:*
  - Learning comes to the students.
  - They can study where it is convenient — at home, at work, or elsewhere.
- *Time:*
  - Students can study at any time to suit themselves and their circumstances.
  - Full-time school age students are encouraged to work out a daily and weekly timetable, but as long as the lessons are completed satisfactorily and regularly, the amount of time spent on each subject does not matter.
- *Pace:*
  - Students can work at a pace appropriate to their ability and achievement, although they are encouraged to complete each set of lessons in two weeks.
  - They can complete a course as quickly as they wish and are able.
- *Feedback and Teaching:*
  - Teaching is on a one-to-one basis.
  - Students receive frequent regular feedback and helpful comments.

- Students receive supplementary remedial or extension resources and teaching as necessary.
  - Student performance is assessed against course objectives by criteria- and achievement-based objectives.
  - A wide range of assessment methods are used: written, oral, test, examination, field work, project, practical work, and so on.
  - Cumulative assessments are conducted regularly.
  - Many non-traditional curricula courses have summative assessments and certificates that can be taken at any time when the course is completed.
- *Post Course:*
    - In many secondary subjects, a variety of study routes and options for further study are possible.
    - Students can study throughout their lives.

### **Some Inhibiting Factors**

The conventional school year means most students enrol in January and February. Public examinations for a school certificate and for university bursaries occur in November and are designed for conventional schools. The requirements for internally assessed public qualifications, Sixth Form Certificates, and the Higher School Certificates are also designed for conventional schools and have time and curricula constraints. These examinations are in a single format at fixed times, with no opportunity to re-sit until the following year.

The Correspondence School enrolment is limited by:

- the *Education Act* and Ministry of Education regulations; and
- funding constraints and procedures.

The regulations outline who can enrol as free-place primary full-time, secondary full-time, or dual special education full-time or dual-enrolled students.

Funding constraints and procedures limit the total capacity of the School, so that the remaining two groups of students — early childhood and adult part-time students who are not subject to legislative or regulatory restraints, are restricted by resources such as staffing.

As can be seen, enrolment at the Correspondence School is by no means fully open. However, within the policy and funding constraints, enrolment with the Correspondence School provides many students with access to education that they would not otherwise have, and to a choice of subjects and quality of education that would not be available. Each year the Correspondence School enrolls some 30,000 students for an average roll of approximately 21,000, equivalent to 11,000 equivalent full-time students. This is approximately 1.5 percent of the total New Zealand pre-school and school population. Since the School was established 72 years ago, some 750,000 New Zealanders have been taught by correspondence. It is estimated that at least one person in six alive today was on the roll at some time in their life.

### **TEACHING AND LEARNING**

The Correspondence School philosophy, embodied in teacher training and practices, is to make learning as enjoyable and successful as possible, emphasising good standards of

education. Teachers use a friendly, helpful tone and manner and seek ways to establish a productive relationship with students. They comment positively on good student responses or improvements in achievement, and suggest ways that poorer work or misunderstandings can be improved or corrected. They seek to get students to obtain satisfaction from good achievement and from well thought-out and well-performed work that shows understanding and ability to apply ideas in non-familiar situations.

### **Teaching Methods**

- The Correspondence School produces and teaches some 300 courses and each course comprises 15 to 20 printed assignments called “sets of lessons”, which are often supported by audiotapes, videotapes, print materials, kits, and other resources.
- Increasing numbers of flexible modular courses, representing a term’s work in each module, have been developed to offer senior secondary students a greater range of multi-level subjects.
- Teachers write individual letters or record audiotaped or videotaped letters to students to encourage and motivate, and they also telephone students.
- School radio programmes, broadcast for 20 minutes each weekday afternoon, are written, produced, and presented by teachers.
- Educational videotapes and computer-assisted learning programmes are also used.
- Telephone teaching and audiographic lessons are provided.

### **Student Support**

The Correspondence School emphasises and devotes considerable resources to student support in order to overcome the disadvantages of distance and isolation, particularly for full-time students. For example, it spends approximately \$1,000 on student support activities for each full-time secondary student. All teachers use a friendly, personal approach and communicate frequently with students and parents. They try to identify factors that affect student learning and attitude and, where possible, help to alleviate these inhibiting factors. Teachers try to reduce the perceived effects of distance between students, supervisor, and teacher, and to enhance the advantages of open learning, using various methods.

Of the three types of students taught by the Correspondence School, most student support is provided for full-time students who obtain all their education at a distance. Dual-enrolled students have a home school that provides help, support, and facilities. Correspondence School staff maintain very close liaison with teachers in these schools to ensure a co-ordinated approach through guidance and newsletters. Adult part-time students receive support from their form teacher and subject teachers and can make free telephone calls, and entries with the New Zealand Qualifications Authority are made on their behalf.

Support for all students includes the following.

- *Pre-enrolment:* Information is available in detailed handbooks and from staff.
- *At Enrolment:* Research into student courses, achievement, and educational history from previous schools is available; *Getting Started* booklets are distributed; aspirations are discussed; and advice on course choice is given.
- *Initial Teacher Contact:* All teachers contact students early and attempt to establish a relationship; contact is maintained on a regular basis.



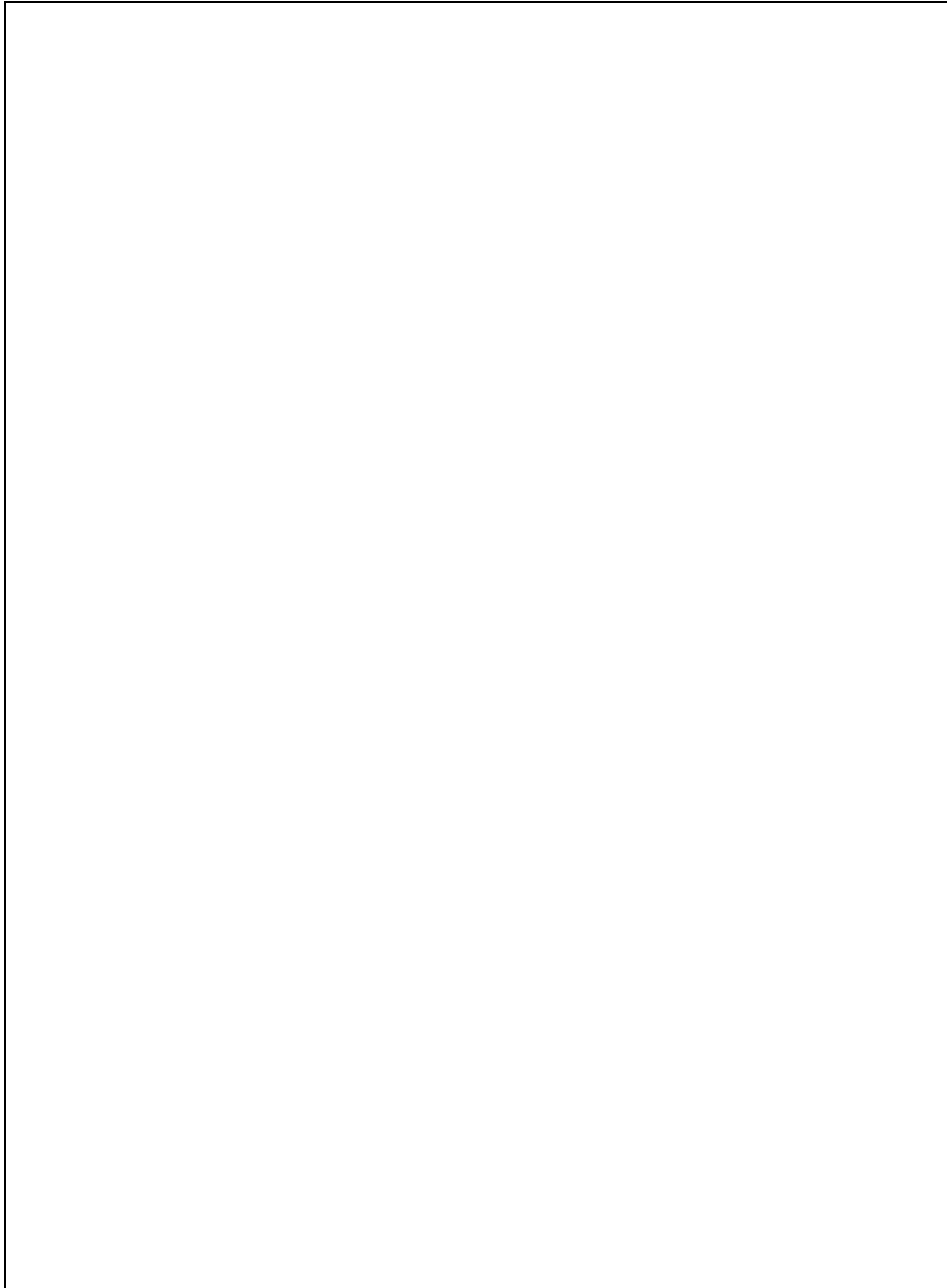
- *Monitoring Student Progress:* Subject teachers and form teachers keep personal student information and have quick access to comprehensive computer records of the date lessons were sent, when they were returned, and their assessment, in all subjects; regular reviews of student progress are held with the teachers involved and the parent supervisor, and, if necessary, the student's programme is adjusted.
- *Telephone Conferences and Weekend Seminars:* Senior secondary students who are preparing for public examinations and qualifications may take part in telephone conferences and weekend seminars.

