TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING BY DISTANCE

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Convened by The Commonwealth of Learning

Part II: Keynote Papers

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SHARING TECHNICAL AND VOCATIONAL DISTANCE EDUCATION RESOURCES

by Jack Foks

1. GENERAL

1.1 Introduction

This presentation uses as its starting point my paper titled "Developments in Distance Education" (Foks, 1990). A summary of that paper will be provided, followed by consideration of the following:

- the meaning of "technical & vocational education";
- developments and issues associated with technical and vocational education;
- the meaning of "distance education";
- the relevance of distance education to technical and vocational education;
- open learning;
- empires.

1.2 Summary of Foks Paper

Education and training in all countries can no longer rely on traditional methods alone to meet the needs and demands of students, industry and governments. Indeed, the changing expectations of individual and corporate clients require a complete overhaul of public education and training.

Distance education is well placed to support responses to these challenges. At its best, it has developed many sophisticated strategies, systems and resources which reflect the client-oriented, flexible approaches that are needed. It would, however, be a mistake to concentrate exclusively on distance education or any other specific "mode" of learning. It is increasingly accepted that learning strategies and modes are merging in open learning systems which are concerned with meaningful choice rather than artificial distinctions between modes.
But countries with limited funds, infrastructures and expertise, are not well placed to establish the systems and resources required to support alternative learning strategies. They need assistance from those countries and institutions with established education/training systems and resources.

So, cooperation and collaboration are needed. But they must be practically oriented and must overcome:

- lack of resources;
- the "not developed here" syndrome;
- the "aid versus trade" debate;
- differences of language and culture.

And identified lead institutions must provide focuses, leadership and support for this cooperation.

2. TECHNICAL AND VOCATIONAL EDUCATION

2.1 A Working Definition

It is not clear what the distinction between "technical" and "vocational" education is. There may be none, but I will provide working definitions which, if they do nothing else, demonstrate my semantic dexterity.

So, for the purposes of this paper, technical education is defined as:

*development of skills and knowledge to be applied in practical situations.*

Vocational education is defined as:

*demonstrated and acknowledged development of knowledge, skills and attitudes necessary for a place in the workforce, at levels ranging from pre-trade to para-professional.*

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1I would not want it said that I am anti-semantic.
2.2 **Trends in Technical and Vocational Education**

In recent times expectations of technical and vocational education have changed.

**Technical & Vocational Education**

<table>
<thead>
<tr>
<th>TRADITIONAL</th>
<th>NEW</th>
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<tr>
<td>o assumed school leaver with basic schooling</td>
<td>o assumes wide range of entry skills, ages, etc.</td>
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<tr>
<td>o specific job orientation</td>
<td>o multi-skilling, transferable skills</td>
</tr>
<tr>
<td>o long, formal courses</td>
<td>o as long or as short as necessary</td>
</tr>
<tr>
<td>o prescribed content and sequence</td>
<td>o modularised; different packages to meet different needs</td>
</tr>
<tr>
<td>o industry-wide approach</td>
<td>o enterprise based approach (is this at odds with the notion of transferable skills?)</td>
</tr>
<tr>
<td>o separation between theoretical and practical learning</td>
<td>o merging of theoretical and practical learning</td>
</tr>
<tr>
<td>o separation between on and off the job training</td>
<td>o complementary on and off the job training; increasing proportion of on the job training</td>
</tr>
<tr>
<td>o traditional delivery methods - face to face the norm with distance education used for theory</td>
<td>o more merging of delivery strategies, more use of new methods, and more practical training at a distance</td>
</tr>
<tr>
<td>o campus based, exam based assessment</td>
<td>o assessment of skills demonstrated in various contexts</td>
</tr>
<tr>
<td>o time serving approach to learning</td>
<td>o progress based on credit for demonstrated competencies, prior learning and experience</td>
</tr>
<tr>
<td>o education and training provided by qualified educators</td>
<td>o increasing use of amateur trainers, e.g., on the job trainers</td>
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2.3 **Implications of Changes in Technical & Vocational Education**

The trends listed above are part of vocational and technical education's specific responses to the changing needs and demands of clients\(^2\). And they represent the same moves towards open learning which my original paper ascribed to education generally.

For the moves to be effective, a particular balance, between considered planning and responsiveness, needs to be achieved. On the one hand, there must be a systematic (and systemic) identification of:

\(^2\)both individual clients (students) and corporate clients (industry, government, community groups etc.).
Sharing Technical and Vocational Distance Education Resources

- corporate and individual clients, and their expectations and agendas;
- cultural attitudes towards training;
- the industrial relations context of different training programs;
- the accreditation and licensing context of different training programs.

On the other hand, responses to different needs must be flexible, timely and relevant.

Three issues are highlighted by all of this.

Firstly, the organisations and countries with inadequate or no support infrastructures will not be able to provide the choices needed for an open approach.

Secondly, and on the other hand, well established infrastructures which are over-bureaucratised and excessively rigid will also prevent successful open learning.

And finally, organisations and countries will need to help each other to change. This will involve all the aspects of cooperation and collaboration to which I referred in my earlier paper, with one additional consideration which was brought home to me at the Hong Kong conference. We must enter collaborative arrangements as partners and should not assume that the assistance will all be one way.

3. DISTANCE EDUCATION

Many careers have been made by writing learned papers on the definition of distance education. The authors of these papers could take issue with a working definition as simple as the one to be used here, but I will have to live with that prospect:

\[ \text{distance education occurs when interacting learner and teacher are separated by time and/or space.} \]

If we are concerned with meaningfully implementing the general and specific moves toward open learning which have been identified in sections 1.2, 2.2 and 2.3 above, distance education can play a significant role. Its strengths are that:

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3human, procedural and technological (especially telecommunications).
4for example, I was invited to the Hong Kong conference as an expert from an expert institution who would enlighten and help his less fortunate colleagues from the Third World. In fact, whilst I was okay on the theory and show business side of things, I ended up receiving assistance and insights (including the provision of a specific course) from those I had come to help.
5for a longer tirade refer to Foks, J.G.H., "Distance education - a developing concept", Developing Distance Education - Papers submitted to the 14th World Conference in Oslo, ed. D. Sewart & J. Daniel, (International Council for Distance Education, Oslo 1988), Page 37.
it has a tradition of client orientation;
- it has a tradition of adult education;
- at its best it takes the form of sophisticated, resource based learning with considerable potential\(^6\) for flexibility;
- it uses sophisticated student support systems which are appropriate to new, competency-based training trends;
- its exponents are often (sometimes?) leaders in the educational applications of technology;
- it has developed innovative ways of performing practical work at a distance;
- it usually involves assessment at a distance;
- its programs and resources are easily modularised and repackaged to meet different needs.

In order to make the best use of these strengths, it is important to overcome two attitudes.

Firstly, there is the inclination - by distance educators and face to face educators alike - to identify distance education as a discrete mode. This invariably leads to the unnecessary denial of useful non distance education options to its students\(^7\). The traditions of distance education should be just part of a pool from which to select the most appropriate strategies.

Secondly, distance education has the quite undeserved reputation as a second or third best option which is not capable of providing motivation, interaction or just effective education. This attitude is usually based on arguments not outstanding for their logic:

- the best education is that which coincides with the teacher's own learning experiences;
- poor results in distance education reflect the inherent weakness of an ineffective learning mode.
- poor results in face to face teaching reflect poor implementation of an effective learning mode;
- learning at a distance is difficult;
- the only meaningful interaction is face to face interaction;
- technology in education is dehumanising;
- and so on.

\(^6\)the realisation depends, alas, on human nature.
\(^7\)and, conversely, of distance education options to face to face students.
The fact of the matter is that the success or failure of learning programs depends on how learning strategies and associated courseware interact with many different factors including, amongst others:

- the educational objectives of the learning program;
- the skills, attitudes and personal situations of the learner;
- the skills, attitudes and personal situations of the teacher;
- the resources available to the learner;
- the resources available to the teacher;
- the needs, demand and influence of corporate clients such as industry, government and community groups.

There will be times when these and other factors are such that distance education strategies are most appropriate, times when they are not, and other times when a mixture of distance education and other strategies is best. In fact, as I have already argued in my earlier paper, there is usually some mixture of strategies involved in most learning situations - whether it is acknowledged or not.

In other words, the relevance, quality and effectiveness of learning strategies and courseware do not depend upon the labels attached to them and the prejudices associated with those labels. Instead they reflect the skills, understanding and judgement of the persons who select, design, develop and deliver them.

4. OPEN LEARNING

4.1 General

Section 1.2 above summarises one of many papers which have recently argued for open learning to be incorporated in the mainstream of education and training.

As was to be expected, considerable energy has been spent on defining open learning. This paper will not add to these efforts, both in the interests of energy efficiency and on the assumption that readers have an understanding of the broad spirit and client-oriented nature of open learning.

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8Learning resources, in any medium or combinations of media, specifically developed and/or selected to support identified learning objectives.
9Or "flexible learning" as some now call it. Indeed one wonders at the need to call it anything at all, when what we are considering is just good education.
4.2 Open Learning and Distance Education

A re-occurring theme of discourses on open learning is that it is increasingly inappropriate to make traditional distinctions between campus-based and distance education modes\(^{10}\).

This is true. However, it does not deny the lead role in moves towards more open approaches that has often been played by, or expected from, distance education personnel, institutions and systems. Of course distance education does not always deserve its reputation for openness and one can point to examples of very closed distance education programs and institutions. Nonetheless, the strengths of distance education identified in section 3 above mean that, at its best, it has much to offer; certainly politicians and bureaucrats often look to their distance educators to lead in the establishment of open learning.

4.3 The Need for Infrastructures

A major aspect of open learning is that it involves making intelligent choices\(^{11}\) from a range of useful options\(^{12}\). It follows that open learning will be impeded if options are not available.

The availability of options depends, in turn, on having appropriate infrastructures in place. Infrastructures are concerned with the systemic and systematic availability of:

- the knowledge, skills and talents of human resources;
- the means of physical communication, such as the postal system or smoke signals;
- the means of telematic communication (i.e., telecommunications) such as telephone lines, fibre optic cable networks and satellites;
- technical equipment and systems associated with a wide range of technologies\(^{13}\);
- courseware in a wide range of forms\(^{14}\) and provided through a wide range of media\(^{15}\).

\(^{10}\)as strategies and resources from each mode are mixed and matched so as best to meet the needs of Clients.

\(^{11}\)both by users and providers of learning.

\(^{12}\)in content, strategies, resources and support systems.

\(^{13}\)technology is the application of science through the use of tools. The tools may be "low-tech" (e.g., pencils) or "hi-tech" (e.g., computers); "old" (e.g., print) or "new" (e.g., interactive video disc).

