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Towards more flexibility in training

A review of some experiences in rationalizing the provision of vocational qualifications

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Preface

Skills and knowledge are becoming increasingly important in competitiveness, growth and the creation of employment. As the type of skills are changing, training systems must respond to new imperatives, and offer flexible, demand driven ways of acquiring skills and competencies. Access to learning is a cornerstone to efforts for promoting more and better jobs for people, especially women.

In providing advisory and technical services to constituents, the ILO promotes the integration of training and employment policies; systematically accumulates information on practical experiences which can provide good reference points for policy development and formulation; supports debate on the priorities for human resources development; and demonstrates, in real situations, how actions to foster training contribute to the broader goals of employment promotion and social justice. A new strategic initiative, a Programme on Investing in Skills, Knowledge and Employability, which has been launched by the ILO, is one of the means towards achieving these goals.

The present review of experiences in the area of open and flexible learning shows how these models of training organization and delivery contribute to the adaptation of training systems in the changing economic and social context. Some of the issues, emphasized in the studies, are the need to strengthen partnerships between different actors - unions, enterprises, governments at different levels, private and non-governmental bodies to promote open and flexible learning, more profound and collaborative arrangements between training providers and employers, effective use of labour market information. Portability of skills is important for employment security. Workplace-based skills acquired from experience and/or by non-traditional forms of training are becoming as important as those derived from formal qualifications. Open and flexible learning is an effective means of providing 'soft skills*, such as problem solving, team working, negotiation, sharing knowledge, time management, etc., which are becoming increasingly important for employability. Open and flexible learning contributes to the achievement of more equitable access to training, especially in promoting gender equality and providing training opportunities for particular labour market groups, such as older and displaced workers, the unemployed, persons with disabilities who are most vulnerable to exclusion.

The studies included in the review emphasize the importance of creation of an appropriate environment in terms of incentives and regulation, and especially the establishment of appropriate funding models. While the State continues to play an important role in training, the most efficient solutions involve the participation of a wide range of public and private actors.

The purpose of this publication is the dissemination of information on the experiences in adapting training provision to changing economic and social needs. I hope that it will contribute to meeting frequent requests from training policy-makers and practitioners for comparative information. This publication may also be of interest to a wider education and training audience.

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Foreword

The constant improvement of skills and work-related competencies is an objective in most countries, and the demand for "lifelong learning" is increasing everywhere. The demand comes from various parties: from employers who are aiming at raising productivity and competitiveness; from employees who seek employment security, better career prospects and higher wages; from the unemployed who seek greater access to the labour market; and from various "non-traditional learners" such as informal sector employees, self-employed persons, displaced older workers and other specific groups with a high risk of exclusion.

Because of their critical role in the development of human resources, training systems must adapt to rapidly changing technologies and new forms of work organization. At the same time they need to respond to social objectives. In line with these new demands, many countries are reforming their training systems and developing specific programmes with greater emphasis on the flexibility and diversification of training organization and delivery. The present review provides insights into the experiences of a number of countries. It includes studies of reform of the national vocational training systems in Australia and Scotland intended to make training and skill formation more relevant to current economic and social needs; efforts in the United Kingdom and France to promote open and flexible learning through various types of programmes and approaches; and the United States' experience in organizing customized training to support local development efforts and to improve employment prospects. The studies have been prepared by authors who were closely associated with policy developments in their respective countries.

The ILO frequently receives requests from training policy and decision-makers, training planners and providers for information on new ideas and approaches in the training field, and especially for information on experience and methods of implementation in different countries. This publication is intended to provide reference material which can inform analysis and policy design in countries attempting to improve and reform their training systems, making them more flexible and more responsive to the changing needs of enterprises and workers.

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Introduction

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High-quality education and training of the workforce are increasingly becoming prerequisites for successful economic and social development. Indeed, according to the ILO *World Employment Report, 1998-99* entitled "Employability in the global economy - How training matters"[1], education and training are basic rights of individuals; education, skill development and training are vital ingredients for making economies more productive and globally competitive; and education and training have a potential role to play in pre-empting or mitigating such negative phenomena as social and economic vulnerability and exclusion.

Education and training today, however, are different, or rather must be different, from what they were some three to four decades ago. This fact is being increasingly recognized by governments, training policy-makers and training providers. The main causes for these differences are rapid structural and technological changes in economies and labour markets, the effects of globalization and intensified competition, new employment patterns and the transformation of work organization and production processes. As a result, there have been significant modifications in the composition and nature of skills needed by the individual to perform satisfactorily in a given job and to progress in his or her career. Intellectual creativity, problem-solving capabilities, team spirit, adaptation to changes in products, processes and services, readiness to deal with innovations and preparation for new tasks, and consciousness of responsibility are only some of the new requirements, in addition to technical competence, of a contemporary worker. A recent ILO study[2] gives the following example of new worker requirements: "The expanded role of production workers in quality control has implications for both the skill profile of workers and the way plants are organized. Ideally, workers should have the technical skills to cope with new tasks in a highly automated environment and to master the analytical and quality control techniques that are being incorporated into their jobs; psychologically, they should be capable and willing to take on more responsibilities, to identify problems and come up with ideas on how to overcome them, which is the essence of the continuous improvement *(kaizen)* process; and they should have the social and communication skills to be able to function well in groups."