Support for full-time students includes the following:

- *Home Visits:* The School's 11 regional representatives, who are located throughout New Zealand, visit full-time students at home approximately twice a year and send reports to teachers at the Correspondence School. The first visit is made as soon as possible after enrolment; teachers in early childhood, junior primary, and special education also visit students and particularly parents, to help them in their role as intermediaries and tutors.
- *Provision of Resources:* Most school courses contain all the materials that are necessary. Tools, paints, and equipment are sent to students. The school library lends curriculum-related and recreational books and magazines. Tape recorders and laptop computers are leased or loaned to students.
- *Reports on Student Progress:* Comprehensive reports are issued to parents, supervisors, and schools twice a year, and parents are invited to discuss them with teachers.
- *School Days:* Regional representatives organise school days for all full-time Correspondence School families in each region, at which students and families meet each other, visit interesting places, and enjoy educational, cultural, or sporting activities. Some 50 school days, attended by about 2,000 students of all ages, are held each year.
- *School Camps:* Regional representatives organise a total of nine week-long residential school days and school camps for students and parents, which are held throughout New Zealand. Half the cost of both school days and school camps are subsidised by the School. They are well patronised and much appreciated. Teachers from the School who teach students in the region attend both school days and school camps and conduct a teaching programme.
- *Transition Activities:* Transition staff hold vocationally oriented transition days and camps for secondary students throughout the country.
- *Massey Residential School:* This annual month-long school for 70 of the most isolated form 1, 2, and 3 students is heavily subsidised by the Correspondence School and has a full teaching, recreational, and social programme that is conducted by school staff, and also includes health checks.
- *Clubs:* There are 17 school clubs for students aged 8 to 19, including activities such as art, chess, crafts, mathematics, stamps, motorbikes, skiing, and writing.

Figure 3 illustrates the complex integrated network of people and functions involved in supporting students.

*Figure 3: The Correspondence School: Integrated Student Support System*



### **Teaching Procedure**

Although the Correspondence School uses a wide range of teaching media and is a leader in the use of educational technology in New Zealand, the basic medium of instruction has been, and still is, printed assignments, each containing two weeks of daily lessons. Three sets of lessons, amounting to six weeks of school work, are sent to each student on enrolment. When a student has completed the first set of lessons, he or she returns it to the Correspondence School in a distinctive prepaid A4 green plastic envelope. The student's teacher marks the set of responses; makes positive, helpful

comments; and, depending on the student's age, may put stamps or coloured stickers on the work. The teacher also writes a short friendly letter, or records an audiotaped or brief videotaped letter to accompany both the marked work and a further set of lessons, six weeks in advance of the returned assignment. Thus, the marked set 1 is returned with a new set 4, marked set 2 is returned with a new set 5. This interactive system provides opportunity for

- two-way communication between teacher and student, every two or three weeks;
- teachers to adjust or adapt the student's future assignments in response to his or her achievements; and
- teachers to include remedial or extension work on the material in the marked assignment.

For early childhood and junior primary students, most of the communication and sets of lessons are addressed to parents, who comment on their child's progress, attitude, and daily achievement. Communication between students, parents, and teachers is encouraged by a free telephone calling facility.

### Multiple Teachers

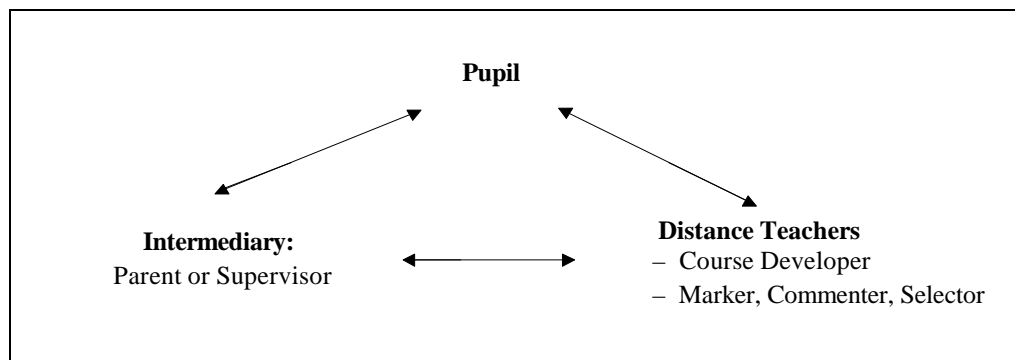
The New Zealand Correspondence School emphasises the importance of co-operation among all those involved in teaching and learning. In teaching school age students, or people who are illiterate, a supervisor or intermediary is often necessary.

The Correspondence School recognises that at least three people are involved in helping each student to learn:

- the teacher or teachers who develop the learning materials;
- the teacher who marks the student's work, comments, provides remedial or extension work, and selects or adapts future assignments; and
- the intermediary parent or supervisor who interacts immediately on the spot.

It is important that strong co-operative links are formed as shown in Figure 4 — all have complementary roles.

*Figure 4: Linkages*



The role of the intermediary varies with the age, educational achievement, maturity, and personality of the student. With pre-school, special education, and junior primary

students, the supervisor uses the resources, instructions, and guide notes to organise, supervise, and teach the student. He or she

- organises the students, materials, and environment;
- reads, shows, or plays resources and tells students what to do;
- tutors them and discusses issues;
- assesses student progress and judges when to move on;
- provides feedback to students; and
- provides feedback to teachers.

Older, more literate independent students are able to learn more directly from the materials, and the intermediary becomes more of a supervisor, organiser, and motivator.

## **COMMUNICATIONS**

The nature and form of open schools and distance education is affected by the communication infrastructure in a country. New Zealand has an effective postal system and regular twice yearly surveys show that students receive their correspondence materials on average five days after they are despatched, despite the fact that many students live in remote and isolated areas. Completed lessons take a similar time to reach the Correspondence School.

Considerable emphasis is placed on teachers marking student responses promptly and helpfully because it encourages and motivates students.

The quantity of student work is carefully monitored each week, so that every assignment can be traced and an accurate, up-to-date cumulative record of student work and achievement can be recorded on computer. This system also records teacher marking loads and rates. On average, student work takes one week from the time it arrives at the Correspondence School to the time it is despatched. Consequently, from the time a student posts a complete set of lessons to the School to the time he or she receives it back, marked, is about 17 days. During that time a student has usually completed the next set of lessons.

In 1993, a small but increasing amount of student work has started to be sent to the School by fax, and, in 1994, limited use has been made of electronic mail. Both of these developments are being encouraged.

## **EDUCATIONAL RESOURCES**

The Correspondence School offers over 300 courses for students from pre-school to senior secondary. Most of these courses are planned and written by teams of teachers within the School.