\(^{14}\)text, graphics, audio, still video, moving video, or combinations of two or more of these;

\(^{15}\)on screen, through an audio device, on paper, or in combinations of two or more of these.
information on all of the above and on the means of access to them. This is vital and it is just not good enough if the information is out of date, inaccessible or user-hostile (as distinct from user-friendly).

4.4 How Should We Approach Infrastructures?

Infrastructures need investment and an acceptance of the fact that returns on the investment will only be realised over time.

There is always the danger that infrastructures will be put in place and that:

- no action will follow. Their installation must be combined with practical projects;
- they will not be maintained due to lack of interest, funds and/or expertise;
- they will establish their own rigidities, especially if they become the basis of new empires or additions to existing empires.

If The Commonwealth of Learning (COL) is to become involved in supporting infrastructures, care should be taken to minimise all of these risks, in particular the last one.

5. EMPIRES

Distance educators have worked hard to establish respectability for their mode. Jevons' "parity of esteem"\(^{16}\) is an important concept in an educational world based on conservative assumptions on the supremacy of campus-based, face to face teaching. Unfortunately this has reinforced the artificial distinctions between on-campus and off-campus empires.

Now add to this the power of the COL which could easily become associated with a comfortable little club of distance educators from Commonwealth countries. It is important that, in its efforts to support those in need of useful and relevant technical and vocational programs and infrastructures, the COL allow for the interdependence of:

- distance education and other learning strategies;
- Commonwealth and other countries.

Sorry, but that means no new and gratifying empire. But it does mean new and better technical and vocational education.

\(^{16}\)See Jevons, F., "Distance Education and Campus-based Education: Parity of Esteem", Distance Education and the Mainstream, edited by P. Smith & M. Kelly (Croom Helm 1987).
6. SUMMING UP

Technical and vocational education is changing in response to changing needs and demands. But it is not changing uniformly because of different starting points and different clients with different needs and different demands.

To deal with this, technical and vocational education must be capable of different and flexible responses. Distance education can be an important part of those responses if it is seen as part of a larger picture involving complex, subtle infrastructures and initiatives. The COL is well placed to encourage and support the sharing of associated expertise and resources between its member nations and, hopefully, between Commonwealth and other countries\textsuperscript{17}. These in turn require the breaking down of traditional empires and their replacement with flexible and cooperative arrangements based on good will between persons, institutions and countries.

In my notes for this presentation, I see that the final reference characterises the hope for cooperation and good will as wishful thinking. I have always had problems resolving the relationship between the idealist and the cynic in my personality. In my notes the cynic appears to have had the last word. But the good will demonstrated at this conference has helped to revive the idealist. And, at the time of writing, there has already been some useful follow up from the conference. So maybe the happy ending will come true after all.

\textsuperscript{17}It was most gratifying to note the attendance and active participation of Muhammed Qureshi from UNESCO and Gordon Scott from the Colombo Plan Staff College at this conference.
DEVELOPMENTS IN VOCATIONAL TRAINING -
THE OPEN COLLEGE IN THE U.K.

by Sheila Innes

In the next 45 minutes I shall attempt to do several things: first to look at developments in the U.K. that led to the setting up of an Open College; second to examine the characteristics and usage of open and flexible learning - both for individuals and for companies - and its potential for meeting massive training needs; thirdly to consider the different methods of delivery and support whether for individual learners or for the corporate sector; and fourthly to examine the use of broadcasting in relation to learner motivation. En route I shall talk about our range of courses and take 2 or 3 examples as illustrations.

As time is short I have prepared a set of information papers that outline the development of The Open Tech (the Open College's predecessor); a short evolutionary history of the Open College, now 3 years old; a definition of "competences" - a word much used in training in Britain, indicating precisely what an individual who works in a given occupational area should be able to do, and a word which has acquired not only respectability but even status over the past 10 years; and finally "Broadcasting" versus "Narrowcasting", a prime concern of all educational broadcasters. All of these I shall refer to, but should have time to talk about one or two specific courses - their aims, components, delivery and support, and their associated qualifications.

But briefly first, what led to the setting up of an Open College in Britain? Why the surge of training activity that has marked the past 10 years? There are many reasons, not least the failure of a previously wholly academic educational system that spelt failure for 60% of the population. The 60% that leave school as soon as is legally possible, have no qualifications, undergo the shortest possible training for an immediate job and that's it. Next the drop in the birthrate during the seventies gave rise to what is often referred to as "the demographic time-bomb". Britain has 25% fewer young people entering the workforce now than was the case 5 years ago, a downturn that will continue into the mid-nineties; the result is an older workforce (8 out of 10 of those working now will still be of working age in the year 2000); the encouragement of women to return to work after a career break to make up the deficiency. An older workforce requires both updating and new skills, given rapid and continuing advances in new technology. Add to these factors the arrival in 1992
of the Single European Market, the opening up of Eastern Europe, and greatly increased competition from the industrialised countries of the Pacific Rim, together with the impressive investment in training by many of our overseas competitors, and the case for training is indisputable. Closer to home, Britain's economic situation requires industry to improve its performance and cut its costs. All this cries out for a flexible, skilled, adaptable workforce and highly trained managers who can manage change rather than just keep up with it. In short, Britain needed a Training Revolution, in order to bring about the necessary cultural shift from the Old Order to the New, which I describe like this.

<table>
<thead>
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<th>OLD ORDER</th>
<th>NEW ORDER</th>
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<tr>
<td>Efficiency culture</td>
<td>Enterprise culture</td>
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<tr>
<td>Product-oriented/systems-driven</td>
<td>Market-oriented/customer-driven</td>
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<tr>
<td>Organisation</td>
<td>Management of change</td>
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<tr>
<td>Authority</td>
<td>Leadership</td>
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<td>Conformity</td>
<td>Initiative</td>
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With so many people needing training, the key to success must be courses that are accessible, flexible and affordable.

It was not surprising, then, that the U.K. Government, through the Training Agency (previously known as the Manpower Services Commission) - the training arm of the Department of Employment - took the lead. Its first major initiative was the Open Tech, set up in 1982 (and explained in my background paper I), which consisted of a series of local training initiatives using flexible, open learning for work-related training; each proposer (many were based in Colleges of Further and Higher Education) made a bid for central funding. This was a locally driven scheme, funded nationally, whereas the Open College is organised nationally and uses local delivery and support. Its courses are exemplars of collaborative partnerships. Building on the achievements of the Open Tech, the Open College's aim is twofold: first to update work skills and develop new ones and secondly to encourage individuals to invest in their own future.

But how do you motivate learners in the first place? Especially individuals who did not succeed at school and who would only be hooked by an experience that was different from school? Broadcasting has a special role as part of an experience which must be neither competitive nor threatening - but rather builds initiative and confidence and leads to success, the most powerful motivator of all.
I'd like to introduce you to the broadcast element of an early Open College course, called **Powerbase**: an introduction to electricity. This is how the television series opened:

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VIDEO Excerpt:  IN CUE:  "It's all around us...
(on VHS pal OUT CUE:  "... not really as difficult as you
(cassette) think." Dur: 5'00'.
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Broadcasting, more particularly television, has an important role to play in reaching very large numbers. For a college proclaiming its accessibility and openness, it was crucial from the outset to create mass awareness of the opportunities for learning, to help individuals realise that success is well within their grasp once they know how to set about learning to learn. One of broadcasting's main strengths is to confer on vocational training authority, high visibility, accessibility, a clear identity and recognised status.

For a whole variety of reasons, partly caused by a shift of policy within the Open College, partly because of the climate of de-regulation in British broadcasting which does not favour highly specialised broadcasting on national, terrestrial channels, (it never really has as my background paper 4 on Broadcasting versus Narrowcasting points out), the Open College's broadcasting has become better targeted and evaluated. It has moved away from a concentration on daytime on Channel 4 to other airtime by means of collaborative projects with both the BBC and ITV, both national and regional, which can deliver either larger audiences, or audiences containing higher proportions of trainers, employers and managers, as well as individuals at home. The College is also rapidly building up a network of local radio stations that add a local dimension to a national offering. Broadcasting remains very important to us. It generated over 5700 direct respondents between November 1989 and January 1990; an astonishing 45% had no intention of taking their education or training further until they saw an Open College programme. Video and audio cassette materials - spin offs from the broadcasts - play a vital role within the high-tech course package which reaches the learner through the post. So **Powerbase** consists of a television series, an illustrated workbook, a demonstration kit, a multimeter, an audio tape, a video tape and tutorial support as an optional extra. The price is just under £100, and the approximate time needed to complete it is about 30 hours.
Research into the characteristics of adult learners with little or no post-school education, points to little confidence, and a corresponding need for strong personal support and counselling. Student support needed to be nationwide and it was decided from the start that support services should build upon what already existed. Colleges of Further Education would have a key role to play, but other education and training providers would also be involved. It was agreed that the development of tutorial services should not be uniform. Some colleges would wish and be able to provide a full range of services; others might only offer one particular service. The network of so-called Open Access Centres grew at a rapid rate. Approximately 100 centres were operating from September 1987 giving nationwide coverage, and by the middle of the second year the number had grown to over 400. The basic idea was that a student would be able to get the address of his/her nearest Open Access Centre either in the printed Guide to the Open College or by telephoning the hotline number. At each Centre it would be possible to obtain information about College courses, learn about The Open College system, find out how much the course materials and tutorial support cost and whether there were grant schemes to help the student. The main Open Access Centres were linked directly to The Open College's Mainframe computer and the system was designed to enable learners to join the College quickly and efficiently by taking along a completed Joining Form. What was needed was a national network which could record student progress and which conformed to high standards. In reality the provision through the Open Access Centres was patchy.

This was because collaboration does not mean control; standards varied; moreover with only an 8-month run-up to launch, the printed materials were not all available at the outset, although the broadcasts had to go ahead. Television created a student demand that in the first four months could not be met. Nor did all Centres offer tuition for all qualifications. At times learners were obliged to try another centre if the one in their immediate locality could not help. This was unsatisfactory so in the early months The Open College drew up a list of requirements which had to be met before any organisation could sign a contract to become an Open Access Centre. Some centres scored highly and others were very poor, with the result that learners who were directed to their local centre were sometimes disappointed and demotivated. After a good deal of feedback and consultation, a different, smaller network of Recommended Centres was established. Criteria for selection were more stringent and included the requirement for staff development leading to accreditation through a new qualification which the Open College was instrumental in developing called the Certificate in Open Learning Delivery (COLD for short), which broke new ground in several ways by defining the competences needed in four main categories of staff:
Developments in Vocational Training - The Open College in the U.K.

- managers of an Open Learning operation
- those concerned with marketing
- administrative and clerical staff
- teaching and guidance staff (my background Paper 3 defines what is meant by 'competences')

Each Recommended Centre was also required to develop a business plan and a marketing strategy and was given sales targets for the year. The geographical spread of the reconstituted Centres now covers some 90% of the United Kingdom. Centres also offer tutorial support and advice by telephone and currently produce the greatest proportion (not value) of our courses revenue at 38%.