Rapid changes in technologies, production processes, tools, equipment and materials cause fast depreciation of the value of initial education and training, which is intensifying the pressure on today's workers to permanently sharpen their previously acquired skills and to learn new ones. Says John Hillier, Chief Executive of the National Council for

[1] *World Employment Report, 1998-99 - Employability in the global economy: How training matters,* International Labour Office, Geneva, 1998.

[2] Gijsbert van Liemt: "Applying global best practice: Workers and the 'new' methods of production organization", in *Employment and training papers no. 15,* International Labour Office, Geneva, 1998.

Vocational Qualifications (NCVQ)[3] of the United Kingdom, "Education and training used to be like the measles. You caught it once or twice when you were young and then you didn't bother with it again."[4] It is different now. Education at school followed by any type of pre-employment training is no longer considered to be a final education. It is at best a platform on which continuing *lifelong learning* can be based. Perhaps employers' most frequently expressed requirements of workers entering the labour market nowadays are flexibility and adaptability. A worker must be able to learn on the job, including learning new skills, as workers are required to move more often, both horizontally and vertically, within the group of related occupations or even to change their jobs completely.

Both enterprises and individuals are now facing the challenge of adapting to changes and, in addition, the role of individuals in the modernization process is becoming increasingly important. This was especially emphasized at the G8 Kobe Jobs Conference: "Opportunities offered to individuals should be combined with a recognition of their responsibilities to seize these opportunities. ... Individuals should be encouraged to take up new challenges and to voluntarily enhance and upgrade skills to create an adaptable workforce."[5] Self-development is becoming a must in today's world of change.

In order to better satisfy much more varied and constantly evolving training needs, there must be wider opportunities for people to acquire new or to upgrade existing skills and knowledge to cope with changing demands of the labour markets. In line with these requirements, training providers and policy-makers are looking for ways of improving the relevance of education and training systems and developing innovative training concepts and delivery modes which are different from those prescribed by the traditional time-based pedagogy. In this move, the requirement of increased flexibility in training provision is becoming a key dimension in the formulation of vocational education and training policies, strategies and programmes.

By placing more emphasis on flexibility, training systems will respond effectively to many current demands for skill development, specifically:

- **meeting the needs of people as individuals and, at the same time, promoting self-development of trainees and encouraging them to take up new challenges of successful working life;**
- **diversifying ways of and options for acquiring recognized qualifications, increasing learning opportunities for various groups of the population, especially those unable to use conventional methods of education and training, optimizing available training potential, and promoting lifelong learning;**
- **enhancing the employability of those trained through competency-based approaches and individualization of training and arranging training programmes which match concrete employment needs.**

[3]In October 1997, the NCVQ merged with the Schools Curriculum and Assessment Authority to become the new Qualification and Curriculum Authority (QCA).

[4]*The Monitor*: Issue 4, Summer 1997, NCVQ, London,. United Kingdom.

[5]Kobe Jobs Conference, Chair's Conclusion. Kobe, Japan, 28-29 Nov. 1997.

The five studies which are included in this review describe some different experiences in the introduction, promotion and implementation of innovative training approaches aimed at achieving more flexibility in skill development. They deal with the following:

- **improving the relevance of vocational training and delivery approaches - recent developments in Australia's VET system;**
- **open and flexible learning in the United Kingdom and in the Moscow Region of the Russian Federation;**
- **an open system for individualized training offered by the GRETA Léman - a French training scheme for young people and adults;**
- **more flexibility through modules - Scotland's vocational training reform;**
- **the *Quick Start* customized training programmes in the United States.**

The studies cover a wide range of initiatives to make training provision more flexible: from the nationwide reform of the vocational education and training (VET) system (in Australia and Scotland) and systematic building of the system of open and flexible learning as a route to vocational qualification (in the United Kingdom) to the introduction of specialized training schemes (in France and the United States).

Synthesis of the studies

Definitions, concepts and approaches

***Flexible training* is considered, for the purpose of this paper, to refer to various alternatives to the traditional education and training systems and models of learning organization which allow for wider possibilities of skill and knowledge provision. The best-known flexible training arrangements are *distance learning* and *open learning;* the former has been in existence for a long time, and various forms of the latter have been spreading more recently. While these forms of flexible training exist mainly as an adjunct to the main educational systems, more radical reforms of vocational training aiming at increased flexibility have been undertaken in a number of countries. Scotland and Australia, which are included in this study, are among them.**

There exist definitions of various forms of flexible training, but the terminology used in different countries might have different meanings or may be used interchangeably. In the United Kingdom, the term *open and flexible learning (OFL)* received official recognition within the educational sector. It is defined as:

> **"the learning situation in which individuals choose a mix of traditional and new learning approaches and technology, and study at their chosen time and location and at their own pace."[6]**

OFL is a general term which embraces a number of major models of study arrangements such as, for example, centre-based open learning, distance study arrangements, flexible teaching arrangements, open/distance study using network technology, etc.