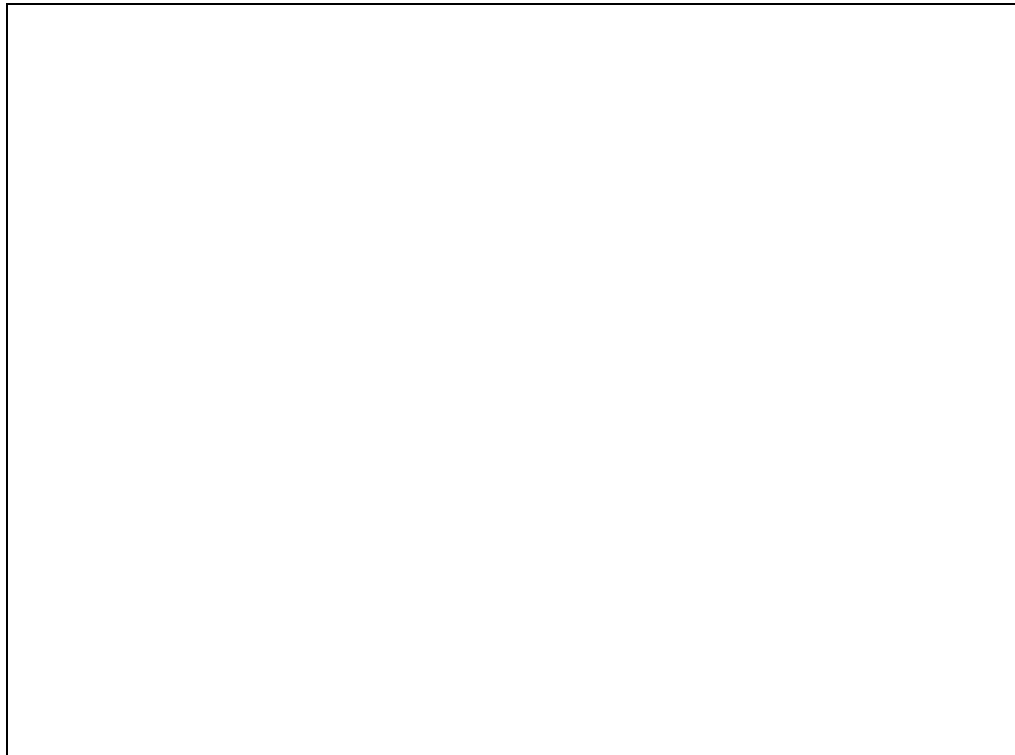
In 1981, an eight-year writing programme was instituted to systematically revise every course that the School taught, following an order of priority decided by the head of each department or section. At the same time, a co-ordinated system of writing teams and distance education advisers was established. Writing teams are formed by heads of departments and approved by the Manager Resources Planning and Development. Teams comprise two or three subject and level specialists, who are all trained in

planning and developing distance education courses for open schools. Each team is assigned a course co-ordinator, whose job is to complete all tasks in the correct order and on schedule. There is also a distance education adviser, who is a teacher of proven ability in developing distance education materials and in relating to colleagues. The distance education adviser is responsible for helping and advising the team and for assuring quality from the planning stage to manuscript approval. In 1993, external auditors have been employed to appraise existing courses and to comment on how they match the new curriculum statements.

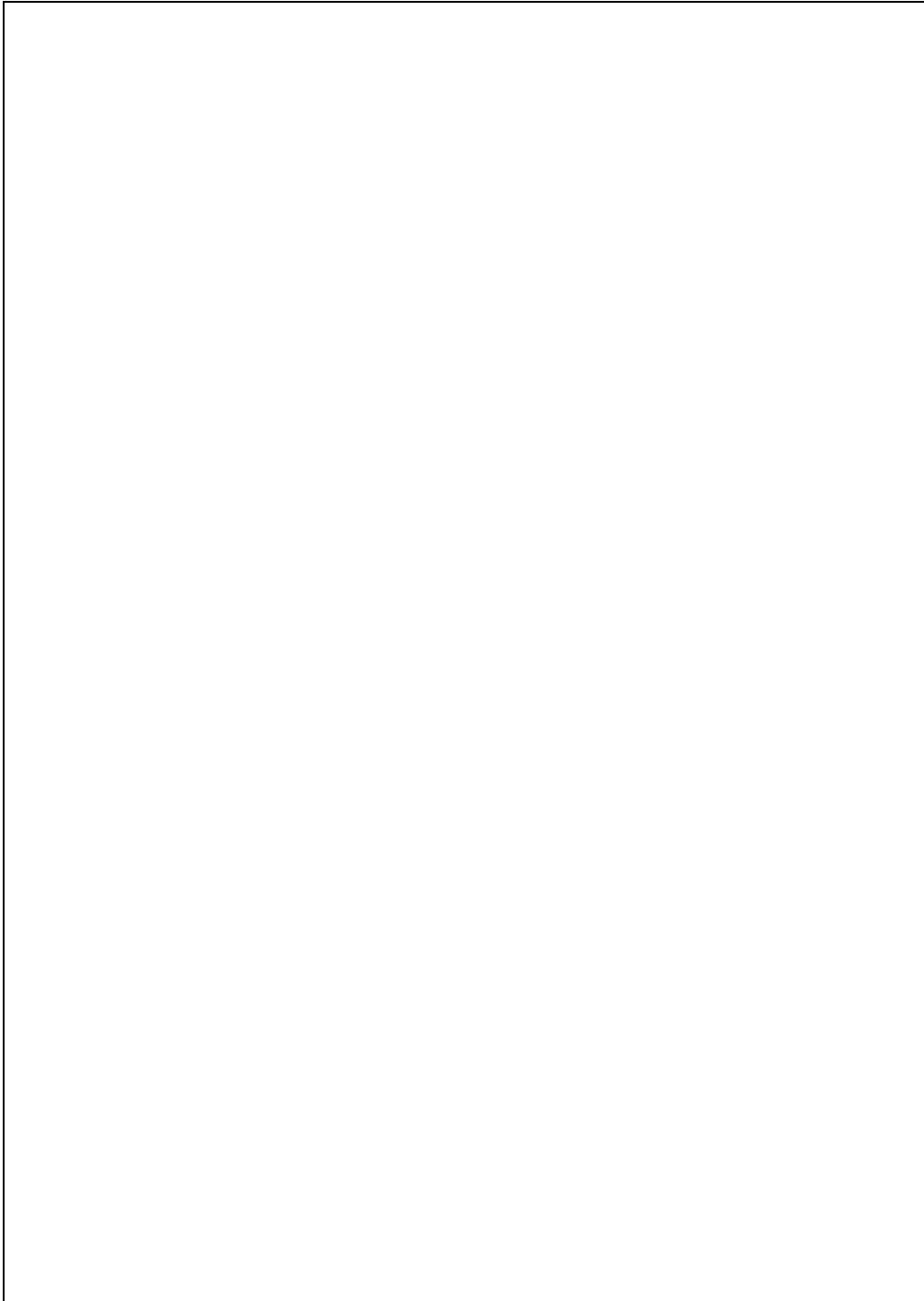
A typical year-long course, expected to take a student 150 hours to complete, would usually take a total of two years of teacher time for a writing team. The time required may be four teachers full-time for six months, or half-time for a year. Average total development and production costs for such a course is NZ\$150,000. It is cheaper to buy complete courses from the other distance education schools or to buy the right to adapt them or use them as a starting point. But it is important to teach government-established national curricula, syllabi, and examination prescriptions at the school level.

Great importance is placed on the quality of these print materials because they are the main means of teaching students. Students spend the great majority of their study time working through them so it is very important that they learn and understand correctly the first time. The sets of lessons are written in a “guided didactic conversation” style. The teaching is structured, students learn by doing a variety of activities, and reading (listening or viewing) is balanced with doing. The style is friendly and conversational, but concise. Lessons include self-marked (or supervisor-marked) exercises, to give students immediate feedback. Teaching notes are also sent with returned marked work. Further, primary level courses include guide and explanatory material for supervisors.

***Figure 5: Correspondence School Resource Development Team***



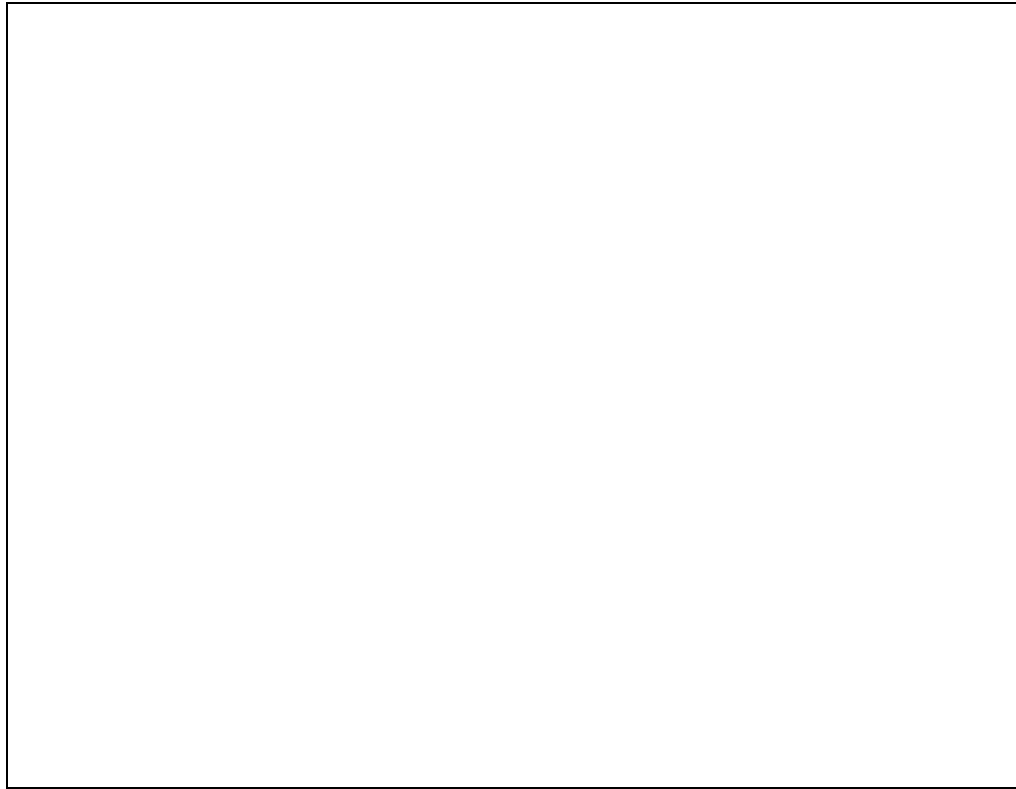
*Figure 6: Resource Planning Development and Production Process*



The distance education adviser system provides formative evaluation during the course development. The first year a new or rewritten course is in operation is a trial year and necessary or desirable revisions are made for the following year. The effectiveness of the course is also assessed by using data on student performance, and comments from students, supervisors, and teachers.