The Open College also makes-increasing use of other people's delivery and support networks where appropriate; for example in our Return to Nursing Project we work through College of Nursing and Area Health Authorities already in touch with the target population. The 75 hours of experience in clinical practice are supervised by Colleges of Nursing with the approval of the relevant National Board. In other cases delivery and support take place inside a particular company. To turn to the corporate sector, what can open learning do for industry and commerce?

First it offers a powerful formula for achieving change quickly. Tony Gill, Chairman of Lucas Industries plc says, 'Of course the need for training is not new, but what we can do with open learning is to match the higher rate of change in our business with training programmes which are adequately responsive and flexible. Employees have to perform multi-task operations; they have to respond to frequent changes at work; and they have to be equipped to deal with unfamiliar circumstances. Self-reliance is vital. All these requirements pose a real challenge to training departments, because training has to be provided more and more frequently, with shorter preparation time and very often within existing budgets.'

Is open learning the answer in these conditions? Where there's a large workforce spread over a number of locations, with a high labour turnover and a large number of part-timers, staff working in a context of continuous change, much of it brought about by product diversification and the introduction of new technology, open, flexible learning not only fits a variety of working patterns of staff and caters for a wide range of abilities, it also eliminates travel time (and costs), hotel bills and time spent away from the workplace. Not least open learning packages guarantee consistent standards of training wherever the trainee may be.
The course packages can be inspected by anyone who is interested in using them, so training is 'owned' by everyone in the company. Line managers can become involved as mentors or even as tutors. Most importantly you don't have to wait until you have enough people in order to run a course. Training packages can be used by individuals at a distance, or by groups with a tutor.

An additional advantage of open learning for business and industry is that the learning packages are well researched and piloted with target groups, reactions fed back and the packages appropriately amended before publication to make sure that the course materials both deliver specified results and support corporate objectives.

Growing company requirements led the Open College to develop a range of new services to meet them. Our Consultancy Services constitute an area of the business which has grown by 50% in the past six months. Each organisation is different and the Consultancy Services on offer must be designed to help each to decide:

- what is the best use for open learning?
- which aspects of performance can be improved by open learning?
- which employees will benefit?
- how can open learning fit alongside more conventional delivery?
- what strategies should be used for introducing open learning into the organisation?

The Open College can then advise on the three main elements of open learning:

- which packages should be used
- how learners will best be supported
- how the open learning will be managed.

Amongst the consultancy projects carried out to date are:

- a survey of how open learning can help a major company to change its structure
- advice on how to set up and equip open learning workshops
- a strategy for the introduction of open learning into a government department's training programmes.
The consultants are not on the Open College's staff. They are hand-picked, experienced in open learning and carefully trained and monitored in the full range of Open College services, from tailored learner support to complete project design. The system of regional coordinators operates on a nationwide basis, in order to be able to respond at speed to a variety of non-standard requests from organisations in different parts of the U.K. Learning materials on their own rarely deliver the full improvement in staff performance, so Open College tutors and trainers train staff within a particular organisation to provide the necessary support, which may include employee induction into open learning; assessment of projects; a telephone hotline to the tutor; face-to-face consultation with individual learners; workshops to develop skills and apply learning; the provision of regular feedback; accreditation and workplace assessment where required.

The support system can be standardised across sites allowing the same quality of delivery anywhere in the U.K. This enables any organisation to offer wider training opportunities to staff.

The Open College can also tailor existing generic courses to suit a company's specific needs, or alternatively prepare materials from scratch. Examples include:

- an adapted version of a standard Open College middle-management course for a bank
- a booklet on company-specific financial systems to complement a standard course package for a chain of chemists
- a full retail programme, City and Guilds validated, for a menswear chain

In order to create the right learning environment, companies may also require help with the direction and control of open learning; the internal marketing of an unfamiliar concept; the day-to-day maintenance of systems; writing and producing flexible learning materials. The Certificate in Open Learning Delivery provides a national framework which can be used in companies just as it can in Colleges to select staff to be involved in open learning; design training and monitor performance. Examples of major projects include:

- workshops on writing materials for a nationalised industry
- a full training and accreditation programme for a local education authority
- training tutors and mentors for a Water Authority.

Where the Open College supervises the learning environment a level of certification higher than 80% is being achieved.
The Open College's key course areas are Basic Skills, Supervision, Management, Accounting, Technical (from an introduction to Electricity and Electronics through to Process Plant Operation), Health and Care, and Education and Training. Our aim is to offer these subjects in breadth and depth so that learners can progress up a ladder of achievement.

A good illustration of breadth and depth is the Accountancy course, produced in close collaboration with the Chartered Association of Certified Accountants and built round their syllabus. The Chartered Association of Certified Accountants is a large and internationally respected examining body, with 33,000 members in industry, commerce, public sector and private practice and 80,000 students in 130 countries.

The Open College/ACCA project is probably the largest open learning course ever attempted. When all 3 levels are completed, this package leading to the full professional qualification, will provide nearly 3000 hours of learning material. The most important aspect of the course is its business relevance. It is written by practitioners for practitioners and heavily based on case studies, analysis and self-assessment.

Let's have a closer look at Level 1. The 5 packages - approximately 700 learning hours in all - cover Accounting, Cost and Management Accounting, Economics, Law, Business Mathematics and Information Technology (120-150 hours of study per package). Each of the five parts that make up Level 1 is truly stand-alone and therefore not limited to aspiring ACCA students. Whereas previously all 5 parts had to be taken together, it is now possible to take one module per year. The advantages of a modular course structure are well-known; you gain a credit you never lose and you can gradually build your qualification, or you can take just one module if your goal is a limited one. There is no video component in the Accountancy course, but audio-cassettes have an important role and capitalise on the strengths of the sound medium.

As with all Open College courses the spine of the course is print, but it is quite different from the traditional, rather forbidding accountancy textbook. The workbooks - four for each subject (that is, 20 all together for Level 1) are interactive as well as being comprehensive. Then there's an Assignment Booklet.

How much do the materials cost? The investment by the Open College and the Chartered Association of Certified Accountants was £3/4 million for Level 1! Results, however, are gratifying. The ACCA's belief that open learning techniques would greatly reduce the examination failure rate is borne out by the June results. Iain McLachlan, the ACCA's Open Learning Adviser published the following statement last month: "ACCA/Open College study packages launched just one year
ago have already become a popular and successful method of study for the ACCA professional examinations. The pass rate for students taking the open learning route is 15% up on students studying by traditional methods.

The other key area of Open College specialisation I want to mention is Management. After offering a wide range of management programmes - not all produced by the College - we have now developed a single coherent programme which will run under the banner 'New Management'. This is a programme which focuses on the strategic development of organisations and their establishment as competitive, commercial, bodies. It aims to enhance managers' performance to recognised standards of excellence, enabling them to focus on and fulfill their key roles within the organisation. At the lower levels learners can gain supervisory management qualifications; the programme then leads on to both a Certificate in Management Studies and to a Diploma in Management Studies. It can also provide credit towards an MBA.

'New Management' follows a practical, problem-solving approach, while also providing managers with a sound appreciation of modern management methods and ideas. Each course is specified in detailed competence terms, aiming to produce measurable improvement in the manager's performance at work. The programme is offered in four phases which correspond to the manager's role. For new supervisors, the bottom rung offers an introductory course - a supervisor's survival package. At the next stage, there is a full supervisory management certificate programme. This is followed by a phase for junior managers which concentrates on managing people and a final phase for more senior managers with an emphasis on managing managers. These four phases can be used to acquire certification at introductory supervisory, supervisory, certificate and diploma levels.

The first two phases of the programme are now complete and in use by a wide range of the Open College's corporate clients. 'Being a Manager', the core course of the certificate level was launched this autumn, and the certificate will be complete by spring 1991. As the certificate is completed, the first diploma courses will be released. The total programme will be on offer by autumn 1991.

Management training is undoubtedly, Britain's Number 1 training priority for the nineties. Management training or leadership is seen as the key to our economic performance.
And this is what a recent edition of the Journal of European Industrial Training had to say about the range of learning methods employed in the training of managers: "Traditional lectures/discussions is the only approach expected to decline in use in the future, with case studies remaining at about their current level of usage. The more established of the other learning methods used in management development such as simulations, role play, seminars, conferences are expected to increase a little in use. The newer methods which focus on live issues and problems, such as action learning and problem-centred learning, are expected to increase substantially, but distance learning is the most strongly rated method in terms of increased use.

Overall these results would appear to indicate an increasing emphasis on developing the practical skills of managers through relevant problem-solving activities, with less reliance on the more traditional methods used to impart theoretical knowledge. The interest and support given recently to open and flexible learning are expected to lead to a growing use of this method of development.

I'd like to leave you with just a flavour of what our research showed to be the greatest area of demand within the management field, namely supervisory management training. Effective Supervision, the Open College's response, was designed more for in-company use than for the private individual. It is for practising supervisors who want to improve their management skills and gain a qualification. The course leads to a Certificate in Supervisory Management (ISM). The study material includes tutor-assessed assignments, workplace workshops, a work-based project, audio cassettes to prepare the learner for the workshop sessions and video cassettes plus a television series to put across those awkward aspects of the job, for example conducting a difficult meeting or a disciplinary interview, which benefit greatly from seeing as well as hearing. The learner's end project has to be presented both as a concise written report and as a public verbal presentation to a group, including other supervisors. A certificate is awarded for each of the five modules, which incidentally can be worked through in any order: they are Communications, Managing People, Finance, and Employment and Supervisory Techniques. A final certificate is given for the project and presentation, and all six can be submitted to gain the full ISM Certificate. There is not only a User Guide on Planning your Learning; there's also a Guide for your Line Manager, whose role is a supportive rather than an intrusive one.
I'll leave you with an excerpt from the television programme 'In Charge'. We are present at a disciplinary interview.

VHS excerpt

IN: "Marilyn, I've had to call you in...
OUT: "... it's when you have compliance to standards that the problems arise."
ABSTRACT

The Caribbean is a cosmopolitan melting pot of cultures and has been influenced by many different external Colonial systems. The developments in Technical and Vocational Education have been no exception, and have produced a variety of institutions, qualifications and programmes. There has also been the well known historical struggle of Technical and Vocational Education for recognition and status.