[6] *LMQR (Labour Market Quarterly Review)*, Feb. 1996. Department of Education and Employment, United Kingdom.

In Australia, the term flexible delivery is adopted, which is defined as:

> **"an approach to vocational education and training which allows for the adoption of a range of learning strategies in a variety of learning environments to cater for differences in learning styles, learning interests and needs, and variations in learning opportunities."[7]**

The following major conceptual, organizational and pedagogical principles are used as guides in designing and implementing flexible training:

- **Curriculum design is a continuous process and is based on industry-related occupational analysis.**
- **Training programmes are task based, rather than time based; they are designed in the form of flexible and interchangeable modules which allow for flexibility in entry and exit points, flexibility in scheduling learning activities, learner control and choice regarding the content, sequence, time, place and modes of learning.**
- **Learner-based training is preferable to instructor-led training; individualization of training is an important feature of the learning process.**
- **Attention is paid to the recognition of previously acquired knowledge and skills.**
- **Assessment is flexible and based on the student's ability to show competence in performing the job in a real or simulated environment.**
- **Appropriate learner support systems need to be established, including learning materials development, easy access to information on courses and services, learning facilities and resources.**

Two principal features of flexible training programmes have to be highlighted: first, they must be closely linked to employment, and, second, they are usually delivered in a modular form. Linking to employment means that training is competency based, i.e. the result of the programme is the student's demonstrated attainment of knowledge and skills required to accomplish the established objective or series of objectives and tasks relevant to a given occupational goal. The time factor is of secondary importance. The modular organization of training is based on the principle of giving the trainee, as he/she completes each element (modules, units, etc.), the ability to carry out a useful function or a certain competence and the possibility of accumulating skills and knowledge until he/she receives firstly a recognized qualification and then the opportunity for lateral and/or upward mobility.

The studies examine two approaches to promoting flexible training. The Australian and Scottish studies deal with reforming the whole VET system with an emphasis on the concept of flexibility, while those in the United Kingdom, France and the United States are devoted to different experiences in optimizing the training potential and diversifying the means of skill development through specialist training programmes and schemes based on non-traditional methods of learning and training organization. These two approaches have common components and elements or are interconnected in a logical and mutually complementary manner.

[7] Quoted from the Australian study.

In Australia the major elements of the reform agenda were: a competency-based approach to training delivery; assessment based on agreed national standards; the modularization of learning; greater flexibility in teaching and learning techniques; more flexible training pathways; greater utilization of appropriate learning technologies; and the integration of workplace and off-the-job training components. One of the goals of the reform was to "open" vocational education and training to competition and to increase the number of choices for clients. The promotion of flexible learning approaches through specific strategies was one of the key activities towards this goal.

The main thrust of the Scottish vocational training reform was the replacement of long large-scale courses with a combination of national modules to allow for flexible acquisition of nationally recognized qualifications based on standards set by industry. The system is now based on the National Certificate Modules: freestanding units of learning and certification with flexible application and notional study time. Scottish Vocational Qualifications (SVQs) and General Scottish Vocational Qualifications (GSVQs) have been created (analogous to NVQs and GNVQs elsewhere in the United Kingdom). The SVQ is a group award based on a cluster of modules closely related to an occupation. One of the most important features of SVQs is the flexibility of their attainment. They can be taken at all stages of a person's career and they are designed to be delivered in a variety of ways - at work, in colleges and other training organizations. There are also a number of flexible study options, including full time, part time, day or block release, open learning, and distance learning. SVQs are designed in close consultation with employers in order to meet the needs of particular jobs.

Open learning schemes, as experience in the United Kingdom, the Moscow Region of the Russian Federation and France suggest, have substantial potential for VET provision. This is especially true for centre-based open study which is considered to be the most effective form of open learning. It provides access to study materials, a space in which to study and tutorial support. The possibility of using modern information technology is an additional reason for wider application of this type of learning. Centre-based open learning is usually organized in the way of "learning by appointment", in which the student books his or her time at the learning centre in advance.

In Australia, *learning centres* have been established as mobile or fixed learning venues. These centres are typically common-use facilities at the community level providing resource and support services. Clients can access the centre on a needs basis, and learning can be pursued at institutions, in workplaces or at home. Similarly, in the United Kingdom the government document *The learning age*, published in February 1998 referring to the recent University for Industry[8] (UfI) initiative, describes the learning centres as follows:

> **"These will be places equipped with technology where people can go and access UfI courses and materials. The centres should be within easy reach of most people's homes. They could be in their firm, in a library, shopping centre, or football club, or at a school or further education college. ... The UfI will ensure that learning centres meet the high standard required for**

[8] As noted in the United Kingdom study, this title is a misnomer because this is neither a university, nor is it primarily for industry. At present it is used, however, as the official title of the initiative.