Student performance statistics include enrolment and withdrawal figures, average number of sets of lessons completed, rate of return of sets, and the time taken to complete the course. Student assessment results in tests, internal school examinations, and public examination results for form 5, 6, and 7 students. Staff are also encouraged to analyse achievement on exercises and tests in the course and in the school examinations against the teaching of these topics. Many courses have a student questionnaire with each set of lessons. Students also make comments to teachers in letters, telephone conversations, and at seminars. Supervisors provide similar feedback and comment on student attitude, difficulty of answering student questions, or of explaining what is asked or is meant, whether students get a sense of achievement or process, and whether the course meets the supervisor's expectations.

*Figure 7: Assessment of Course Effectiveness*



## **STAFFING**

Total staff at the Correspondence School is 523, and of this number:

- 296 are secondary;
- 90 are primary;
- 17 are early childhood;
- 11 are regional representatives; and
- 109 are administrative staff.

Eligibility for employment on the teaching staff is the same as for any position in conventional state schools. Positions are widely advertised, and there is a good response in applications. Usually only good, experienced teachers are appointed because only capable teachers adapt well to distance education. School-based in-service training is conducted regularly for all staff on the special nature of distance education and course planning and writing. A programme for full staff development and total quality in education is in place. A school-wide staff performance appraisal system has been introduced.

## **FINANCE**

The Correspondence School is almost completely dependent on government funding. Since 1990, government funding has been arbitrarily held at NZ\$26.5 million annually, exclusive of goods and services tax, or 94 percent of the School's income.

Each year the School has raised increasing funds from other sources. In 1993, enrolment charges for adult students contributed \$0.6 million and the fee-paying students' tuition fees contributed \$0.6 million, each 2 percent of income; bank interest contributed \$0.3 million, and the sale or lease of resources and other income contributed the final \$0.3 million, or 1 percent of income.

After four frustrating years of negotiation, a funding procedure has been established with the Ministry of Education and was applied for the first time in 1994. In September, the Correspondence School provides statements of service performance and objectives, estimates for the following school year, the numbers of equivalent full-time students in each of six categories (pre-school, primary, special education, secondary full-time, secondary dual, and adult). As well, the School provides cost estimates for a full-time student in each category, with detailed supporting documentation. Following discussions, the Ministry of Education decides the education service in terms of numbers and costs of students for which it is prepared to pay the Correspondence School.

Open schools, like conventional schools, are labour intensive. The main item of expenditure in 1993 was NZ\$20.6 million, or 73 percent, on staff salaries. Staff usage and cost were: teaching and student support, NZ\$13 million; resources development, NZ\$3 million; operational support, NZ\$4.2 million; and management, NZ\$0.4 million. Operating expenses were NZ\$6.3 million, of which the main items were NZ\$1.7 million for printing, NZ\$0.7 million for postage, and NZ\$0.6 million for telecommunications. Provision is made for depreciation on equipment and furniture, and reserves have been established for technology upgrade and research and development.

The computerised school accounting system and method of analysis mean that the actual cost of any activity can be determined.

In contrast with conventional schools, the Correspondence School has no grounds, playing fields, gymnasium, or swimming pool, and consequently has virtually no capital costs.

The Correspondence School non-capital operating expenditure is currently equivalent to about three-quarters of the cost of educating students in classrooms in conventional state schools. For years, the Correspondence School has been less expensive.



*Table 1: Annual Operating Costs in NZ\$ per Student*

<b>Students Attending</b>	<b>1990–91</b>	<b>1987–88</b>	<b>1984–85</b>	<b>1981–82</b>
State Primary Schools	3,100	2,160	1,244	1,024
State Secondary Schools	4,600	3,185	1,956	1,734
The Correspondence School (all students)	3,084	2,288	1,553	1,114

In terms of equivalent full-time students, the Correspondence School roll is 73 percent secondary. It would have cost approximately an extra NZ\$1,000 per student, or NZ\$10.5 million altogether, in extra operating costs in 1993 to have educated all Correspondence School students in state primary and secondary schools.

### **Context and Credibility**

Some people have problems with the credibility of distance education and consider it an unsatisfactory alternative to classroom teaching, which they see as the only way of educating school age students. Some think that only strongly self-motivated adults can succeed in learning at a distance.

Open schools and distance education occur in the influential context of conventional schools — in New Zealand there are some 2,800 primary and secondary schools, but only one Correspondence School. The educational materials of open schools are usually print, audiotapes, videotapes, computer resources, and so on, that can be looked at and evaluated by parents, teachers, employers, and inspectors. It is therefore important to establish the quality and credibility of distance education, by teaching to the same national syllabi as conventional schools and achieving equivalent or superior standards of student achievement on the same objective national assessments. The primary purpose of a school is to teach students — to enable them to learn. Open schools need to demonstrate clearly the standard of student achievement.

To achieve good standards open schools need to:

- have quality educational resources and teaching materials;
- be able to provide appropriate programmes for individual students, matched to their achievement and abilities;
- provide regular distribution and assessment system at an acceptable speed;
- provide appropriate student (and parent) support, including encouraging feedback and motivation.

### ***Standards Achieved***

The Correspondence School teaches to the same national curricula as conventional schools. Secondary students are candidates for the same examinations and qualifications as the students of conventional schools, and each year student achievement is carefully recorded, analysed, and published. Correspondence School students consequently achieve as well or better than students in conventional schools, despite the high proportion of disadvantaged students. For each of the years, 1991, 1992, and 1993, from one to three top scholars in bursary and scholarship examinations has studied the subject concerned with the Correspondence School.

### *School Community*

It is important that students and their parents have a sense of belonging to and identification with the Correspondence School, so that they can voice their concerns and be heard by teachers and management.

A unique feature of the New Zealand Correspondence School is the parents' association, which was formed in 1936 and currently has sixteen regional branches throughout New Zealand, and a national executive. Parent associations assist the School's eleven regional representatives to organise more than fifty school days and nine school camps each year. The Correspondence School hosts the annual three-day national Parent Conference, attended by over one hundred branch delegates and other parents.

Many parents' association branches have newsletters and the School publishes a sizeable news booklet, *Mailbag*, three times a year for all parents. Parents are consulted about the School's Charter and strategic plan.

Individual teachers communicate regularly with parents and students by letter, and by telephone. Some teachers meet students at school days and school camps, and some visit students in their homes. This personal contact helps to establish rapport and create confidence and motivation.

## **FUTURE DEVELOPMENTS**

While the future of open schools will depend, to a considerable extent, on government policy and funding, public demand, and the economic climate, some trends are clearly evident.

### **Greater Use of Educational Technology**

The use of communication and information technology and the newer media has the potential to:

- improve access to education;
- increase teaching and learning possibilities and scope;
- provide more immediate feedback to students;
- provide alternative learning paths to students;
- make good teaching more widely available; and
- increase openness, with access to technology.

The Correspondence School is careful to ensure that technology does not predominate over education, but that curriculum and instructional design considerations are paramount. New educational media have tended to be added to existing media, rather than to replace them completely; for example the Correspondence School has added kits, equipment, and supplies to the print materials, audiotapes, videotapes, and computer disks in various combinations. Multi-media kits are becoming more common and the media balance is changing so that in some courses the main teaching is on video or on CD-ROM.