1. BACKGROUND TO THE CARIBBEAN REGION

In a paper presented to the Third World Conference on Cooperative Education some background thoughts were presented on the Caribbean Region. Many of these are still appropriate and will be quoted as part of the introduction.1

"The Caribbean Region forms a link between the English speaking North American Continent, USA and Canada, with the predominantly Spanish speaking (except Brazil/Portuguese) South American Continent with the land bridge Spanish States - Mexico, Guatemala, Honduras, Nicaragua, Costa Rica, Panama - and the far flung Archipelago islands of the Greater and Lesser Antilles. The Caribbean has been the battle ground for many of the European explorers and its rich history is reflected in the many racial types and languages that still prevail. Specifically with regard to the islands the languages used are:

- Dutch (The Netherlands Antilles group)
- English (The Commonwealth Caribbean and American Virgin Islands)
- French or Residual Creole (Independent Haiti and the French territories), and
- Spanish (Cuba, Santo Domingo and Puerto Rico)

1Alfred SANGSTER The College as a Regional Training Institution for the Commonwealth Caribbean 3rd World Conference on Cooperative Education Melbourne, Australia, February 1983.
Developments in Technical and Vocational Education and Training
In the Caribbean - Future Trends and Needs

The mainland territories of French Guyana (Cayenne), Guyana, Suriname of South America and Belize in Central America, have closer links with the Caribbean Region than with the Central American mainland.

The rich history of the Caribbean has been conditioned and seasoned by elements such as:

- the wars between the competing colonial powers
- slavery, emancipation and the plantation society
- indentured labour, soldiers of fortune and Buccaneers
- genuine developers, educators and missionaries
- the Independence movement

Alejo Carpentier, writing in the UNESCO Courier\(^2\) has this to say about the development of the Caribbean-

"The Caribbean has played a unique and privileged role in the history of the American Continent. Here in the Caribbean was the reality of the new horizons, new forms of vegetation and new lands first described by Christopher Columbus in his log book. Indeed, it was through that log book and the letters Columbus wrote to the Catholic Monarchs narrating his successive voyages that the idea of America was instilled in people's minds, giving them, for the first time, a complete picture of the world in which they lived. They learnt that their planet was round and they could set about exploring it in full knowledge of where they were going. For the first time in history they knew in what world they were living.

So important and so far-reaching in its consequence was this event that it could be said to have been the most significant historical event ever, forming a watershed in the history of the world dividing humanity into two categories; those who lived before the discovery of America and those who came after."\(^3\)

The islands of the Caribbean Archipelago with a population of some 30,000,000 have had an influence far outweighing their size and numbers.

A summary of some basic information on the Caribbean states is given in Table I.

---

# Developments in Technical and Vocational Education and Training

## In the Caribbean - Future Trends and Needs

### TABLE 1 - CARIBBEAN TERRITORIES

<table>
<thead>
<tr>
<th>Country</th>
<th>Land Area Sq. Kil</th>
<th>Population</th>
<th>GNP (1980) US$ Million</th>
<th>Per Capita GNP</th>
<th>Political Status/ Independence Date</th>
</tr>
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<tbody>
<tr>
<td><strong>Dutch Speaking</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aruba</td>
<td>193</td>
<td>60,000</td>
<td>NA</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>Curacao &amp; Bonaire</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>St. Eustatious Saba &amp; Martin</td>
<td>800</td>
<td>172,000</td>
<td>1,610</td>
<td>6,110</td>
<td></td>
</tr>
<tr>
<td>Suriname</td>
<td>163,265</td>
<td>389,000</td>
<td>1,050</td>
<td>2,450</td>
<td>Independent 1975</td>
</tr>
<tr>
<td><strong>English Speaking</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anguilla</td>
<td>96</td>
<td>6,800</td>
<td>NA</td>
<td>NA</td>
<td>British Colony separated from St.Kitts/Nevis</td>
</tr>
<tr>
<td>Antigua &amp; Barbuda</td>
<td>442</td>
<td>77,000</td>
<td>230</td>
<td>2,800</td>
<td>Independent 1981</td>
</tr>
<tr>
<td>Bahamas</td>
<td>13878</td>
<td>244,000</td>
<td>2,611</td>
<td>10,570</td>
<td>Independent 1973</td>
</tr>
<tr>
<td>Barbados</td>
<td>430</td>
<td>254,000</td>
<td>1,530</td>
<td>5,990</td>
<td>Independent 1966</td>
</tr>
<tr>
<td>British Virgin Islands</td>
<td>153</td>
<td>10,985</td>
<td>NA</td>
<td>NA</td>
<td>British Colony</td>
</tr>
<tr>
<td>Cayman Islands</td>
<td>259</td>
<td>25,000</td>
<td>NA</td>
<td>NA</td>
<td>British Colony</td>
</tr>
<tr>
<td>Dominica</td>
<td>751</td>
<td>83,000</td>
<td>130</td>
<td>1,650</td>
<td>Independent 1978</td>
</tr>
<tr>
<td>Grenada</td>
<td>344</td>
<td>100,000</td>
<td>139</td>
<td>1,370</td>
<td>Independent 1974</td>
</tr>
<tr>
<td>Guyana</td>
<td>214,969</td>
<td>790,000</td>
<td>327</td>
<td>410</td>
<td>Independent 1970</td>
</tr>
<tr>
<td>Jamaica</td>
<td>10,990</td>
<td>2,358,000</td>
<td>2,610</td>
<td>1,080</td>
<td>Independent 1962</td>
</tr>
<tr>
<td>Montserrat</td>
<td>102</td>
<td>11,606</td>
<td>NA</td>
<td>NA</td>
<td>British Colony</td>
</tr>
<tr>
<td>St. Lucia</td>
<td>622</td>
<td>140,000</td>
<td>220</td>
<td>1,540</td>
<td>Independent Colony 1979</td>
</tr>
<tr>
<td>St. Kitts &amp; Nevis</td>
<td>270</td>
<td>45,800</td>
<td>120</td>
<td>2,770</td>
<td>Independent 1983</td>
</tr>
<tr>
<td>St. Vincent &amp; The Grenadines</td>
<td>388</td>
<td>113,000</td>
<td>130</td>
<td>1,100</td>
<td>Independent 1979</td>
</tr>
<tr>
<td>Trinidad &amp; Tobago</td>
<td>5,130</td>
<td>1,241,000</td>
<td>4,160</td>
<td>3,350</td>
<td>Independent 1972</td>
</tr>
<tr>
<td>Turks &amp; Caicos Islands</td>
<td>430</td>
<td>7,413</td>
<td>NA</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td><strong>French Speaking</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guadeloupe</td>
<td>1,705</td>
<td>338,000</td>
<td>1,100</td>
<td>3,300</td>
<td>French Colony</td>
</tr>
<tr>
<td>Haiti</td>
<td>27,750</td>
<td>5,523,000</td>
<td>2,240</td>
<td>260</td>
<td>Republic 1804</td>
</tr>
<tr>
<td>Martinique</td>
<td>1,102</td>
<td>335,000</td>
<td>1,400</td>
<td>4,280</td>
<td>French Colony</td>
</tr>
<tr>
<td><strong>Spanish Speaking</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cuba</td>
<td>110,861</td>
<td>10,402,000</td>
<td>15,152</td>
<td>1,509</td>
<td>Republic 1959</td>
</tr>
<tr>
<td>Dominican Republic</td>
<td>48,734</td>
<td>6,867,000</td>
<td>4,690</td>
<td>680</td>
<td>Republic 1924</td>
</tr>
<tr>
<td>Puerto Rico</td>
<td>8,897</td>
<td>3,294,000</td>
<td>18,520</td>
<td>5,540</td>
<td>Associated State</td>
</tr>
<tr>
<td>US Virgin Islands</td>
<td>342</td>
<td>106,000</td>
<td>1,074</td>
<td>9,760</td>
<td>US Colony</td>
</tr>
</tbody>
</table>

2. THE COMMONWEALTH CARIBBEAN

More specifically, the Commonwealth Caribbean stretches from the Bahamas in the north, to Guyana on the mainland on the south, from Belize in the west, to Barbados on the east. This is the island, incidentally, where Thor Heyerdahl's epoch making journey of Ra II from the West Coast of Africa ended in 1970.

The economic base of the Caribbean is largely agriculture with sugar being the significant export crop. Other crops prominent in various territories to a greater or lesser extent are citrus, coconuts, bananas and spices.

In recent years, the development of minerals has made a significant impact on several national economies. Of particular interest are - bauxite in Jamaica, bauxite and other minerals in Guyana, and oil in Trinidad. There have been some developments in manufacturing mostly based on assembly type operations or agro-industry oriented. Tourism also plays an important role in most of the islands and highlights the fragile nature of their economies. The region is often divided into the More Developed Countries (MDCs) and the Lesser Developed Countries (LDCs) though these are relative terms.

The territories of the Commonwealth Caribbean have moved in varying degrees towards independence. The 10 nation West Indies Federation established in 1958 (some say imposed) lasted only four years and its shaky foundation could not survive:

- the hundreds of miles that separated the territories
- the petty squabbles and ambitions of small island politicians
- the suspicions which motivated so much of people's behaviour
- the land of a firm financial base for the Federation

Jamaica was the first to go, and in a Referendum on September 19, 1961, voted to secede. This action promoted the famous quotation from Prime Minister Eric Williams of Trinidad who said, "One from ten leaves zero". The Federation was not to be, and out of this came new independence movements, and now most of the Caribbean territories are independent members of the Commonwealth family of nations.
3. EDUCATIONAL BACKGROUND

The educational systems of the English speaking Caribbean are deeply rooted in many English traditions and practices and legacies. Some common elements are the following:

- A primary school system usually of 6 years duration.
- Transfer to a Secondary or Junior Secondary School at age 11 in some cases automatically and in some cases on the passing of a selection test.
- English-based 0-level or other board examinations at the end of Secondary (High School) education have largely been replaced by the Caribbean Examination Council (CXC) examinations.
- The school system could in the past be subjected to some of the critical comments on the inadequacies of the curriculum as identified by Malcolm S. Adiseshiah: "Unfortunately, life does not present itself as Physics or Chemistry, Economics, Sociology, Literature or Logic, but that is all that we learn at school or college. Irrelevance superimposed on poverty accounts for such of the massive drop out. The subjects that form our curriculum are usually borrowed from highly industrialised and urbanised sectors of our society. To the mass of our rural agricultural people, the curriculum is an esoteric foreign plant which dies almost at the moment of its planting".3
- The curricula were in general 'academically' oriented (theory and laboratory work) as distinct from 'practical' oriented. This has largely changed with the significant developments in technical/vocational education and curriculum reform.

The post secondary system has a wide variety of institutions in the region. Among these are:

- Agricultural Colleges including Fisheries and Forestry
- The College of Arts, Science and Technology (CAST)
- Community Colleges
- The Cultural Training Centre (Jamaica)
- The GC Foster College of Sports and Physical Education
- Nursing and Allied Health Schools
- Teacher Training Colleges
- Technical Colleges
- The University of Guyana (UG)
- The University of the West Indies (UWI)

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No comment on the development of education in the Caribbean would be appropriate without mention of the Churches which have played a significant and pioneering role. Each territory can also speak with pride of the many pioneers in educational development.