> **providing access to UfI programmes. Like any other learning institution, the UfI will look after its learners offering advice and support to businesses and individuals. Everyone who takes a course through the UfI will become a UfI 'student'."[9]**

Satisfaction of training needs at community level and optimization of the local training potential were the major goals of the French training scheme which was named SOFIE - an acronym of the French title *Individualized and Europeanized Open Training System*. SOFIE's mission is to offer "personally chosen" individualized training courses in many fields to the unemployed and to those in work, whatever their age, their available training time or their status. It is a complete training system which covers all the possible training solutions within a given area and which attaches importance to the individualization of both student itineraries and learning possibilities, whichever public and training objectives are concerned. It aims to offer a permanent service to all types of candidates for training.

Another example of the second approach is the *Quick Start* programmes of the United States. Quick Start is a short-term industry-specific training or retraining programme specifically designed and customized for a new or expanding company or one which must retrain its workforce because of changing technology or production processes. These programmes provide flexible and relevant training and contribute to the improvement of employment security and perspectives for local people on the one hand and to the raising of competitiveness of firms on the other. Companies that work with Quick Start training programmes find that they save time and money during the crucial start-up period. This is particularly true for companies that use pre-employment Quick Start training programmes which enable industries to have employees trained for specific jobs, so that when an expansion or opening takes place they can be immediately functional. The programme contributes also to the capacity building of enterprises for continuing training.

Policy and institutional framework

The major reason for the Australian VET reform was the comparatively low skill level of the country's labour force - a deficiency which was generally recognized by the Government, industry and trade unions. Flexible learning and training delivery was identified as one of the key areas within the Reform Agenda. A flexible delivery working party was established and a strategic document *Flexible delivery - A national framework for implementation in TAFE*[10] was adopted. The document identified the "traditional orientation and organization" of vocational education and training institutions as an impediment to access. Physical facilities, locational factors, and operating hours were features of traditional institutions which presented barriers to many prospective clients and effectively limited the capacity of institutions to deliver training. Progress towards implementing flexible delivery could only be achieved through significant systems and cultural change: "TAFE is moving out of its colleges and into the market place. It is coming to clients ... not demanding that clients come to it." The *National Framework* provided planners, practitioners and administrators with the foundation principles of flexible delivery and identified areas for action to facilitate the implementation of flexible

[9] Quoted from the United Kingdom study.

[10] TAFE: Technical and Further Education.

delivery, specifically those dealing with organizational structures and processes, funding mechanisms, creation of a positive attitude to change, staff development, curriculum design, learning materials and resources. Piloting of flexible delivery is being implemented under the *National Projects Programme,* which includes numerous projects undertaken at national, state and territory levels. In accordance with the recently endorsed Flexible Delivery Implementation Plan, a series of ten research projects was launched with the ultimate aim to mainstream as of 1998 the application of flexible delivery at a provider level.

In the early 1980s, the Government of Scotland began to pursue its strategic objectives in labour market and education policy through the systematic reform of vocational training and unemployment programmes. A document *The new training initiative,* published in 1981, established the following main objectives for the country's training system:

- **to develop skill training and apprenticeship in such a way as to enable young people entering at different stages and with different educational attainments to acquire agreed standards of skill appropriate to the jobs available and to provide them with a basis for progress through further training;**
- **to move towards a position where all young people under the age of 18 have the opportunity either of continuing in full-time education or of entering a period of planned work experience combined with work-related training and education;**
- **to open widespread opportunities for adults, whether employed or returning to work, to acquire, increase or update their skills and knowledge during the course of their working lives.**

The Scottish Vocational Education Council (SCOTVEC)[11] was set up as a company limited by guarantee with the task of producing modules and awarding national certificates. The Council was also responsible for keeping and providing a record of all modules the student has registered for and achieved, quality assurance, approval of all training organizations providing new qualifications, validation of newly developed qualifications and verification of the awards.

Although no system of open and flexible learning has been created in the United Kingdom, a series of successive initiatives has led to the acceptance of open learning as a normal method of vocational education and training at both the training provider and policy levels. The recent government training policy for lifelong learning intends to establish such a system linking what already exists into a *national learning network*. Central to the government policy is the already mentioned University for Industry which builds on previous experience in open and flexible learning and which is planned to:

- **be the hub of a national learning network extending to workplaces, homes and local learning centres;**
- **act as a cataloguer and broker of information, materials, courses and services;**
- **provide access to user-friendly services on the Internet and create links with tutors, experts and other learners;**
- **commission new learning programmes in strategic areas;**

[11] In 1997 SCOTVEC was reorganized into the Scottish Qualification Authority (SQA).