Different abilities, approaches, and methods are needed to use different media and technologies effectively. Teachers find that they must learn new instructional design techniques to prepare distance education material for audiographics, video telephones, or computer-assisted learning, for example. Both teachers and tutors need to become:

- familiar with, confident, and competent in using the technologies;
- able to help students use the technologies effectively;
- capable of planning and developing good learning materials that capitalise on the characteristics of the technology and medium;
- capable of using technology effectively for communicating and interacting with students and supporting them;
- able to adjust to new teaching roles as more of the teaching, assessment, and feedback is built into the educational materials;
- able to guide students through and in choice of course materials.

### **Better, More Varied, and Relevant Learning Materials**

Quality assurance will become increasingly important, primarily to ensure student achievement, but also because the initial costs of developing distance education materials is high. While quality assurance methods have been built into the planning, development, and production of Correspondence School materials, they should be improved and given more importance and strength. More emphasis also needs to be placed on gathering and analysing data to evaluate the effectiveness of courses and materials.

Quality assurance is essential because the initial cost of developing distance education materials is high. A secondary teacher in a state school may be paid NZ\$35 to NZ\$40 per student hour to plan and deliver a conventional lesson to a class of students. A quality interactive print-based course can cost the Correspondence School NZ\$1,000 per student hour to develop and complete. Videotapes can cost NZ\$1,000 per student minute, that is, 60 times as much as a print resource and 1,500 as much as a classroom teacher. The computer-assisted learning programmes and interactive CD-ROM projects have development and production costs similar to videotapes. To compensate for these increased costs, there must be:

- sufficient student numbers or sales, or both, for course viability;
- sufficient resource life to make the resources economic; and
- better teaching and learning to use the educational capabilities of the technology effectively.

### **Staff Roles Will Change**

Correspondence School teaching has traditionally involved a lot of staff time and costs in marking student work, providing feedback, and giving advice. With the increased use of modern educational technologies, increasingly interactive courses, more co-operation with conventional schools, and greater openness, the balance of staff time will change. The balance is shifting now and will shift further and quicker with more staff time devoted to planning, developing, and producing resources as well as to student guidance and support. Fewer teachers will be needed to mark, provide feedback, and teach, and there will be a greater proportion of media specialists, technical advisers, project managers, distance education advisers, and instructional designers on the staff.

Student support and guidance will assume greater importance to help students overcome isolation, to cope with openness, and to make wise choices, as well as to suggest alternative learning paths through an increasing maze of options and possibilities, to establish rapport, motivate students, and help with access to resources and facilities.

### **Distance and Conventional Education Will Work Together**

Open schools and conventional schools have been co-operating in New Zealand for over 50 years, as is increasingly evident. Over 95 percent of secondary schools have students studying with the Correspondence School. Also several hundred primary schools enrol special education and gifted students with the Correspondence School.

Distance educators generally have no trouble working co-operatively with conventional schools, but many conventional educators are often not as open. There is no reason other than history, custom, entrenched attitudes, self-interest, and blinkered vision why open schools and conventional schools cannot work together, complementing each other to make education more open for the benefit of students and society.

Increasing change in society and in the workplace will mean greater demands on conventional schools to change. They are using educational technologies such as videotape and computers more frequently. Some conventional schools are forming clusters to supplement each school's teaching by using telephone conferences and audiographics. Many more schools are demanding more and more of the Correspondence School, so that numbers of students benefiting from this co-operation have grown by 15 percent each year in 1992 and 1993. Schools increasingly enrol students by fax, and use telephone links to access their student records on the Correspondence School computer. Schools Open Learning Service staff visit schools in their region each year and maintain close liaison by telephone.

As the service the Correspondence School provides to conventional schools continues to grow, the government is asking whether this service should remain free to schools, or whether they should pay for part or all of it.

### **INCREASED OPENNESS**

Open schools are characterised by accessibility to school, admission at any time, choice of subjects, self-paced study, convenient study time and location, choice within subjects, and choice of delivery systems and optional support systems. Open schools attempt to overcome administrative and academic barriers in order to meet student learning needs, but that requires flexible procedures and adaptable staff.

Openness also means more options and individual arrangements so that courses, teaching, and support match students' ability, achievement, personality, and circumstances. This is possible with small, decentralised schools that have plenty of resources and facilities; but usually openness implies a large educational provider, such as the Correspondence School.

Openness means a lot of variation in resources and administration in matching educational provision to students. A classic problem of distance education is to mass produce learning materials and at the same time be able to provide varied courses appropriate to each individual student. This is particularly so in basic and compulsory level education as we must take each student where they are and teach them according

to their ability. Many students may end up at the same achievement level, but they may take different times and routes to get there.

As education becomes more open, the variety of courses, media, and transmission methods must expand to offer a realistic range of options for students. This expansion can be costly in staff time and materials but, with economies of scale, with careful planning of resources and administration, and with positive staff attitudes, open learning can be provided economically.

The range of courses, options within courses, and educational resources and media used to provide for individual student needs mean that a comprehensive student and resource record system is necessary. The Correspondence School has developed this kind of easily accessed computerised student information system and has bar-coded all learning resources. These systems must be extended and refined to provide a comprehensive classification of all resources under level, subject, topic, objectives, and prerequisite knowledge, for easy teacher access.

All primary, and a small but increasing number of secondary courses, are internally assessed or assessed on course completion, and this assessment is recognised by other educational and training agencies. Such recognition and cross-crediting is closely related to students being able to start courses at several times during the year. It also requires careful discussion and close co-operation with many industry and recreational training bodies.

With greater use of educational technology, better, more relevant courses, and increasing co-operation with conventional schools, the Correspondence School will move towards even more open learning. The care that is taken at present must be maintained to ensure that increasing openness and the accompanying individualisation of student programmes does not lead to lack of clarity, or a drop in standards of student achievement. The purpose of increasing openness in learning is to improve access, equity, and quality — that is, to improve the quality of student learning.





## CONCLUSION: THE OPEN SCHOOLING CASE STUDIES

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*S. Phillips\**

### INTRODUCTION

Four years ago, the World Conference on Education for All — Meeting Basic Learning Needs took place at Jomtien, Thailand. The World Conference adopted a Declaration on Education for All, which renewed the commitment that all persons should “benefit from educational opportunities to meet their basic learning needs”. In today’s world, however, we know that education for all is still not a reality. Many people — boys and girls, youths and adults — do not receive the education to meet these so-called “basic learning needs”.

For the most part, these educationally disadvantaged people live in the developing world, where they are often left behind because of gender inequality, socio-economic circumstances, physical handicaps, or the isolation of rural villages. Open schooling provides one way to help meet their basic learning needs by increasing access to educational opportunities and thereby moving towards “education for all”.

*Open schooling* means different things to different people, but generally it concerns using alternative and usually less resource-based approaches which characterise distance education methods and open learning, to deliver basic education and training.

Open schooling has succeeded in meeting the various challenges educators face in many parts of the world, as the case studies have demonstrated. In fulfilling the most basic learning needs, open schooling provides opportunities for vast segments of a country’s population to attain literacy, numeracy, and other necessary skills, in ways that conventional schools have been unable to provide. Open schooling reaches out to underprivileged sectors of the population and provides a second chance for young and old alike to acquire the basic skills so necessary for an economically viable and socially satisfying life. Although not a panacea for all educational challenges, open schools can assist educators, particularly those working in less economically developed countries, through the creation of new and innovative ways and opportunities to provide increased access to education.

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\* Susan Phillips is Senior Programme Officer, The Commonwealth of Learning.

Open schooling not only has different meanings but is implemented in different ways, depending on the country in which it is located and the reasons for its establishment. With a clear view of the purpose of open schooling in a given circumstance, we can better understand and appreciate the lessons to be learned from the case studies, including the varied experiences with the methods of course delivery, the types of student support services that are in place, the processes used for course development, and the forms of administration that have evolved, as well as the critical issues of funding and support.

## **WHY OPEN SCHOOLS?**

Why are open schools usually started? Clearly the reasons differ, but generalisations can be drawn, depending on whether open schooling is situated in a so-called “developing” or a “developed” country.

In the British Columbia case study, open schooling was started and has been continued for three important reasons. First, open schooling provides access to education for all students, regardless of where they live — in remote locations, such as logging camps, lighthouses, isolated villages, or even overseas, as would be the case when parents are stationed or otherwise working abroad. Through open schooling, these students receive similar learning opportunities as students who live in urban areas and thus the stated goal of providing equal educational opportunities for all is met within the British Columbia education system.

The second reason for starting open schooling is an extension of the first reason, in that it provides a means for students in smaller (although not necessarily isolated) centres to have the same course curriculum choices that students in larger centres enjoy. This means that all students in the province can study Japanese or Latin, for example, even though a qualified subject matter teacher may not be available at a specific school.