4. GENERAL DEVELOPMENTS IN TECHNICAL AND VOCATIONAL EDUCATION

An appreciation of the historical development of technical education in the Caribbean Region is important in gaining an overall perspective of the situation that currently exists. Professor Aubrey Phillips had this to say:4

"The various territories of the Commonwealth Caribbean were, at the beginning of their movement towards independence, almost completely barren with regard to technical skills. This was a direct consequence of the Colonial experience and derived from the policy of the metropolitan powers, whereby colonies were expected to serve as a source of primary products and to provide a market for their own manufactories. Hence, technical education was not encouraged, nor was an industrialisation policy pursued by Colonial Governments.

However, as the peoples of the region assumed responsibility for the direction of their own affairs, this policy changed. Industrialisation and the twin need for industrial/technical/vocational education and training assumed highest priority. States and territories invested heavily in institutions and programmes, with a deep faith that somehow these efforts would lead to rapid economic betterment and help to propel these states into the twentieth century and enable them to join the club of industrial nations".

In 1956 a UK mission on Higher Technical Education in the British Caribbean visited the area. In a report of 10 May 1957 it was recommended that:

"...the 'Kingston Technical College' when established should function as a Regional Technical College serving the Western Caribbean while two others established in San Fernando and Port of Spain would serve the Eastern Caribbean".

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4Aubrey PHILLIPS, University of the West Indies Internal Publication Project Proposal to the OAS 1977.
These initiatives and recommendations were most significant and started a period of growth and development in technical education. The following events were important:

- the establishment of five new technical schools in Jamaica. Up to this time there had been only one;
- the establishment of the College of Arts, Science and Technology (CAST) in Jamaica;
- the establishment of the John Donaldson Technical Institute in Trinidad;
- the establishment of the Community College in Barbados;
- the setting up of a number of Trade Training Centres in Jamaica. Programmes here have been executed by the Ministries of Education, of Labour, and of Youth and Community Development;
- the creation of the New Secondary school, Grades 10 and 11 programme in Jamaica and the Senior Comprehensive School in Trinidad and Tobago, where the emphasis lies heavily in the direction of technical/vocational education;
- the beginning in a number of grammar schools, previously entirely academic in orientation, of technical programmes. In Grenada for instance, there was a Technical wing attached to the Grenada Boys Secondary School. Later this was raised to a Technical Centre;
- the setting up of seven Technical Colleges through British Government Technical Assistance in the Windward and Leeward Islands;
- the creation of Industrial Arts courses in some Teachers Colleges;
- the establishment of a Technical Teacher Training Department at the College of Arts, Science and Technology;
- the establishment of the Vocational Training and Development Institute (VTDI) under the Ministry of Labour, in Jamaica, to train instructors for the Trade Training Centres;
- the development and utilisation of the ILO modules of Employable Skills programmes through CINTERFOR and pioneered in Trinidad and Tobago, later extended to the UNESCO/ILO Multilateral project in the Eastern Caribbean OECS States;
- the development of a Diploma in Education at UWI for Technical teachers as a collaborative programme between UWI, CAST and Huddersfield Polytechnic;
- the development of the HEART programme (Human Employment and Resource Training) in Jamaica;
- the granting of degree granting status to CAST and the development of degree programmes for Technical Teachers.
5. SOME RECENT DEVELOPMENTS IN THE CARIBBEAN

The background given above will serve as an introduction to some of the ongoing developments and recent initiatives taking place in the region.

5.1 CARICOM Initiatives

There have been a number of major developments involving CARICOM (Caribbean Community Secretariat).

5.1.1 A Regional Survey of Technical and Vocational Education and Training published in 1988 provided an excellent overview of the region with individual country reports adding to the overall comprehensiveness of the report.

The report identified a number of issues as well as highlighting some important problems and concerns. These are noted below.

Some Issues in TVET:

Philosophical Issues

School/Work
Academic/Technical
Social acceptance
In School or In Plant
Pre-Vocational
Marketable skills
Education and Unemployment
The Meaning of TVET

Policy Issues

Conflicts in operational policy
Lack of coordination
Lack of standardisation
Lack of recognition
Operational and Practical Issues

Management of resources
Financial constraints
Obsolescence
Teachers/Student problems
Major group problems
Range of qualifications

Problems and concerns identified were:

- Low status of TVET
- Agricultural education is negatively perceived
- The status of Women and Girls
- Training in School or at Work
- Vocational training and job creation
- Variety in standards and qualifications
- Lack of Resources
- Exodus from the teaching profession

5.1.2 A Regional Strategy for TVET published in 1990 took the findings of the survey further and suggested various areas for development.

5.1.3 Special Committees on Articulation and Accreditation have been set up by the Secretariat.

5.2 Initiatives in the OECS States

There are a number of initiatives in the Organisation of Eastern Caribbean States (OECS).

5.2.1 The Initiatives of the British Development Division (BDD) in promoting Centres of Excellence and providing Technical Assistance support.

5.2.2 The initiatives of German Technical Assistance (GTZ) in supporting training.

5.2.3 The World Bank/Caribbean Development Bank (CDB) project in Tech/Voc developments in some of the OECS states.

Under this project an OECS Sub-Regional Training Board has been established to promote the developments of TVET in the sub-region.
5.3 Initiatives of UWI

The regional role of UWI is well known. Some specific directions which can impact on TVET are:

5.3.1 Through the office of University Services and potential linkage arrangements.

5.3.2 Through the UWIDITE network in the region. Courses in Mathematics for teachers, Energy, and Technician training are examples. The question of cost will need to be addressed.

5.4 ACTI

The Association of Caribbean Tertiary Institutions (ACTI) recently launched (9.11.90) in Jamaica comes out of initiatives by the Vice Chancellor to bring together these institutions.

5.5 Vocational Training Developments

A number of interesting programmes have developed which stress the vocational aspect of training.

5.5.1 The HEART (Human Employment and Resource Training) programme in Jamaica which has developed some important vocational programmes e.g. Building trades, Hotel skills and Cosmetology.

5.5.2 The initiatives of VTDI (the Vocational Training Development Institute) in Vocational Instructor training have been useful for Jamaica and the Caribbean.

Attempts are being made to upgrade the programme with continued emphasis on a vocational track through a Master Craftsman concept.

5.5.3 The CXC (Caribbean Examinations Council) initiative in the introduction of Technical Proficiency and Vocational Proficiency examinations for Grade Eleven school leavers has been an important development.
It may also be of interest to note the developments in the UK of the NCVQ (The National Council for Vocational Qualifications). This organisation working through a number of awarding bodies is developing a series of vocational qualifications which cut right across the conventional Vocational, Technical and Professional areas of study and essentially conceptualise vocational qualifications in terms of a person's ability to work.

**5.6 The Formation of CATVET (Caribbean Association of Technical and Vocational Education and Training)**

This association with wide ranging membership and many local chapters was established largely with CIDA funding. It has been an important forum for review and discussion and has been a significant unifying force in the region.

It is proposed to establish a permanent headquarters in Antigua.

**5.7 The CAST Initiatives**

The emergence of the College of Arts, Science and Technology as a Jamaican and Caribbean Polytechnic has been an important development. Crucial links have been established with several of the Jamaican and Caribbean Community Colleges in tech/voc areas.

**5.8 ILO and CINTERFOR**

ILO and CINTERFOR have both been very active in the region for some time. The sponsoring of training and the ongoing development of appropriate materials Modules of Employable Skills (MES) and Labour Market Information Statistics (LMIS) have been important directions:

**5.9 Commonwealth of Learning (COL)**

The COL has sponsored a number of activities in the region and in a report it was stated that:

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"The Barbados Workshop in distance education could be the beginning of an exciting new phase in Caribbean education. Regional cooperation in distance education is capable of creating vast new possibilities for the expansion and enrichment of educational opportunities for thousands in the Caribbean region.

Institutions like CAST and the UWI have an important role to play in the fulfilment of these possibilities"

5.10 The Establishment of the UCJ (University Council of Jamaica)

This entity has been established to provide appropriate accreditation for programmes in Jamaica and is being conceptually expanded with a proposed Jamaica Council for Tertiary Education (JCTE) which would act as a wide general forum with the UCJ as the Secretariat. Many of the details are yet to be sorted out.

The developments outlined above indicate the wide ranging initiatives taking place in the region. They highlight the potential for progress and growth but also pinpoint the need for coordination and resource management.

6.0 FUTURE DIRECTIONS - ENHANCING DISTANCE EDUCATION - SOME STRATEGIES

The arguments for distance education are well known and need not be repeated here. It would be well, however, to recognise in the Caribbean region some of the issues and associated methodologies which are emerging. The strategies which are suggested address the fact that a variety of approaches will need to be used and a number of issues addressed in the overall concept of enhancing distance education.

6.1 The Use of Methods of Educational Technology

These methods may be progressive seen as moving from High to Low Tech as shown below. There are, however, two common and inescapable elements in the technological delivery system. They are the 'Teacher' and the 'Book'.

<table>
<thead>
<tr>
<th>Satellite</th>
<th>Computer Link</th>
<th>Teacher</th>
<th>Video</th>
<th>Book</th>
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</thead>
<tbody>
<tr>
<td>Audio</td>
<td>Print</td>
<td>Classroom</td>
<td></td>
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</tbody>
</table>
Tech/Voc education in third world countries can benefit greatly from the use of materials prepared with the significant resources of developed countries.

6.2 **Educational Linkages - Institutional Development**

The potential for outreach through extension activities and institutional development are important considerations. The strengthening of National Institutional capability through regional linkages is an important development and this can be achieved through articulation and progression within the system.

The concept of progression is a bed-rock principle in the educational system. This is certainly so at the lower levels - Primary and Secondary - where the progression from form to form (grade to grade) is natural and expected.

When we move to the tertiary system the progression process is not as clear, often complicated or hindered by:

- Matriculation requirements
- Unnecessary prerequisite requirements
- "Non-standard" course structures
- Unlinked systems etc.

Clearly the way forward has to be the simplification of the transfer and stepwise progression process. This can be achieved by:

- Building on the credit system and developing the building blocks principle
- Programmatic links
- Institutional links

Some examples from the CAST experience are:

- In the Health Sciences (See Figure 1)
- In Education (See Figure 2)
- In Architecture (being developed) (See Figure 3)

6.3 **Certification and Accreditation**

The delivery of an education and training programme requires some kind of recognition - be it academic, institutional or workplace. Some thoughts on the legitimacy of qualifications are outlined below. These are:

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The Legal Basis for Legitimacy

Items such as a Charter (e.g. UWI, Royal Charter); National Law or Scheme (Sir Arthur Lewis Community College, (St. Lucia), CAST, (Jamaica) and others.