- **sustain an accessible system of support and guidance services;**
- **stimulate mass marketing of learning opportunities.**

Experience with Quick Start programmes in the United States shows enhanced collaboration among employers, training providers and government agencies in providing training for the workforce and effective use of states' training funds during periods of economic restructuring. The state governments attach high priority to these programmes, as they contribute substantially to the security of employment and business development which creates new jobs for the people.

Introduction of the SOFIE in France was a response to profound changes in the training market: an ever-increasing demand for training and moving from a "supply" model to a logic of "demand". This was facilitated by some decentralization of decision-making in training matters, specifically by giving the regions more authority.

Major issues and success considerations

The studies emphasize the need to strengthen partnerships and collaborative arrangements between different actors to promote open and flexible learning. In Australia, the adoption of flexible learning has been promoted at the national level; however, progress largely depends on the degree to which state training agencies pursue the agenda. Consultation arrangements have been established between the federal and state governments on information and resource sharing. State vocational education and training agencies have embraced the principles of flexible learning and have eagerly vied for project-specific funding provided by the federal Government to undertake pilot projects and related research activities. The Australian Council of Trade Unions (ACTU) actively participates in the implementation of the strategy to raise the awareness of the benefits offered by flexible learning. Collaboration among training authorities, industry training councils, unions and private training organizations has promoted the adoption of a strategic document on the introduction of flexible delivery in TAFE. Implementation of pilot projects suggests a gradual transition to flexible learning/delivery. This approach allows training providers to work through the issues concerning the creation of a flexible learning system without causing major disruptions to their continuing education and training commitments. As many training providers need to maintain full education and training services during pilot/implementation periods, a gradual approach to the introduction of flexible learning appears to be the only realistic option.

The role of industry in the vocational education and training system has been formalized through the establishment of Industry Training Advisory Bodies (ITABs). ITABs receive federal government funding to research and formulate training plans in coordination with training agencies. The industry participates in the direct development of national training products under the Training packages initiative which allows industry to customize training. Each training package includes a set of core elements, comprising competency standards, national qualifications and assessment guidelines applicable across an industry or sectors. Training packages may also include a range of additional material such as learning strategy, assessment materials and professional development materials. Training packages facilitate the development of flexible training programmes to meet enterprise,

regional or individual training needs, while maintaining the integrity of a national qualification.

An important element is the induction of students and staff into the system of flexible learning. Flexible learning requires a different set of expectations and skills on the part of both students and teachers. The self-directed nature of flexible learning requires of students a recognition of the learning choices available and an appreciation of the responsibility of self-directed learning. Equally, teachers need to recognize the expanded role which facilitating flexible learning requires, including a range of supporting responsibilities and maintaining communication with students beyond traditional contact hours.

VET funding models need to be redesigned to make them consistent with flexible learning, as well as with the strategy of opening vocational education and training to competition. In Australia, a number of options are under consideration, specifically, modification of government funding using performance indicators which are not based on contact hours, competitive tendering and an 'entitlement' or voucher system.

In the United Kingdom there has been a gradual build-up of interest in open learning through various programmes. With the injection of funds into the development of open learning schemes, there were enough people with interest and ideas. In the Moscow Region, open and flexible learning was introduced for highly educated personnel who were very receptive to new ideas, although adaptability to local conditions was of particular importance. In other situations, however, the introduction of open and flexible learning could be seen as a threat to established practices. Because of the complexity of open learning and the interaction of many elements for which different bodies are likely to be responsible, there needs to be some form of system which links the various actors and which has responsibility for making open learning work. Effective development and sustainability of open learning programmes depends also on the solution of issues related to such areas as awarding qualifications, quality assurance, information and advice, research, monitoring and evaluation, and learning materials.

Finance is considered to be a main constraint on the development and sustainability of open learning. Once pump-priming of project funding ceases, there is severe financial pressure on open learning organizations. When planning open learning developments at the national or regional level, the following sensitive issues should be considered beforehand: the initial investment; the relationship between costs and benefits; whether there are areas of importance but poor commercial viability which will require a continuing subsidy; the adequacy of the funding; the need for continuing funding.

Creation of a local system which is able to offer modular and individualized courses, like the SOFIE in France, requires that certain conditions be met. First, its usefulness on a social and economic level has to be demonstrated and in particular its capacity to conceive training which will respond suitably to the economic and social needs identified in the employment zone concerned. A virtual training demand must justify its creation and development. Also, the idea of qualitative changes and research must be totally internalized by the system's different participants.