Finally, in many democratic nations that are considered “developed”, there is a philosophy that people must have the right of choice whenever possible, and this is true in the area of education as in any other. For example, in British Columbia the introduction of a new *School Act* in 1989 recognised parents’ rights to provide education for their children at home (until then, permission had to be granted for the enrolment of any child under 15 in a correspondence course). Since then, enrolment figures in the distance education programme have grown significantly, particularly at the elementary level. It has been a matter of choice for a child to be educated at home since 1989 and, by law, the materials required must be available so that parents can “teach” the same curriculum to their children that students at conventional schools are taught.

In developing countries, however, the reasons for establishing open schools are often very different. As Mukhopadhyay has indicated in the Indian case study, the mission statements for the National Open School in India are “the universalisation of education; increased social equity and justice; and developing a learning society”. In less-privileged countries such as India not all students have the opportunity to attend schools, regardless of whether they live in urban or rural areas. Often, for economic reasons, students do not go to school because their families cannot afford the associated costs, or the children must work to help support the family. Similarly, for cultural, including religious reasons, female children may not be allowed to attend the conventional school. Open schools offer an affordable and workable solution, at least for some of these disadvantaged students, as it provides flexibility in attendance and location. As we saw,



for example, in the Indonesian case study the students attend “school” for only a few hours a week and they can attend classes at nearby learning centres, both of which help by providing additional flexibility and less expensive alternatives to conventional education.

A second reason that open schools are established in the developing world is that poorer countries simply may not have enough resources, whether they be physical facilities or teachers, to provide the education conventional methods require. Open schools allow students to spend less time at school or at learning centres, or may, in fact, not require the students to attend classes at all. The approach varies from situation to situation but leads, in any event, to a decreased requirement for “bricks and mortar” than is necessary in a conventional school system.

Similarly, although teaching personnel are necessary in an open schooling system, they are not required to be in the classroom all day, every day as in conventional schools, and can therefore, “teach” more students.

Maximising the use of limited resources like physical facilities and teaching staff was clearly demonstrated in the Indonesian study. There, open school students often have “classes” in the conventional school that are taught by “regular” teachers and administered by the local principals; the number of classes is simply fewer. Indonesian open schooling is a clear example of where this system can assist in “stretching” limited resources to achieve more results than have been possible in the past.

The different reasons for implementing open schooling affect the philosophy and outlook of the staff working in the system, and the students receiving the education. In the developed world, open schooling is a matter of choice and is viewed as a right that should be supported in the same way that conventional education is supported; in the developing world, open schooling is a necessity if certain segments of the population are to receive any education at all. This fundamental difference may lead to open schooling being stigmatised as the “poor man’s alternative” to conventional education, particularly in developing countries, with predictable results such as staff receiving less pay than their conventional counterparts, as was shown in the Zambian case study.

## **LEARNING MATERIALS**

The education provided through open schooling is only as good as the learning materials used. This is usually taken as a given, but it is interesting to note that only the case studies from the developed countries described course development in detail and highlighted it as critical. In the other case studies, course development was mentioned only in passing, if at all. Some reasonable conclusions can be drawn from these differences.

For example, in the British Columbia case study, technology played an important role in the process of course development. Teleconferencing, electronic mail, and desktop publishing were all used to develop modules for distance education at the primary level. It seems likely, however, that this case study could only have been written about a situation in the developed world, where the communications infrastructures are in place to permit electronic mail and teleconferencing, and are affordable to the developers of distance education courses. Further, substantial financial support was obviously required in the British Columbia case study so that the course writers could be loaned computers and provided with the appropriate training and opportunities for other start-up activities.

It could be argued, therefore, from the British Columbia study and other examples from developed nations, that the development process required for “good” learning materials can be greatly assisted, at least in some situations, through the use of communication and computer technologies. These technologies can streamline course development, and ultimately decrease the amount of personnel time required. However, it is likely that funding constraints or the lack of infrastructure, or both, will prevent the use of communication and computer technologies in most, if not all open schooling systems in less-developed countries, at least for the foreseeable future.

In addition to using sophisticated technologies, course development teams are also part of the course development scenario, as described in the Queensland case study by Postle and Higgins, and others from developed countries. The teams follow detailed processes and may apply the latest research in teaching and learning strategies. Contrast this situation with that in Indonesia, where the open school materials are often produced by a subject matter teacher working alone.

Why does this major difference in the methodologies used to prepare learning materials exist between developed and developing countries? Again, we must return to the *raison d'être* for open schooling systems. Because they are seen as a means to fulfil a certain segment of the population's basic human rights in developed countries, it is deemed from the government's view that the resources required *must* be allocated. Also, because the need for courses in more economically privileged nations is not immediate, there is not the same sense of urgency to develop them. As a result, more time can be spent creating pedagogically sound materials that reflect the curriculum content of the conventional system. For these reasons, as we see in both the Alberta and British Columbia studies, funding support is available to try new methodologies, and to experiment with various procedures to test and stretch the technologies as far as possible.

Learning aids to supplement print materials can greatly increase their effectiveness in imparting education and are used in most open schooling systems when possible. The development of learning aids depends, however, on the funds available to both produce them and make them available to students. In situations where open schooling exists primarily for economic reasons, the development of supplementary multi-media materials may not be a high priority due to the costs involved, and in any case, the students may not have access to the equipment required to make use of the materials, such as videotape or audiotape players.

When resources are committed to the development of “good” learning materials, however, the benefits may be much greater than originally anticipated. As the National Open School of India case study indicated, often the distance education materials developed for open schools are used in conventional schools by classroom teachers. This may well compensate for inadequately trained teachers and should be particularly relevant to educators from developing countries, as it is obvious (without debating the feasibility and usefulness of transferring course materials from one country or institution to another), that at least some of the materials that have been created with extensive resources in developed countries could be used in both open and conventional schools in their home countries.

## **Curriculum and Course Content**

Open schools have been described as a means to provide basic education through non-conventional means. It may be useful to define *basic education* at this time, and to

indicate what types of education it may encompass. UNESCO, for example, goes beyond the definition of *basic education* as comprising only literacy and numeracy skills and suggests it should include the provision of problem-solving skills as well as “the knowledge, attitudes and values needed by human beings to survive and function effectively in their societies”. The case studies in this collection clearly endorse this broader definition, as they describe situations in which a wide range of courses are offered under the auspices of “open schooling”, which are targeted at different groups, including children, early-school leavers, adults, and the general public.

Again, there appears to be a difference between the types of courses offered and the country in which the open schooling is taking place. For example, in some cases *open schooling* means simply the provision of the conventional school curriculum in an open learning format, as demonstrated in the case studies from Canada and Australia. In the case studies from the developing world, however, more emphasis appears on to be on the provision of education in technical-vocational subjects (the Indian case study), and in moral and life skills topics (the Indonesian case study).

As well, open schooling in developing countries often combines various types of education; in contrast, conventional schools in the same countries usually concentrate on only one type of education. This strength of open schooling should be further explored, particularly with a view to it providing the much needed skills to acquire employment in a flexible and student-centred manner for disadvantaged segments of the population.

This is not to underestimate the primary role played by open schools in providing literacy and numeracy skills, particularly at the adult learning level. Open schools, it may be added, can also be used to maintain and increase literacy levels in neo-literates in order to forestall a problem that is starting to surface in some countries, where newly literate learners have little opportunity to practise their skills, and revert to non-literacy at an alarming rate.

### **Course Credit and Transferability**

As an aside to the whole area of developing learning materials, we should mention the importance of course credit and transfer. It would defeat the whole philosophy of freedom of choice, if once a student (or his or her parents) had chosen to take courses through the open school, he or she could no longer return to the conventional school. People move to urban centres, they return to their home countries, they decide that open schooling is not for them (or their offspring); therefore, it is important that the courses taken through open schooling be accepted in, and acceptable to, the conventional system. Students must not be disadvantaged if, for whatever reasons, their education is through an open school for a period of time. The transferability of open school courses is critical in all countries, and is mentioned as an important issue in most of the case studies. Without this, the credibility and worth of open schooling will remain in question, and may lead to further stigma, particularly if students are refused entry to more advanced institutions because their education was obtained at an open school.

### **DELIVERY MECHANISMS**

Delivery mechanisms cannot be discussed in isolation. The course materials must be developed within the limitations of the various delivery mechanisms, keeping in mind the different media available. For instance, there would be little use in producing

videotapes as an integral part of a learning package unless it was pre-determined that students will have access to a videotape player and television set. Similarly, the worth of providing lectures over distance through a telecommunications network that works only intermittently is questionable.