The Institutional Basis for Legitimacy

This item involves the evaluation process within an educational institution and includes issues such as course work methodologies, examination processes, peer review and external moderation.

The Professional Basis for Legitimacy

Many courses lead to professional qualifications and these would need to satisfy the appropriate requirements for entry into these professions. Normally professionals are involved in the curriculum planning and evaluation processes.

The Academic Basis for Evaluation

By this we mean the acceptance of academic qualifications of one institution by another. This would be generally into higher level programmes of study.

The Legitimacy of the Work Place

This is perhaps in the long run the most important of all. How does a particular qualification rate at the work place? How do the employers view the qualifications given by the institution and the training provided in terms of its relevance for the work place?

The region is searching for its own Tech/Voc Legitimacy and the issues are critical for development and community acceptance and Accreditation.

It may also be worth noting that Accreditation may be seen in terms of:

- Institutional accreditation
- Programme accreditation
- Professional accreditation

Each of these takes on different meaning and relates to specific circumstances.
Associated with the ideas on certification is the important concept of credits. The formalisation of credits and credit hours will do much to provide flexibility in the Tech/Voc system.

### 6.4 Partnerships

The cost of Tech/Voc education is such that external non-Government resources will have to be found to augment the already straightened circumstances.

The potential for these partnerships are in the areas of -

- Professional Associations
- Educational Institutions
- Corporate Entities
- National Governments and
- International Agencies

The Work Study concept represents an important area for development and for the formation of linkages with 'Education and Work' through Co-op or Sandwich or other work based study programmes.

### 6.5 The Supply and Retention of Qualified Teachers

The supply and retention of technically qualified and trained teachers in the Tech/Voc area continues to bedevil the Caribbean educational scene. The competition of the private sector and migration from the region are major factors.

The development of a number of structured and advanced training programmes and opportunities both within and without the region have contributed to an increased recognition of the status of the Tech/Voc teacher, which in turn has given a greater sense of self worth and professional acceptability. This has been a very significant development.

The ILO/CATVET\(^7\) initiatives in identifying needs and future directions for Tech/Voc teachers has been very useful. Some excerpts from the report emerging from a number of meetings follow illustrating the recognised progression of Technical Teachers.

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\(^7\)ILO/CATVET sponsored meetings in Antigua and Trinidad 1990.
Craft Instructors

In most cases untrained; with Certificate or Diploma in a specialised Craft area, but with minimum or no approved/recognised teacher-training. In some instances (e.g. Dominica and the Bahamas), Craft instructors are recruited from industry on the basis of competence in industry and afforded minimum teacher-training skills.

Trained Instructor/Teachers

With Certificate or Diploma in specialised Craft/Technician area, and varying levels (from 1-3 years) of approved/recognised teacher training.

Assistant Lecturers and Lecturers

With accepted level of qualification (Certificate, Diploma, Degree or equivalent); not necessarily possessing teacher-training qualifications/experiences.

Teachers in the specialised area of tech/voc education and training need to continually upgrade their skills to cope with changing technologies.

6.6 Summary

The capacity of the Caribbean Tech/Voc system to survive the challenges of the next decade will depend on:

- The resourcefulness of its education
- The vision of its political leaders and
- The flexibility of its policies
FIGURE 1

HEALTH SCIENCE PROGRAMMES
SCIENCE DEPARTMENT

CAST Diplomas

Diplomas in Health Sciences from other Departments or Colleges

- Environmental (Public) Health
- Nurse Anaesthesia
- Physiotherapy
- Radiography

Post Diploma Degree
3 Summers

B.Sc. Health Science (Majoring in one of 7 disciplines)

Medical Technology
Nutrition & Dietetics
Pharmacy
Education Programmes - Technical Teacher Education Department

- Sir Arthur Lewis Community College
  - Special Programme Home Economics
    - Entry to CAST B. Ed. Home Economics

- Antigua State College
  - Special Programme Business Education
    - Entry to CAST B.Ed. Business Education
FIGURE 3

STRUCTURE OF ARCHITECTURE TRAINING

CXC, 'O' Level Entry

Year 1 AT1, A1

Year 2 AT2 A2

Selection Process

BCC Students

Diploma

Year 3 AT3

Year 3 A3

Bachelors Degree

Year 4 A4

Year 5 M1

MA Arch.

Year 6 M2
THE NORTH ISLAND COLLEGE MODEL FOR DISTRIBUTED OPEN LEARNING

by John Tayless

PREAMBLE:

To remove the "Distance" from Distance Education should be a primary objective of all professionals involved in the provision of Distance Education Services.

By endeavouring to ensure that a group dynamic is created between learner and tutor and between the learners themselves, and at the same time utilise media appropriately, course completion rates may be improved and the quality of the learning experience enhanced.

It is the thesis of this paper that this dynamic is best developed by the use of a learning centre delivery model. This model re-introduces the tutor as the primary contributor to the learning equation (as it was in the XVIII century) and emphasises that the most important transaction in Open Learning is that which is developed between the learner and the tutor.

INTRODUCTION:

North Island College, located on Vancouver Island on the West Coast of Canada, was established in 1975 as a regional Community College within the British Columbia System of Adult Education Institutions. This system presently consists of four universities, three specialised institutes, fifteen colleges and the Open Learning Agency which consists of the Open College, the Open University and the Knowledge Network of the West which delivers educational television services.

The mandate that a regional college in British Columbia has to fulfil is particularly broad as it is charged to deliver educational services that include: Literacy, Adult upgrading, 1st and 2nd year university transfer courses, career, technical and vocational programmes, English as a second language and courses for the mentally disabled.
North Island College serves a population of some 140,000 distributed through an area of 80,000 kms². The region is one of rugged topography hemmed in by the glacier-covered coast mountains to the east and by the turbulent Pacific Ocean to the West. Most of the population of the region resides on Vancouver Island, which is the sixth largest island in the world being some six hundred kilometres long and 80 kilometres wide. The main wealth generating activities of the region are logging, fishing, mining and tourism.

How to serve this thinly populated region was the first question that had to be addressed when the college was opened. The decision was made to design an Open Learning System based on community learning centre delivery of courses and building in face to face tutorial support at each centre.

The college now has twenty-two community learning centres ranging from a modest presence in a community of only two hundred and fifty, employing a single part-time tutor, to centres than contain welding and mechanics shops, classrooms, libraries, computer labs, drafting labs, electronics labs, and science labs, aquaculture hatcheries and a faculty of twenty-five serving a community of 30,000. The size of the learning centre, the programmes that it offers and the number of faculty employed is directly proportional to the size of the community to be served.
ORGANISATION AND STAFFING:

Organisation specialists remark on the very flat organisational structure of the college. The objective when designing the organisation was to leave as much decision making as possible at the learning centre level. Thus the five regional centre directors are responsible directly to the College Principal but are accountable to the college functional directors in the latter's particular area of responsibility.

The two Programme Directors and the Bursar fill recognisable, relatively familiar roles in the organisation but attention should be drawn to the position of Director, Instructional Materials. This is a unique position in a senior management team in an educational institution, its presence being dictated by the delivery system. In circumstances where the modularised learning materials and the available educational technology are of such great importance in the educational process, there must be an expert available at a senior level to advise on the efficacy of the learning materials and on the appropriateness of the introduction of technology to a specific learning situation.

Likewise the distribution system of resources at times becomes the weak link in the learning chain due to poor materials delivery schedules; this problem also dictates that the resource distribution system should be administered by a senior manager.

The Director, Management and Student Information Systems also carries responsibilities in his portfolio that exceed those normally exercised by a registrar. Due to the colleges sophisticated computerised management system, the Director M.S.I.S. is extremely well trained in computer applications. This expertise that he brings to the institution makes him the logical choice as the administrator of the C.A.L. computer curriculum development department.

THE LEARNING CENTRE NETWORK:

The college region is served by five regional learning centres each of which administers a number of local satellite learning centres, the latter being managed by a tutor-in-charge. The strength of the system lies in this presence of tutors at the local level in each community of the region. These local tutors are continually assessing the educational needs of their communities and in consultation with their regional learning centre director and the central administration evolve the strategies and mobilise the educational resources to meet their community needs.
Organization

Board of Governors
9 Members

President

Coordinator
Research & Development

Director Academic

Coordinator ABE*

Coordinator Human Serv.

Director Voc/Tech

Coordinator Part-time Tr.

Coordinator Contract Serv.

Director MISRS*

Director IMC*

Bursar
$ + Budg

Accountant

CD* P.A.

CD* C.V.

CD* C.R.

CD* G.R.

CD* P.H.

*MISRS = Management Information & Student Records System
IMC = Instructional Materials Centre
CD = Centre Director
ABE = Adult Basic Education
A particularly rich set of resources is available to these local centres:

- Local Tutorial Services
- Modularised Learning Materials
- Satellite delivered interactive television courses
- Computer assisted and mediated courses
- Mobile training Services
- Custom designed courses
- Contract Services
- Audio conference courses
- Group seminars
- Traditional classroom presentations
- Course brokerage with other institutions

Satellite Learning Centre Population 250-1000

- 1 Tutor

+/- 150 registrations

The faculty of the regional learning centres will generally be tutoring subjects that fall within their particular area of expertise. In the satellite learning centres the tutors will cover all subjects, and programmes, acting more as a learning adviser and manager of the students' programme than as a subject specialist. The subject specific tutoring may be offered by audio conferencing, telephone tutorials, television delivery or computer assisted learning.

NON CREDIT ACTIVITIES:

A particular consideration that must be acknowledged in designing a learning centre network is that the communities to be served will have their own expectations of the services that the centre should offer. Almost by default the centre is likely to be regarded as a quasi-government information service, as a library, as a supplier of photocopies and FAX services, as a site for external examination of other institutions external programmes and as a site to hold community meetings etc.
The organization of the central administration is directed at maintaining a system that is centrally planned but locally implemented. The challenge in a dispersed, community based system is how to encourage local decision making without the institution collapsing into a series of 22 Balkan states. Central planning that is based on ongoing evaluation, articulation and a local feedback loop is a necessary process if one is to meet this challenge.
Regional and Satellite Learning Centres and Administration

Staffing  Regional Learning Centre  Population 30,000

- Centre Director
- Assistant Centre Director
- 4 Support Staff
- Full Time Tutors 12
- Part Time Tutors 20

+ 6000 registrations

Satellite Learning Centre  Population 1,800

1. Full Time Tutors
2. Part Time Tutors

1 Support Staff

± 500 registrations
These activities which, are essentially congruent with the objectives of an educational institution, should be planned for at the system's inception. Indeed the sooner a community accepts the "community" face of the learning centre the sooner it will become an effective contributor to the community's life and culture, for this system is one of the ultimate expressions of democratised, accessible education.