Among the key issues in the Scottish vocational training reform, the following have been highlighted: involvement of employers, small firms in particular, in the design of vocational qualifications; teaching staff development; incorporation of broad and transferable skills into the system of unitized learning; and the availability of place, time and resources for the enormous increase in adult part-time students. As a result of the Scottish vocational training reform, a more relevant and responsive curriculum has been introduced which meets the needs of employers. Moreover, in many occupational sectors the overall aims and content of training programmes are determined by employers or by their lead bodies and local enterprise companies (organizations promoting the local economy). Larger firms, in particular, take full advantage of training flexibility and actually participate in designing industry-specific qualifications.

The main driving force behind Quick Start training programmes is economic development and job creation in the respective regions. Business organizations, industry, labour offices and private sector are partners in these development efforts. The essential element of successful Quick Start programmes is local capacity building. Participation of the labour agency staff, company representatives, along with the training provider, in the development of the programme at company level ensures the capacity to continue after the initial funding and assistance ends. Funding support from an international or any other external source is important to demonstrate the effectiveness of the programme at the beginning; this should be followed by 'mixed' funding from the company, government and participating agency.

Learning material is an important component of flexible training systems. The introduction and implementation of various open and flexible training programmes in the United Kingdom and Australia generated a large amount of learning materials and established specialist projects and structures to support these programmes. In Australia the Open Learning Information and Materials Clearing House (OLIMCH) acts as a central depository and information service on open learning course materials. An effective approach to learning material development was tested in the United Kingdom, where it was found that it would be easier and more cost-effective to train subject experts in the rudiments of educational technology and to give them a disciplined approach to learning material writing, rather than to attach highly qualified educational technologists to material writing teams. An experiment was carried out with teachers of mechanical engineering craftsmen, under the auspices of the Open Learning Systems Project of the Council for Educational Technology, in an accelerated workshop at Ferryside in Wales. The result was a qualified success, and aspects of the so-called "Ferryside system" have been successfully applied in the United Kingdom, India, Pakistan and Russia.

Information technology is increasingly being used to extend open and flexible learning opportunities in vocational education and training. In addition to the application of technology to the learning activity itself, efficiencies are also gained through applying technology to resources, support, administrative and management services. The Internet offers significant potential for open and flexible learning.

Effective implementation of flexible learning and delivery systems requires clear commitments by all parties concerned: the government, training planners and practitioners, employers and the clients themselves. As summarized in the Australia study, the creation of favourable conditions for wider introduction of flexible training delivery should be pursued by adopting appropriate strategies which aim to:

- **raise the awareness of governments of the benefits offered by flexible learning in terms of raising the skills of the population and the productivity implications for the labour force;**

- **through convening expert working parties, conferences etc. and promoting access to resource centres, raise the awareness of education and training planners/practitioners/administrators of flexible learning and delivery objectives and methodologies which facilitate implementation;**

- **through more flexible learning arrangements, including promotion of collaborative efforts between education and training providers and industry, raise the awareness of industry of the benefits offered by flexible learning in terms of the opportunities to enhance employee skills;**

- **through the provision of pre-enrolment counselling services, print and multimedia material explaining the features of flexible learning and the obligations of self-directed learning, raise the awareness of clients of the benefits offered by flexible learning in terms of choice of learning mode and entry/exit points, module-based courses, competency-based assessment, recognition of prior learning, etc.;**

- **through promoting resource centres, publishing planning and design materials, and case studies which illustrate theory with practical examples, raise the awareness of education and training planners/practitioners/administrators of the importance of strategic planning for the effective implementation of flexible learning and delivery systems.**

Improving the relevance of vocational training and delivery approaches Recent developments in Australia's vocational education and training system

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"*Much innovation, in practice, is rather mundane and incremental rather than radical. It depends more on a cumulation of small insights and advances than on major technological breakthroughs. It often involves ideas that are not new but have never been vigorously pursued. Innovation results from organisational learning as much as from formal R&D. It always involves investment in developing skills and knowledge, and usually in physical assets and marketing effort."* (Porter, M. *The Competitive Advantage of Nations*, 1990, p. 45).

Introduction

During the 1990s the Australian Government has introduced reforms designed to "open" the vocational education and training market to competition. Through consultation processes established between providers, stakeholders and clients, the Australian Government is seeking to achieve collective ownership of the responsibilities for change management. A range of system-wide reforms is being pursued to accommodate increased competition between providers and increased choice for clients.

Many of these reforms can be seen as concomitant to the promotion of flexible learning. Indeed, in recognition of the need to raise skill levels among members of the labour force, the particular benefits offered by flexible learning approaches are being pursued through specific strategies. The combined impact of the strategy to promote competition and those strategies specific to promoting the adoption of flexible learning approaches are expected to achieve a significant extension of flexible learning in the Australian vocational education and training (VET) system.

In many ways this two-tiered approach provides a paradigm for the implementation of flexible learning. At the provider - client level, there are specific changes which must take place in the areas of curriculum design and pedagogical practice. These must be supported by system-wide changes which provide appropriate performance indicators, management information systems, funding models, etc.

