

# Winds of Change and Paradigm Shifts: Correspondence, Distance and Open Learning

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**INTRODUCTION** Hardly a month goes by without someone writing an article in the international media, such as the *Times Higher Education Supplement* or *Campus Review*, about information technology and open learning or how the character of tertiary teaching is changing. Articles are usually written under the headings of distance, flexible or open learning. For example, Taylor, Lopez and Quadrelli (1996) recognise the great uncertainty surrounding the use of terms in this debate. Daniel (1996), discusses the essentials of distance education from the perspective of the Open University of the United Kingdom. He refers to the Pauline letters of the New Testament as an early form of correspondence education. The idea of correspondence education as a basis for a new way of thinking about education also forms the basis for Postle and Higgins's (1992,1994) work in this area.

## THE SCHOOL/UNIVERSITY

Developing an understanding of the debate about flexible and open learning is important in the context of change in education generally and particularly in higher education because it is a matter of paradigms. The classic paradigm of service delivery in education requires that a number of students of similar ages or interests be brought together in one place under the pedagogical supervision of a knowledgeable person, the teacher. This school, campus and classroom model remains strong and ubiquitous today. At its heart is a belief that learning occurs almost exclusively under

these conditions. There are hundreds of thousands of schools and universities around the world relying on this paradigm. The underlying assumptions are:

- students have similar needs and should progress in learning at similar rates;
- teachers control the pace of learning through a developmental curriculum;
- buildings, books and other resources are most efficiently located at the place where the teachers work.

When administrators faced the prospect of creating school systems in countries "colonised" by western nations (North America, Australia, Canada, New Zealand, for example) they adopted the only paradigm available to them. Governments allocated funds for school buildings, trained and hired teachers and made laws to ensure young children attended school. In this way, they thought education could proceed in an orderly, cost efficient and effective manner. For example, the Education Acts of 1870 (Queensland) and 1877 (New Zealand) introduced "free, secular and compulsory" education.

This paradigm did not account for the remote and the isolated students who existed in insufficient numbers to gather together to form even a small school. Nor could teachers be hired economically to work in these small and remote places. Randall Macdonnell, an inspector of schools, wrote in the Report to the

Board of General Education Queensland, 1869:

There are cases where the settlers are too few, too far apart or too recently established in their new homes to be able to comply with the Regulation in regard to average attendance (at school) or the contribution to the cost of the school building. In such 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 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 the quota of funding a permanent vested school (p. 8).

Teaching in the school was therefore synchronous in time, dependent on place and governed in pace by the teacher. Similar circumstances existed in the remote parts of New Zealand.

**CORRESPONDENCE** The education systems designed for students even more remote than these followed a different model. Daniel (1996) alluded to correspondence as a mode of instruction in the early Christian church. The London Corresponding Society provided a model closer in time to colonial administrators. Founded in the 1790's, the Society used the early mail system to spread knowledge about philosophical models emerging from the writings of Tom Paine. However, despite the existence of the correspondence alternative, colonial administrators in Australia and New Zealand attempted to construct a system of itinerant teachers to visit the remote families. (See Higgins (1981), for a history of the change from itinerant teaching to modern technologies.)

The itinerant system failed for a number of reasons, not least of which was its inefficiency. The teachers took too long to travel the great

distances between remote stations. Consequently, students saw teachers only once or twice a year. The Queensland Government sought other models for delivering education. A.H. Barlow, the Queensland Minister for Public Instruction (Queensland Parliamentary Papers, 1922) described a newly established 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 when finished are returned to the school for correction, comments and further advice. The marked 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 corrections... 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.

The Correspondence system might be described as a print based asynchronous education model. It is the base from which open and flexible learning began. Students study in their own time, in their own place and generally, within curriculum constraints,

at their own pace. Similarly in New Zealand, the Correspondence School commenced operation in 1922 serving children in isolated areas (Dakin, 1973).

**DISTANCE EDUCATION** The Correspondence model prevailed as a non-traditional delivery modes in Australia and New Zealand despite two significant technological innovations in communications. These were the introduction of broadcast radio and television. Radio broadcasters did not involve themselves directly in the education of children or adults. Instead this medium provided programmes of an educative nature and also added a measure of cultural cohesion to the nation. Likewise, television broadcasts did not engage directly in teaching until the late 1980s.

In 1964, Schools of the Air commenced work at Royal Flying Doctor Service bases (RFDS) in Queensland. Teachers employed by the Department of Education taught classes of similar aged children who took correspondence lessons via High Frequency (HF) radio. The transceivers operated from the RFDS bases and used similar frequencies. Radio lessons did not usually relate directly to the correspondence lessons because children did not progress at the same rate, or necessarily, at the same time. Instead, the HF radio medium functioned as a place where students could hear each other in lessons and where teachers could assess student progress. Notably, the Schools of the Air operated in major towns to which parents travelled more frequently than they did to distant Brisbane, the site of the Correspondence School. Closer location encouraged building relationships between the students and teachers in Schools of the Air. The central location of the Correspondence School of New Zealand in Wellington paralleled the Brisbane location.