**LEARNING CENTRE SERVICES:**

The following services and facilities are offered by learning centres serving the largest communities of 30,000 or more and staffed by some 32 tutors:

1. Quiet study areas
2. Class rooms
3. Student Lounge
4. Computer Labs
5. Science Labs
6. Electronics Labs
7. Drafting Lab
8. Nursing Lab
9. Office Equipment Lab
10. Audio-Conferencing facility
11. Tutor office and services room
12. Art studios
13. Secure exam writing room
14. Student advising station
15. Student assessment service
16. Educational TV reception
17. Audio-visual equipment
18. Audio and video tape library
19. Photocopies - FAX machine - Telephones
20. Aquaculture Training facility
21. Welding shop
22. Automotive shop
23. Non-credit general interest programmes
24. Course registration and administration services
25. Mobile training programmes
Many of these services may also be offered by a learning centre that employs only one staff member, such as:

1. Quiet study area
2. Classroom
3. Computer lab
4. Science area
5. Drafting table
6. Office equipment lab
7. Modest library resource
8. Photocopy - FAX - telephone
9. Audio Conferencing capability
10. Tutors office
11. Student advising station
12. Proctored examination environment
13. Student assessment
14. Educational TV reception
15. Mobile training programmes

As may be seen by comparing the two sets of services offered, the limiting factor to cloning completely the services of the regional learning centre in the satellite centre is one of critical mass. One cannot replicate programmes based on expensive capital equipment. However, some of these problems can be solved by designing mobile training services and scheduling their presence in communities as appropriate e.g. gas fitter training and welding.
INSTITUTIONAL PROGRAMME PROFILE:

1. University transfer, 1st two years .................................................. O+S
2. Adult basic education to grade XII or
   VIth form (18 years old) ............................................................. O+S
3. Literacy programme ................................................................. S
4. Training for the mentally disabled ................................................ S
5. English as a second language ..................................................... S
6. Fine arts ......................................................................................... S
7. 2-year computer technology program ............................................. OE
8. 10-month computer technician programme ..................................... OE
9. Computer applications programme ................................................ OE
10. Office administration .................................................................... OE
11. Small business management ........................................................ O
12. Business administration .............................................................. O
13. Nursing ......................................................................................... S
14. Long term care for the aged ........................................................ S
15. Early childhood education (Nursery School Teacher) ...................... S
16. Hospitality tourism ....................................................................... O
17. Chef training ................................................................................ S
18. Auto mechanics and Heavy duty mechanics .................................... OE
19. Welding ......................................................................................... OE
20. Hydraulics .................................................................................... S
21. Air brakes ..................................................................................... S
22. Automotive electronics ............................................................... S
23. Automotive propane gas conversion .............................................. S
24. Truck & bus driving ...................................................................... S
25. Commercial vehicle inspection (safety) .......................................... S
26. Drafting (manual and computer assisted) ...................................... O
27. Aquaculture. Salmon-Oysters-Clams-Seaweed-Scallops ................ O+S
28. Diving .......................................................................................... S
29. Fishing master - Navigation and ship safety .................................... S
30. Fishing net construction and repair ............................................... S
31. Industrial electronics ..................................................................... OE
32. Gas fitter ....................................................................................... S
33. First Aid ......................................................................................... S

O = open entry
OE = open but dependant upon equipment
S = scheduled attendance required
Where possible courses and programmes are offered in the continuous entry/exit individualised, tutor supported format. However, those courses which have particularly specialised equipment needs and where learners must be grouped in order to achieve a cost-effective critical mass are offered on a scheduled basis. Likewise those courses where the graduates will be working with people in a helping environment, such as nursing, long term care and early childhood education are also scheduled. In these circumstances the learners psychological suitability for the occupation must also be assessed for frequently the clients of the service given are not able to be their own advocates. Also in these cases, the college is training to externally prescribed certificates of competency.

MOBILE TRAINING PROGRAMMES:

- Automotive electronics
- Air brakes
- Hydraulics
- Gas fitter
- Computer applications
- Automotive gas conversion
- Fishing master, navigation & safety
- Diving
- Truck and bus driving

The mobile training courses are so designed that the training equipment can be packed into a vehicle and offered anywhere within the college region.

THE DELIVERY SYSTEM:

Open Learning

North Island College utilises an integrated system of instruction that involves the completion of an educational transaction between Learner, Tutor, Modular Printed Materials and where appropriate Educational Technology.

This transaction occurs primarily within the learning centre environment with face to face tutorial support. It is the presence of the personal tutor that makes the use of the term "Distance Education" so inappropriate. Open Learning is more descriptive of the personalised educational service being delivered.
The openness of the system varies from course to course and programme to programme. Ideally a course should be open to time of registration (that is continuous entry/exit), open to the time of access of tutorial services, open to the requirements of course entry, open to the time of student evaluation and open to the time of study.

In practice in the academic courses the student signs a six-month study contract with the college and receives a study blueprint that itemises the way points of the course; that is dates that assignments must be handed in, dates that exams will be sat etc. Many of the students elect to attend classes every week. However, the choice of study mode, to attend classes or follow an individual schedule is theirs. It is not imposed on them by the institution.

In the technical and vocational courses the degree of openness varies according to the nature of the training and the amount of equipment time needed to acquire the particular skills. For example, the nursing programme is offered only in a scheduled class format. The computer technology programme however is completely open with students booking their time in the computer lab and arranging their tutorial consultancies to suit their life style needs. (Many are employed, have families and myriad other responsibilities).

THE LEARNING CENTRE

*Human Considerations*

The most important human aspects of a learning centre delivery model is that it:

1. enables face to face tutorial assistance to be offered.

2. enables a group dynamic to develop between the learners themselves and between the learners and the tutor, which improves the study environment and consequently the course completions.

3. provides a supportive study environment.
Practical Considerations

1. The learning centre becomes a logical depository for equipment. This consideration is particularly important in vocational and technical education. A place is needed for the computers, the welding machines, the nursing labs, which are so necessary for skill acquisition and which must be accessible to the student.

2. Audio-visual equipment may also be made available to the student within the learning centre. Modern course design, particularly in the technical and vocational field, requires that audio-visual equipment be accessible on a demand basis. Indeed by adopting a learning centre model the curriculum design should be modified in order that it may incorporate media exercises and lab experience, to a degree that is impossible within the correspondence education scenario.

3. Student services may also be delivered from the learning centre. Course registration, advice, counselling, testing and assessment and subject remediation may be made available.

4. Quiet study areas. Frequently students come from poor overcrowded homes, a situation that is not conducive to their achieving success. The provision of quiet study areas helps to alleviate this problem.

THE TUTORIAL NETWORK

It is the tutors that establish the dynamic and culture of the learning centres. To date, within the discipline of Distance Education, the primary educational transaction has been between the learner and the learning materials. I suggest that this is because ninety-nine percent of all publishing within the discipline has been devoted to academic courses.

In technical and vocational education the learner must acquire hands-on skills as well as the theoretical background of a subject; the importance of the tutor in this situation becomes paramount in the transfer of skills to the learner.
It is my thesis that we should re-focus the spotlight within the educational transaction from the learning materials to the tutor in academic as well as vocational/technical courses.

The college utilises three types of tutors-course tutors, general tutors and working tutors. The same tutor might fill all these roles or only one depending upon the circumstances of a particular learning centre.

**The Course Tutor**

The course tutor will be the subject resource expert for a particular course and is responsible for the academic management of the course throughout the entire college. An example would be the tutor responsible for the computer literacy course. In this case, the course tutor is responsible for ensuring that the academic content is appropriate and that the course is current and up-to-date (very difficult with computer science courses), that the course is running an appropriate hardware, that the software is available and that the course is as user friendly as possible.

The course tutor is expected to track completion rates, identify problems within the course for other tutors who handle it but who are not subject experts, and arrange workshops to assist them in upgrading their knowledge of the course methodology. The course tutor must also ensure that no exam is more than three years old, that rolling exam revisions are taking place and, in addition, that where applicable the course transfers to other institutions or to external accreditation and certifying agencies (nursing, welding, early childhood education, etc.)

**The General Tutor**

The concept of the general tutor is a relatively unique one. An example would be the single tutor in charge of one of the small satellite centres. This tutor would be responsible for assisting the student with any course that is available in the centre.

Within this circumstance the level of tutoring will vary considerably. What we encounter is a spectrum of support that is dependent upon the particular expertise of the general tutor. If the tutor should possess a B.A. or M.A. in English he or she will be competent to offer a considerable amount of tutorial assistance to a student
enrolled in an English course. However, that person may not be at all familiar with calculus or Lotus 1-2-3. In the case of the latter two subjects, the general tutor would ensure that the student received their learning materials on time, was keeping up with their assignments and examinations, and also establish the contact between the student and the subject tutor who would be in one of the other centres. In effect the general tutor has become the students' course manager.

*The Marking Tutor*

All tutors mark assignments, but in a number of subjects only a subject expert may mark them. Thus the course load in such subjects as English and Psychology is so heavy that a marker who is a subject specialist is employed to assist the tutor. These marking tutors will also grade assignments for general tutors who are not qualified in the particular field where the need has arisen.

The course tutor makes the decision on whether or not a tutor is qualified to grade assignments.

**COMPUTER ASSISTED INSTRUCTION (CAI)**

The college relies heavily on computer assisted instruction in all computer courses. A curriculum development team producing CAI courses is stationed permanently at the college, and to date has produced the entire two-year computer technology programme in the C.A.I. format as well as a number of electronics courses and computer application courses.

The regional learning centres are networked into the college's VAX mainframe, while a file server system operating through a local area network supplies many of the computer applications courses.

**INTERACTIVE INSTRUCTIONAL TELEVISION**

In British Columbia we are fortunate that it is decreed by the government that television stations must make one channel available for educational programming. In cooperation with the Open Learning Agency's, Knowledge Network of the West, the college offers a number of courses by interactive television. In some years the college has enrolled over one thousand students per semester utilising this methodology.
Completion rates are exceptionally high, achieving 90% in the university psychology course. The availability of the tutor to the student while on air live makes the presentation a two way dialogue rather than a pedantic lecture, while the guest list of informed invited guests establishes a variety of information that is very difficult to duplicate in the classroom. Perhaps the success of this methodology is best underlined by the fact that the students continually request more courses to be presented utilising this format.

SCHEDULED CLASSES

As may be seen from the list of programmes, the college employs a dual delivery model. In programmes where scheduled classes are the most appropriate form of delivery then this methodology is utilised. The important consideration is to maintain where possible total accessibility to the services of the college.

ADVISORY COMMITTEES

The college has formed a number of industry programme advisory committees. These assist the college in ensuring that the training that the students receive is state-of-the-art and that graduates are employable.