In Australia the process of effecting reforms needs to be considered in the context of the system of Federal Government. The publicly-funded Technical and Further Education (TAFE) colleges are the major providers of vocational education and training in Australia. The TAFE system is administered at the State Government level, although State vocational education and training agencies depend on significant funding from the Federal Government. IMF statistics indicate that Australia's Federal Government raises revenue 1.5 times its spending requirements, compared with States raising about 60 per cent of their spending requirements across all budget areas (Goss 1996:91). Despite States' fiscal

dependence on the Federal Government, the support of all of the State agencies is required to achieve nationally consistent reforms.

For some time higher education institutions have individually pursued international examples of best practice in flexible learning.[1] In the vocational education and training sector, TAFE colleges have been at the forefront of flexible learning developments. State vocational education and training agencies have embraced the principles of flexible learning and have eagerly vied for project-specific funding provided by the Federal Government to undertake pilot projects and related research activities. This work has been supported by consultation arrangements established between the Federal and State Governments. Information and resource sharing has occurred on an unprecedented scale, providing a wealth of information on a range of education and training issues, including flexible learning and delivery. Recently these arrangements have been extended to include Industry Training Advisory Bodies (ITABs).

The anecdotal success of individual pilot projects and collaborative research efforts belies progress on system-wide change. Nationally consistent arrangements in a number of key areas are yet to be achieved. For Australia, the need to achieve national uniformity might be likened to the need for common-border countries to have agreed qualification standards and recognition arrangements which facilitate the mobility of students and labour. Where such arrangements are not well established, the operation of the training and labour markets will be impeded. Significantly, agreement is also yet to be reached on a national funding model which would accommodate greater competition and different delivery modes. Some of the proposals being considered are discussed in Section 5.

While these major issues remain unresolved, flexible learning initiatives pursued as local ventures, however modest, provide a practical way forward. In many cases, local ventures have provided impetus to the wider adoption of flexible learning systems. The recent involvement of industry under the *Training Packages* initiative (see Section 8) and the growing number of private providers extends the scope and possibilities for flexible learning and delivery. In many instances, firms are pursuing the education and training needs of their employees with a suite of flexible learning products and systems, developed both in Australia and overseas.

This paper identifies recent government initiatives to promote flexible learning and considers the experiences of providers in implementing flexible learning and delivery systems in Australia.

1. A brief historical background

Throughout its history, Australia had relied on the importation of skilled labour. That is, the accumulation of human capital in Australia had followed a pattern whereby people with skills acquired in overseas countries have been attracted and/or assisted to migrate to Australia. This phenomenon might be considered as a reasonable adjunct to Australia's history of recent colonization and general reliance on capital from overseas, which enabled it to exploit its natural resource endowments.

The accumulation of human capital by this means was promoted by both colonial and federal governments. In times of economic growth and high wages, Australia's

attractiveness to migrants was understandably high. Skilled migrants with sufficient mobility could take advantage of wage differentials and other incentives that were offered from time to time (such as assisted passage and subsidized land for settlers).

The impact on the profile of Australia's labour force was significant. During the 1950s migrant workers contributed to over 66 per cent of the net increase in Australia's manufacturing workforce. In the 1960s a decline in the number of Australian-born manufacturing workers was supplemented by a further increase in the number of migrant workers (Dyster and Meredith, 1990: 259). The emphasis placed on skill levels was reflected in migrant entry requirements associated with various immigration policies through to the 1970s.

Through this process, Australia's skill-intensive industries came to depend on imported human capital. The implications of relying on this pattern of human capital accumulation on the nation's vocational education and training effort were apparent. Over the period 1964 to 1971 Federal Government expenditure on VET was A$ 106 million, or about 0.001 per cent of GDP (Schofield, 1994: 58). The contribution to vocational education and training by the private sector over the period was minor, primarily involving the traditional workplace instruction of apprentices.

In the early 1970s Australia experienced a rapid decline in its terms of trade. Due to Australia's reliance on exports of primary products, the decline in commodity prices depressed incomes to a greater extent than in other OECD countries. The associated declines in growth and rapidly escalating inflation marked the appearance of stagflation in the Australian economy. In sharp contrast to the relative stability of the 1960s, Australia's labour market experienced a significant increase in unemployment. This quantum shift in the level of unemployment marked a structural adjustment in the Australian economy and labour market.

The change in economic conditions also reduced Australia's ability to rely on immigration as the primary source of additions to the country's human capital. In less prosperous times attracting migrants was not a reliable method of supplementing skill shortages in the local labour market. Australia's practice of 'importing' a large part of its human capital came under political scrutiny as the number of unemployed increased.