Nor should the development of the learning materials be “technology driven”. Too often the complaint is made that because certain technologies are available, they are used for course delivery, often to the detriment of the students. The technology is said, by its proponents, to circumvent many of the old arguments against distance education, arguments that relate to the lengthy turnaround time for assignments; the lack of real-time interaction between teachers and students; an excess of print-based material that is not useful in a non-reading society, and so on. However, the technology, in the end, may cause more problems than it solves, for a number of reasons:

- the staff have not been properly trained and therefore do not use the technologies effectively;
- the technologies themselves may “get in the way” of the learning processes, rather than be transparent to the users; or
- the technologies prove to be unreliable and often are not functioning.

The case studies have demonstrated that the primary method of course delivery is still print, even in technologically advanced open learning systems such as the Alberta Distance Learning Centre. In most of the case studies, however, some supplementary learning materials were available through other media; for example, videotapes and more commonly audiotapes were often used. Other media, such as radio programmes, are broadcast in both developing and developed countries, and although the programmes may be targeted at the students enrolled in the open school, the general public has access to them and may in fact benefit from their delivery. Further, with the onset of satellite communications, more and more one-way televised education will be provided, even to the most remote areas in all countries. Through a multi-channelled approach to the types of learning materials available, the chances of enhancing access to educational opportunities for all target populations can be strengthened and improved.

## **TEACHERS AND FACILITATORS**

Teachers are almost always a necessary personnel requirement in open schooling, but the time that is required of them is not as extensive as the time required of classroom teachers. Consequently, it is possible, as the Indonesian case study demonstrated, for teachers in the conventional schools to also have responsibilities in the open schools, thereby providing a way of using limited teaching resources to reach more students.

Some open schooling systems in developing countries also use facilitators who are trained locally to assist the students. These facilitators are not subject experts nor are they teachers; but they are available to help students solve problems that may not be subject-related. In the same way, open schooling systems in developed countries usually rely on parents to assist students. In the British Columbia case study, for example, we saw that parents play a large role in their children’s open schooling. This is consistent with the policy in British Columbia that parents can choose to educate their children at home, but they therefore must assume more responsibility for the learning that takes place. (Parents, as we have also seen, however, are not always comfortable with this role, particularly when it departs from their previous experience and when the content differs from what they learned at school.)

It is more economical and practical to use parents as facilitators, as seen in the Australian case studies, for two reasons. First, personnel costs are decreased if facilitators do not have to be employed; and second, the students do not have to travel to a local site to meet with their facilitators nor do the facilitators have to travel to visit students. However, in developed countries, assumptions are made about parents as facilitators that cannot always be made in developing countries. For example, in Canada and Australia, it is assumed that the parents have themselves gone to school and are educated beyond mere literacy, and that they therefore can help their children with the course materials, assignments, and learning experiences as required. (And, in some cases, it is assumed that parents can actually “teach” their children, with the assistance of the materials.) It is further assumed that a parent is present to work with the children while they are studying. These assumptions may be less justified in developing countries, and therefore facilitators take on crucial roles in imparting the education to the children in open schooling systems there.

Teachers and facilitators in open schooling systems need skills that are not necessarily apparent to those familiar only with conventional schooling systems. Communication skills are important, and ways to communicate with students through means other than face-to-face interaction must be taught. It may be important, for example, for teachers to provide extensive feedback to students through written comments and, in other cases, to use computers to mark assignments. Skills that have been acquired through classroom teaching may not be adequate preparation for communicating through these, and other similar channels.

Further, whenever new technologies are introduced, training is essential to all concerned, including those responsible for course delivery as well as recipients of the education. Similarly, if course developers are expected to work with new technology, they must be adequately prepared and trained to use it effectively and efficiently; otherwise the potential advantages that the use of technologies offer can result instead, in real disasters.

Although not discussed in any of the case studies, non-conventional techniques used in open schooling can themselves be used to train open schooling teaching personnel as well as course writers and developers. For example, institutions of higher learning in both Australia and the United Kingdom have been using distance education methodologies and open learning courses for many years to deliver curriculum-content upgrading and pedagogical skills to teachers both locally and overseas. Clearly, it is beyond the scope of this collection of case studies to explore the subject in detail, but it is worth noting that many of the skills open schooling personnel require could be provided through courses delivered over a distance using the appropriate technologies where they are available.

## **STUDENT SUPPORT SERVICES**

Student support services cannot be discussed without noting the impact of other previously discussed issues on them. Both the delivery mechanisms and the course materials depend heavily on the support services available. If, for example, a student finds that the videotape player and television set at a learning centre do not work every time he or she tries to view a videotape that is required to complete an assignment, then the student is unlikely to complete the assignment let alone finish the course. Similarly, if a student has registered for a course that requires a reading level that is beyond his or her level, the student will probably not succeed.

Student support services were inadequate in both examples. In the first case, students must have access to all the hardware and reference materials required to complete a course. In the second, students must be counselled wisely, so that they do not register for courses they cannot manage.

As Lugg noted in the Australian case study, communication between student and teacher is very important and a key to the success of open schooling. The teacher's feedback to both tests and assignments, as well as replies to queries, must be timely and informative. If student-teacher communication depends on unreliable technology or inefficient systems, such as poor postal services, then the open school is unlikely to fulfil its mandate. Perhaps it is for this reason that many of the successful open schooling programmes in developing countries, including those in the case studies from Zambia and Indonesia, depend so heavily on face-to-face classes that include students and a teacher or facilitator. The administrators in these situations realise that it is important for students to communicate with teachers or facilitators, albeit for a shorter period of time than in conventional schools.

Most of the case studies, regardless of their national origin, indicated that student support services were paramount to the success of the open school programme. The New Zealand case study, for instance, indicated that the open school "places a lot of emphasis and devotes considerable resources to student support in order to overcome the disadvantages of distance and isolation". It went on to explain the varying levels of student support provided, depending on the type of student (full-time, part-time, and so on) it is serving. Clearly, over the many years that the New Zealand Correspondence School has operated, student support has been critical to its success.

## **POTENTIAL BENEFITS**

Although well articulated in many of the case studies, it may be worthwhile to highlight some of the advantages of open schooling. It uses alternative methodologies to traditional teaching modalities to provide education and training, and usually involves some type of distance education insofar as the students do not spend the same amount of time at school or in the presence of a teacher. In other words, the students and their teachers are separated by time or space, or both, at least for a large part of the instructional period, fulfilling the common definition of "distance education". As a result, open schooling, in most cases, provides the same benefits to students as does distance education. Distance education is often described as being "student driven" as opposed to "institution driven" as it provides greater flexibility and openness for students. They can decide when they wish to study, what courses they wish to take, how long they spend studying, and so on. The New Zealand case study, for example, listed the various types of "openness" that the Correspondence School provides, and described the specific ways in which these are accomplished. To a greater or lesser extent, depending upon the rules and regulations of the institution, all open schools provide some degree of this desirable flexibility.

Because of this inherent flexibility, open schooling can greatly increase the access to educational opportunities for all segments of the population. Through the use of distance education techniques and methodologies, economies of scale arguments are validated, and great steps forward can be made in the provision of basic education to hard-to-reach and disadvantaged groups in all countries. For example, a number of factors have been identified as potential obstacles to the acquisition of education and training by women and girls in developing countries, including inflexible school schedules, lost opportunity costs, and safe travel considerations. The effective use of distance education can help

overcome these obstacles, and assist in increasing access to education in a feasible manner that is congruent with their lifestyles.

Often when we speak of “schooling” we assume that the target audience is children and youths. However, as the Scottish case study demonstrated, open schooling can be targeted primarily at adults, and in fact offers advantages to adult students, such as anonymity, that conventional schooling cannot offer. Similarly, in other countries, including New Zealand and India, although the main audience may be children and youths, a significant number of the students are adults, with women comprising a very large proportion.

## **CHALLENGES**

Open schooling, like any other new and innovative approach to education, will face challenges as its many benefits become apparent to educators throughout the world. To avoid criticism that the education provided is “second-rate” compared to that received through conventional methods, it is important that those initiating open schooling be aware of potential hurdles and be well prepared to overcome them.

As with any other successful educational system, funding must be in place before open schooling can succeed. As the New Zealand case study demonstrated, although open schools are less expensive than conventional schools, primarily because no physical facilities such as playing fields, gymnasiums, or classrooms are required, open schools are still not inexpensive, and should not be considered a “cheap alternative”. If this assumption is made, the education that results may well be “second rate,” and the resulting criticism justified.