The committee members are drawn from industry and from government funding agencies. Their advice on the design of the mobile training programmes is particularly useful.

COLLEGE COMMITTEES

The college has four types of committees that provide for the inclusion of the staff in the management of the college in a participative manner. These committees are:

- The College Affairs Council
- The Fair Comparison Committee
- The Subject Articulation Committees
- The Programme Advisory Committee

THE COLLEGE AFFAIRS COUNCIL

The responsibility of this council is to make recommendations to the College Board of Governors on all matters affecting the college, a particularly broad mandate. However, salaries and fringe benefits are excepted.
Membership of the council is largely by election, with three representatives elected from the administration, three from the faculty, and three from the office support staff. In addition two members are appointed by the College Board.

THE FAIR COMPARISON COMMITTEE

This committee is elected with the same representation as the College Affairs Council. Its' responsibility is to make recommendations to the college board on salaries and fringe benefits having derived the numbers by examining the salaries and benefits paid at other similar institutions.

THE SUBJECT ARTICULATION COMMITTEES

These committees are composed of the course tutors within a particular discipline. The committees meet twice a year and build an agenda that examines all of the programmes and courses within the discipline. The committee ensures that high standards of course evaluation are maintained, that external articulation is up-to-date, and recommends steps for course improvement.

THE PROGRAMME ADVISORY COMMITTEE

This committee is composed of the chairmen of the subject articulation committees and is charged with advising the Director of programmes and the College Board on all matters relating to college programmes.

CONCLUSION:

Since 1975, North Island College has demonstrated the effectiveness of a community based open learning system. The utilisation of appropriate media and modularised courses mediated by a local tutorial system, has produced a synergism that has resulted in significantly high learner participation rates. One adult in four within the college region avails himself/herself of the services supplied by the college. The key to this high participation rate is the accessibility of the college's programmes when made available locally through community based learning centres.

As we enter the last decade of the twentieth century, universal education will be the medium that permits the world's population entry into a global economy based on a knowledge-based society. For this to occur education must be universally accessible, and community-based open learning networks are one solution that will help to make this a reality.
To close, I would add that the system that I have described works for North Island College within the context of Western Canada. Certain segments of the system might transfer. However I am certain that people will select that which is appropriate to their context and reject that which is inappropriate. The greater the choice that we offer to learners the greater success they should achieve. In nature, the most resilient successful ecosystems are those that exhibit the greatest diversity. Let us follow the pattern of nature and not become too specialised trusting that but one solution will solve the problem of educational access. There are many successful educational systems within the Commonwealth. By distilling out the best of each we might achieve the chemist's elixir and discover the quintessence of adult education, creating a true common-wealth between the countries that we represent here today.
The plethora of distance-education courses and technology-supported learning systems across all disciplines is in distinct contrast to the paucity of similarly designed and delivered teacher education programs. The intent of this paper is to describe the factors that influence the development of more flexible, yet systematic pre-service and in-service technical teacher preparation programs. These prevailing pressures are used as a backdrop for describing the operational characteristics common to two programs in different settings. Both jurisdictions are striving to increase the calibre of new technical teachers and to increase the instructional competence of existing teachers through the use of systematic, research-based and flexible-delivery approaches.

At no time in recent history has there been so much emphasis on teacher development. In the past, budgets for such instructional support systems wildly fluctuated with increases and decreases in overall internal and/or external budgets; for example, a reduction of ten percent in an institute's global budget often led to a more than proportional decrease in the teacher-development budget. A cursory study of recent budgets consistently shows a more stable picture for teacher-development program budgets.

Scanning the literature one is also surprised at the volume of dedicated staff development periodicals, texts and research, in addition to the broad array of networks, associations and organizations which promote teacher development at the local, national and international levels.

What has led to this increasing emphasis? Why are governments and institutional presidents matching their increasing quantity and quality of rhetoric on the topic with resource support? Although there is no single cause, no quantifiable, irrefutable evidence and no agreed universal impetus, there are trends to which practitioners and researchers are pointing.

A snapshot of the future educational landscape provides the viewer with the following scenarios:
1. A significant number of the current technical teachers will be eligible for retirement in the next 10-15 years.

2. There will be a scarce supply of replacement teachers as business and industry compete for highly skilled tradespersons and technicians within a limited labour pool.

3. As the student population becomes more diverse, disparate, more aware, consumer oriented and global in their outlook..., no longer will the same old curriculum and teaching practices be accepted.

4. The jobs of tradespeople and technicians are becoming more cerebral and technologically based; necessitating a more competent and current technical/vocational education.

5. The mean age of post secondary students will steadily increase as more upgrading, updating and retraining becomes necessary; therefore the real adult learner will be in our classrooms.

6. Programs will increasingly be offered in more flexible ways to students. Part-time programs offered in the evening and weekends will be on the increase, which in turn, will increase the use of part-time faculty. These instructors, who will probably have permanent day employment, will not be able to afford to become involved in the traditional teacher development programs.

7. The increased scope, quality, accessibility and ease of production of educational technology will allow for its widespread use.

8. "Quality" and "excellence" are currently the most fashionable educational buzzwords. From a "talent-development" or "value-added" perspective, the most influential factor on quality and excellence is probably the technical/vocational teacher.

9. Distance education, although never really a "learning alone" system appears to be moving in some jurisdictions toward a dual-type system; that is, a combination of classroom learning and distance learning. This type of configuration lends itself to technical teacher development.
Flexible Technical Teacher Development

10. As G.N.P. growth slows or stagnates even though budgets for technical teacher development are stable, capital budgets may in fact decline. More innovative approaches for preparing students for the skill requirements of the future, in adequate "workplace-like" educational settings, will require enterprising teachers armed with skills that very few possess today.

11. Educational research tells us that most teachers can learn the most complex and powerful classroom/shop strategies. Many of these strategies have the potential to move the majority of our students from the 50 percentile to the 90 percentile.

12. Recent teacher development has shown that a systematic integrated model as opposed to the traditional "patchwork" approach substantially improves teacher behaviour and student achievement.

The last two variables provide the framework for technical teacher development programs and requires further elaboration. The premise supporting the use of this framework is that no significant long-term teacher change or improvement results unless all of the following four steps are built into a teacher development program:

1. Teachers need to be able to study the theoretical basis or rationale of the teaching method to be adopted.

2. Teachers must be given an opportunity to observe demonstrations by persons who are relatively expert in the model.

3. Teachers need a relatively safe environment to practice the technique and receive feedback on its use.

4. Teachers need to coach one another as they work the new model into their repertoire, providing companionship. They need to help one another to learn how to teach appropriate responses to their students, and to figure out the optimal uses of the model in their courses. They need to provide one another with ideas and feedback.
The message appears to be clear. The study of the theory, the observations of demonstrations, and practice with feedback taken together (provided they are of high quality) are sufficient to enable most technical/vocational teachers to develop skills to the point where they can use the strategy fluidly and appropriately. However, the development of the skill does not ensure transfer to the classroom. Relatively few persons, having mastered a new teaching skill, will then transfer that skill into their active repertoire ... in fact few will use it at all. Continued practice, feedback and companionship of coaches is essential to enable even highly motivated persons to bring additional teaching strategies to their repertoire under effective control.

Using this framework, the operational "planks" can be strategically placed to provide the flexible delivery most often omitted from teacher development programs. Many of the delivery characteristics to be cited are common to two institutional technical teacher development programs. One program is currently operating at the British Columbia Institute of Technology (B.C.I.T.) in Vancouver, Canada, while the other, which is in its early stages of implementation, is at the Industrial Training Centre in the Bahamas. The former initiative, considered to be one of the most comprehensive instructional development systems in Western Canada, provides extensive teacher development and curriculum development support through a department called the Learning Resources Unit, which has more than 20 professional and curriculum production staff.

In the Bahamas, the Technical Instructor Training Program is one of three World Bank funded projects currently managed by the Association of Canadian Community Colleges (A.C.C.C.). The other two projects within the responsibility of A.C.C.C. are the Cluster of Related Skills Project and the Mobile Training Project. Although these latter two projects are directly interrelated, there is also more than an implicit connection to the Technical Instructor Training Project.

Both the Bahamian and Canadian teacher development programs are explicitly based on the previously described four step model. From this base each has taken a moderately different implementation path accommodating to their unique geographies, demographics, economics etc., variables within and external to their educational environment.

For the purposes of this paper the proposed and partially implemented Technical Instructor Training Program in the Bahamas will be described in more detail than the B.C.I.T. example. In spite of this focused view it should quickly become obvious that the proposed Bahamas approach may be adapted and applied to any vocational/technical educational environment.
Moving away from the core four step teacher development model, the Technical Instructor Training Program has the following salient features:

1. Consists of two components, pedagogical and industrial skills (see overview in Appendix).

2. Each component is organized into three levels.

3. The program is used as a pre-service and in-service vehicle.

4. Units within each level are short.

5. The three levels of the pedagogical component may be delivered as a complete block of 10-15 days or any combination of shorter blocks, e.g. 1 - 10 days.

6. Proposed scheduling includes day, evening, weekend, full-time and part-time arrangements.

7. The curriculum is based on the needs of the instructors and/or innovative practice in the technical educating field.

8. The curriculum is organized in learner-centred, outcomes-based print materials.

9. The program emphasizes application of the technical teaching strategies rather than the memorization of theoretical concepts.

10. The completion of in-service levels of the program is potentially linked to certification and salary incentives.

11. Local teachers are trained as facilitators in the program.

12. Teachers may challenge parts of the program based on related experience or education.

13. The peer coaching process is designed into the program.

14. Teacher self assessment is strategically built into the program.
15. Participants will be expected to practice and demonstrate the learned instructional strategies in simulated conditions, which are often videotaped.

16. Two pedagogical levels have a practicum component which promotes the "putting it all together" of the learning from each level.

A survey of technical/vocational institutes in any country would find only a minority possessing the qualities inherent in the Bahamas Technical Instructors Training Program. In an effort to add flexibility, the following additional attributes are currently either proposed or approved to be woven into the program delivery fabric. The case must be made here that flexibility is not promoted at the expense of the integrity of the 4 step teacher development model; that is, the theme of appropriate flexibility targeted for appropriate components and facets of the program, is central to this added dimension.

These flexibility dimensions may be summarized as follows:

1. Video learning material will support the first two elements of the four-step teacher development mode.

2. Print materials may be used on an individual or group basis.

3. Small groups of as few as 4 - 6 participants may take the level-one pre-service pedagogical component.

4. Segments of all units in level two and three of the pedagogical component may be delivered via print and video using didactic or cooperative study groups.

5. Completion and grading of assignments, projects and practicums will be at a distance.

6. Telephone conferencing is being considered as a means of interacting with teachers on the Family Islands.

7. Consultation, support and feedback by peer coaches and program facilitators will be provided on location.