In Queensland, students of the Correspondence School tended to be children of the owners and managers of the large remote stations and properties. Few Aboriginal children attended the Correspondence School.

The children of rural workers mostly attended small primary schools in towns where they lived. Young and inexperienced teachers staffed these schools but there was little or no cross-over between the correspondence materials and the schools, even though both used the same curriculum.

The Correspondence model underwent further change with the establishment of the Secondary Correspondence School. This institution catered for a more diverse range of students than the Primary Correspondence School (Wallace, 1989) and included:

- distance (remote) students (including many adult students taking secondary subjects);
- overseas students;
- travelling families;
- students in hospitals under medical supervision;
- approved students (often people in prisons);
- students whose parents had permission to teach (or have them taught) at home.

By the 1970s, the New Zealand Correspondence School had adopted a similar delivery pattern (Tate, 1994). It catered for primary aged students and both full and part-time secondary aged students who attended small rural high schools. It also used radio broadcasts, and the telephone as well as the mail system for communications (Dakin, 1973).

While the Queensland Primary School Correspondence model remained very much unchanged in its approach to service delivery from the 1920s until the advent of the HF radio, the Secondary Correspondence system substantially expanded the student base on which it operated. Two and a half thousand adults made up more than half the enrolment by 1988. Combined enrolments of the Primary and Secondary Correspondence schools exceeded 5000 students by the late 1980s.

The HF radio lessons were synchronous for

students. Otherwise, the flexibility of time, place and pace continued to operate and students succeeded in learning outside the standard paradigm for educational delivery. An industrial model characterised the production of largely print based learning materials aimed at both primary and secondary correspondence students. Technology, except for the HF system, played little part in service delivery. The Secondary Correspondence School demonstrated that a more flexible method succeeded for a wide and diverse audience. This fundamentally changed the correspondence model into a distance learning model and paved the way for the open learning model of educational service delivery in the large school sector.

**OPEN/FLEXIBLE LEARNING** There were several trials being conducted on educational delivery in Queensland in the mid to late 1980s. A satellite-based system demonstrated that with the establishment of a television studio and a full time production staff, it was possible to conduct synchronous, live interactive teaching over long distances with remote rural students, just as in a classroom. The cost of the trial, including the building of a studio was high, in the millions of dollars. The greatest concern lay with the very high and unsustainable communications costs for the small number of families involved. This trial proved that communications technology could be used to simulate a classroom teaching situation. Whether or not this was an effective teaching model was another question.

The Queensland Education Department's Technology Support Unit began a small trial of emerging email technologies in 1987, using the Rural Secondary School Support Scheme as its teaching base (Wallace, 1989). The trial showed email could be used only for text, whereas most students needed to send drawing and diagrams as well as text. The trial's outcome led instead to the use of facsimile machines and telephones for interactive teaching on a large scale across 14 schools and almost 200 students. This system

worked because students, while working under supervision at schools, could proceed at their own pace using print materials, and were also able to discuss issues with teachers and other students on the telephone and use the fax to transmit essays. Teachers used the telephone to clarify misunderstandings and the fax to give instant feedback to students on their work.

Apart from quick feedback between teacher and student, one significant educational benefit arising from this way of teaching involved negotiating the "papers". Normal correspondence school practice assumed the papers (printed instructional materials) were inviolable. Teachers and students progressed through the learning materials in the order presented. Neither party contested the content because it had been drawn from the approved syllabus. When teachers and students spoke directly to one another about the "papers", both parties recognised that changes could be made to the content and approach without risking the students' learning. Teaching and learning became more personalised.

The next major change in the distance model arose when the Education Department examined the Primary Correspondence School "papers" and discovered that many of them had not been seriously revised since the mid-1960s. This review originated from the *Report of the Ministerial Advisory Committee on Distance Education* (1986). The revision involved establishing teams of teachers to write and renew learning materials for primary aged children. The model for revision grew out of the commercial publishing approach adopted by the teachers rewriting the secondary correspondence materials. Each learning package consisted of:

- print materials
- audio tapes
- video tapes
- activity books
- assignment books
- a range of commercial resources.

All these were supplemented by activity days and mini camps.

Each package had to be capable of delivery to the newly established Schools of Distance Education, located in rural towns in remote areas. Previously, the "papers" were delivered to the families of students at home. The idea behind the change arose from a restructure of the Schools of the Air.

A contemporaneous review of the Schools of the Air concluded that teaching work with children on air bore little relationship to content and sequence of the "papers". The resultant restructure created the Schools of Distance Education in regions and made teachers in those schools responsible for direct teaching of children in the catchment area for the school. The Primary Correspondence School retained responsibility only for children in the south-east corner of the State but the Secondary Correspondence School retained its wider role because of its more specialised teaching.