Other pitfalls, in addition to inadequate funding, can be circumvented with adequate preparation. Students may, for example, have difficulty adjusting to a method of education in which a teacher is not present. As indicated in the Indonesian case study, one remedy is to ensure that the introductory learning materials are very easy to understand and to follow. The student is then led gently into the learning situation where a teacher is not always present, and the learning materials provide him or her with the necessary assurances and comfort.

Similarly, the materials must be pedagogically sound, and straightforward and easy to use. Feedback to student queries must be timely, and assignments and tests returned promptly, with comments of professional quality attached. In order for this to take place, a reliable and robust infrastructure and communications network is assumed to be in place and accessible to everyone involved. (The communications network does not have to be a sophisticated electronic network, but should be a workable system that allows two-way communication, although not necessarily in real-time.)

Although a teacher may not be present, or may be available only at limited times, a facilitator or some other adult may have a role to play and, as mentioned earlier, these personnel must be well trained. The lack of adequately oriented and prepared personnel is one of the most common frustrations and success-inhibitors that students in an open school system encounter. Students, too, must receive a satisfactory introduction to the open school before they can understand their increased responsibilities in this type of learning environment.

Finally, learning centres should be adequately furnished and equipped. They should provide an atmosphere that is conducive to student study and be available for student

use at variable hours in order to provide the flexibility many students registered in an open school system require.

## **POTENTIAL COSTS**

It is clear that in all countries, the proportion of the government's budget allocated for education and training is not likely to increase. In fact, in many countries the education budget has been slashed drastically in an attempt to control deficits. As a result, politicians and educators alike are searching for new alternatives to provide education economically without sacrificing the quality of instruction. As was well explained in the New Zealand case study, open schooling provides an alternative that is demonstrably less expensive, at least in that specific context, and is worth investigating as a system that could be replicated in other countries.

A number of costs are involved in setting up open schools. One of the main areas of expenditure, as we noted earlier, is the development of learning materials. Clearly, though, this is also an excellent area for co-operation and collaboration. Once an arithmetic course is developed at the third-year level of schooling, for example, can it not be used in almost any location? Will the content vary from one province or state to another, or from one country to another, or even from one region to another? We have all heard the arguments related to the "not made here" syndrome, but is there enough cultural content in an arithmetic course to really make it imperative that the course be developed locally?

Even if the curriculum content is culturally dependent, such as one might find in an environmental science course, a course in the same topic developed in a different region can be used effectively as a paradigm for a course to be created locally. Once the course structure is determined and the methodology established to meet the learning objectives, adapting the course to local conditions can be a fairly straightforward process.

A second area of high potential costs is that of training the personnel involved. However, as stated earlier, many courses already exist in distance education format that will meet these training requirements, both in the area of tutoring in an open school system, and in the area of communication technologies. Similarly, courses exist in how to create and develop learning materials, how to adapt already-existing materials, and how to use the appropriate technologies, including desktop publishing facilities, to produce professional documents. Although providing this training by conventional means may have a prohibitively high price tag, using distance education courses would likely prove to be an efficient and cost-effective alternative to achieve the same results.

## **LESSONS LEARNED**

What lessons about open schools can be learned from the case studies in this collection? Some general themes have emerged from the case studies that educators should be aware of before initiating an open school.

First, there is no doubt that communication between the learner and the teacher or facilitator is critical. Communication may occur in different forms — one-way communication such as through radio broadcasts, audiotapes and videotapes, and television; interactive real-time communication through scheduled face-to-face meetings, teleconferencing tutorials, or telephone contact; and two-way but not real-time



communication through written assignments and comments or computer messaging. Regardless of what form the communication takes (and some would argue that the more channels for communication used, the more effective the education), it is critical that it does take place, and that learners receive feedback to their questions and assignments in a professional and timely manner.

Second, training for students and staff alike is very important. The students and their parents must know what to expect — that open schooling is different from conventional schooling, and that students (or possibly their parents) will bear more responsibility to undertake the learning activities than is required in a conventional school. Adequate orientation sessions must be provided to all involved.

Further, a “good” classroom teacher is not necessarily a “good” open school tutor. The specific skills required must be taught. For example, a tutor must learn how to communicate through written comments using constructive criticism but without discouraging a student as these are often the only communication between a student and his or her tutor.

On the other hand, sometimes a new, and possibly innovative method of communicating is used and the tutor must also know how to use this new technology effectively. These skills are often not generally required by a classroom teacher, and a tutor would have no role model from previous teaching or learning experiences; therefore, again, appropriate training is essential.

A “good” classroom teacher is not necessarily a “good” course writer, either. Special skills must be taught to communicate the learning experiences to the student other than by personal contact, through the use of media such as print materials, audiotapes, and videotapes. Often a team approach to course writing is necessary, and the subject expert must learn to work with others to develop the concepts to be taught. This experience may be somewhat threatening for teachers who are accustomed to autonomy in the classroom, and to doing things “their way” without taking direction from instructional designers and media experts. Again, training is not an option; it is a requirement.

The third lesson learned concerns the course materials. The education received, it was noted in the case studies, is only as good as the learning materials. In a sense, at least in some open schools, the learning materials “replace” the teacher. In programmed learning, for example, the materials determine whether the student has mastered the concept and is ready to move on and a similar approach is taken with some computer-assisted instruction. When a student is confused, the only recourse may be to turn back to the learning materials, or to wait until he or she can contact a tutor by mail or through other means. Good learning materials, therefore, are essential, and supplementary materials are important.

Although it is expensive to create and produce well-designed learning materials, it is an excellent area for possible collaboration. Once exemplar materials have been created, they can be made available world-wide, to be used “as is” or modified to reflect cultural differences. The possibilities for co-operative projects are endless and could involve the more developed countries lending a hand to their lesser developed neighbours. If learning materials are created for use locally, the developmental costs have been met, and providing master copies for use in poorer countries that may not have the funds required for the development process is not an expensive proposition. With the advent of desktop publishing for virtually all computer users, adapting and modifying materials to produce quality localised versions are tasks that most support personnel could carry out easily.

The fourth lesson is that, as with many other innovative educational methods designed to teach basic education, adequate funding must be in place. Training for staff, developing or adapting pedagogically sound learning materials, establishing communication channels, providing adequate student support services, and so on, all depend on sufficient financing and are critical to the success of the open school. This leads us back to the original question — why open schooling? — while the answer almost universally reflects the amount of support provided. Governments must come to realise that an initial investment in ways designed to strengthen open schooling, including training, developing courses, and establishing infrastructures, can lead to economies of scale and to making the most of limited resources in an effort to provide basic education to all.

## **SUMMARY**

As the Year 2000 approaches, many people in the world still do not have access to free basic education, a right that is clearly stated in the Universal Declaration of Rights, 1948, and that has been reiterated many times in the ensuing years. To realise this right and to help make education universally available, educators must make full use of all strategies and innovative methodologies available. Open schooling is one of these relatively new and innovative methods and, in view of that, The Commonwealth of Learning has chosen to publish this collection of case studies to help bring to the forefront the potential that open schooling offers in the quest for the universalisation of education.

The case studies have clearly demonstrated that open schooling can be a successful alternative to conventional teaching modalities, particularly in its ability to reach disadvantaged segments of the population in a cost-effective manner. By using open learning methods and, in particular, by using distance education courses, economies of scale can be realised, and more students can be reached through less expenditures of limited resources.

Open schooling, the case studies have demonstrated, can increase access to basic education, but “basic education” is not just teaching children and adults how to read and write. To quote from Article I.4 of the World Declaration on Education for All, “Basic education is more than an end in itself. It is the foundation for lifelong learning and human development on which countries may build, systematically, further levels and types of education and training.”

It is important, not only for the recipient individuals, but also for nations themselves, to have access to a basic education so that an improved quality of life can be provided to current and future generations. Using various methods, open schooling can provide opportunities for upgrading, retraining, and acquiring specific skills that would not be readily available to the majority of the population through conventional means.

Furthermore, the case studies have clearly demonstrated that the potential of open schooling has yet to be fully explored and exploited. The possible opportunities suggested offer a wide range of fields for research, and only by carrying out additional studies will we be able to identify the projects that are successful and the “lessons learned”, as well as replicate the successes in other situations. Specifically, we have only scratched the surface on the potential for open schooling to provide lifelong learning opportunities to assist adults to acquire and maintain marketable skills. Similarly, research on multi-channel learning and its impact on increasing access to education,

particularly for disadvantaged segments of the population such as women and girls, is another fertile area for potential study.

Finally, if one lesson is to be learned through reading these case studies, it is that only by exploring all options available to us, including open schooling, can we hope to achieve equality in the provision of educational opportunities and to truly democratise the educational system.

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