The Education Department recognised the high cost of redeveloping the learning packages for correspondence students. These packages became available to teachers in small schools throughout the State on request to assist them with teaching multi grade classrooms. This decision was made to justify the high front end development costs. Simultaneously, the learning materials prepared for secondary school students became available to any State or Non-State school that needed materials to teach a subject. As a result, the distance education model now extended to any school in the State. For a review of these developments see Chick in *Distance Education Materials and Their Use*, a Queensland Government Report of November 1996. However, this action was not universally acclaimed and drew complaints from some parents of isolated students who believed that "papers" should only be for isolated students.

These developments demonstrated that any subject can be taught in any school either asynchronously or synchronously using face to face teaching, HF radio, telephones, email, fax machines, the print and mail system or any combination of the above. Students attend schools and can study subjects whether or not they are part of the school's curriculum. Students also study away from school at any age level from preschool to senior secondary and progress at a rate suited to themselves, but within curriculum or assessment guidelines.

By combining the correspondence method of teaching with the strategies of distance education and applying both to the whole school population (about 450,000 students), the Education Department, perhaps inadvertently, created the elements of an open or flexible learning approach to teaching and learning for its students.

**IMPLICATIONS** The standard paradigm of educational service delivery still stands. Those who believe that it is the only successful way of teaching and learning must answer the challenge presented to them by the flexible model. The Queensland experience and the teaching and learning activities of institutions like the Open University in the United Kingdom, Massey University in New Zealand and the Indira Gandhi University in India, show that students also learn successfully when they are not sitting in one place in front of a teacher at an institution at the same time.

While some might argue against this method of teaching, they overlook the origins of this approach, correspondence education, where students have learned successfully for over one hundred years in remote parts of Australia and New Zealand, sometimes with little parental help.

Thomas Kuhn (1970) in *The Structure of Scientific Revolutions* points out that there are paradigms within which discourse can occur and that paradigms have status prior to shared rules and assumptions. He writes of

fundamental novelties of fact and theory.

Produced inadvertently by a game played under one set of rules, their assimilation requires the elaboration of another set... Discovery commences with the awareness of an anomaly i.e. with the recognition that nature has somehow violated the paradigm induced expectations that govern normal science. It then continues with a more or less extended exploration of the area of anomaly and it closes only when the paradigm theory has been adjusted so that the anomalous has become the expected. (pp. 52-3).

So it is with teaching and learning. While some might argue that "good" education supposedly only occurs when people of similar ages and interests (students) are brought together in one place (a school or

campus) for the purposes of instruction by a knowledgeable adult (a teacher), students have continued to learn successfully in the absence of others, away from a school and without direct contact with a teacher as models of distance education and open learning have shown.

Open or flexible learning is a direct challenge to the paradigm of education as service delivery in the face-to-face mode where teaching and learning takes place. If learning materials and teaching strategies can be produced, as they now are, and delivered to students of almost any age wherever they might be located, either singly or in groups and without a teacher present and achieve good learning outcomes, then the dominant paradigm is capable of being challenged.

Is this paradigm shift a theoretical construct or are there sufficient instances involving large

**Table 1. Distance Teaching Mega Universities**

NAME	STUDENTS IN DEGREE PROGRAMS	ANNUAL INTAKE
China TV University (1)	530,000	77,000
Centre National d'Enseignement a Distance (1)	184,614	184,614
Indira Gandhi National University (2)	242,000	91,000
Universitas Terbuka(2)	353,000	110,000
Payame Noor University (3)	117,000	34,950
Korea National Open University (2)	210,578	100,000
University of South Africa (2)	130,000	60,000
Universidad Nacional de Education a Distancia (2)	110,000	31,000
Sukothai Thammathirat Open University (2)	216,800	103,130
Anadolu University (2)	577,804	106,785
United Kingdom Open University (2)	157,450	50,000
<b>TOTAL</b>	<b>2,829,246</b>	<b>948,479</b>

**NOTES**

(1) 1994 figures

(2) 1995 figures

(3) 1996 figures

(source: Daniel, 1996).

enough numbers of students to indicate the shift is real and possible? Daniel (1996) lists a number of mega universities where distance teaching is the primary activity. See Table 1.

It would appear that, although enrolments of almost three million students in tertiary distance education with an annual enrolment uptake of almost one million is not large in terms of all students enrolled in schools around the world, there are enough to suggest that distance and open or flexible learning are realistic alternatives to the standard learning paradigm in the tertiary and schooling sectors.

Flexible learning, through various delivery methods, has the potential to allow learning to occur more effectively by:

- increasing opportunities for larger numbers of students to have access to and participate in education;
- providing learners with a greater number of choices of programmes and teaching methods;
- removing barriers to learning;
- improving the effectiveness and productivity of learning.

Being a student centred approach, this method of learning gives students the flexibility to largely choose what, when, where and how they want to learn. It uses a range of delivery methods (self-paced, resource based, technology enhanced) and delivery venues (campus, school, workplace, home) which can be combined in different ways to meet the needs of learners. This represents the possibility of a significant paradigm shift.

It will be interesting to see how education providers at all levels and in many countries meet the challenge of incorporating open and flexible learning into their educational services and how this will change the standard paradigm of education.

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