Conditions in the economy and the labour force had reached a critical point and the issues of unemployment and skills needed to be addressed in an integrated way. Immigration continued, but less emphasis was placed on the skills of prospective migrants. To improve its international competitiveness, Australia needed to focus on the skill levels of its workforce.[2]

Over this period vocational education and training had been modelled on the United Kingdom system of the time. The system was largely neglected until the early 1970s, with shortages in particular skill areas being supplemented by the immigration of ready-skilled workers. Additions to human capital through the mechanism of migration had distracted attention away from the education and training priorities presented by changing economic conditions. As a result, the local labour market was less responsive to the conditions of the 1970s and this impeded the economy's capacity to recover. To some extent this problem remains today.

2. Initiatives to develop VET

In 1973 the Australian Committee on Technical and Further Education (ACOTAFE) was established to advise the Federal Government on issues in Australia's vocational education and training system. The Committee, also known as the Kangan Committee, consisted of Myer Kangan (Chairperson), Deputy Secretary of the Australian Department of Labour, representatives of State education systems, industry and unions. The Report, provided to the Government in April 1974, identified the importance of Australia's technical and further education (TAFE) sector. Key findings included:

- **that priority in TAFE should be given to the development of the individual rather than in directly matching the manpower requirements; and**
- **that opportunities for recurrent education should be available to people throughout life and through a broad approach to technical and further education where an environment is created in which self-motivated individuals can reach their vocational goals and in which motivation may be generated in people who have lost it. (Australian Committee on Technical and Further Education, 1975: xviii).**

Other OECD countries were pursuing similar strategies; indeed the ACOTAFE acknowledged the guiding influence of the UNESCO International Commission on the Development of Education 1972 report *Learning to be: The world of education today and tomorrow*.

The ACOTAFE Report was a milestone in the development of vocational education policy in Australia. The Report identified a number of key principles which remain relevant today:

- **the importance of vocational education and training to the national economy, to enterprises and to the individual;**
- **the need for a broad concept of and vision for technical and further education;**
- **the need for a balanced perspective on the roles of the sectors of education and training;**
- **the need to adopt a lifelong perspective through the concept of recurrent education (Johnston, 1994:128).**

While the ACOTAFE Report emphasized a non-prescriptive, humanist approach based on principles of equity and democracy, it also recognized (although outside its formal terms of reference) the area of industry training as an important adjunct to the institution-based vocational education and training which continues to form the basis of the Australian system. Occupational relevance was identified as a key principle in courses.

In adopting the recommendations of the ACOTAFE Report, the Federal Government demonstrated its commitment to TAFE through recurrent and capital grants which provided State systems with the means to implement significant reforms and upgrade facilities. The 1974 Federal Budget allocated A$ 96.5 million to TAFE over two years, an amount almost equal to the total spent by the Federal Government over the previous ten years (Schofield, 1994: 58).

The commitment of the Federal Government was reflected in practical advances in key areas. The TAFE Commission was established to co-ordinate national policies and structures and to fund State systems (Goozee, 1993: 38). Key areas for development included nationally consistent curriculum, accreditation and qualifications. In pursuing the goal of national accreditation, a committee was established to examine the fields of electrical engineering and business studies.

In terms of participation, the change in student numbers over the period provides some indication of the implications of the additional focus. "In the first year for which we have defensible national enrolment figures, 1976, there were 768 000 students, of whom less than 40 000 were full time. In 1982 enrolments totalled 1 027 000 with 62 000 full time students. Over the same period TAFE expenditure in constant values rose by nearly 50 per cent from $667 million to $965 million". (Schofield, 1994: 69).

In 1973 the Federal Government had also pursued the area of industry training through a separate process. The National Training Council was established to guide the extension of training systems within industries. Industry training committees comprising government, industry and employee representatives were set up to facilitate this process. These would become the present day Industry Training Advisory Bodies (ITABs), which form an integral part of vocational education and training planning.

A Committee of Inquiry into Labour Market Training was established to report on the relationship between training and labour market policies. Key recommendations included:

- **the need to establish a reliable labour market information system;**
- **the need to review and rationalize labour market training assistance;**
- **the introduction of group training for apprentices, whereby apprentices could undertake the work component of their training with a number of employers to provide for continuity; and**
- **more effective use of institutional facilities.**

An important outcome of this report was the creation of a number of financial assistance schemes available to both individuals and employers involved in training (Goozee, 1993: 28).

Implicit in the Federal Government's approach of separately establishing ACOTAFE and the NTC/Inquiry into Labour Market Training was the recognition of the individual:

> **"The [ACOTAFE] Report envisages a major shift of emphasis. It abandons the narrow and rigid concept that technical colleges exist simply to meet the manpower needs of industry, and adopts a broader concept that they exist to meet the needs of people as individuals ... The Report takes a long step in the direction of lifelong education and of opportunities for re-entry to education. It recommends unrestricted access for adults to vocationally oriented education." Hon. K Beazley, Federal Minister for Education, 1974 (in Goozee, 1993: 24).**

Vocational education and training has remained a priority for successive Federal Governments.

3. Development of flexible learning in Australia

Many of the principles of flexible learning had been enshrined in Australia's distance education system over a number of years. Australia had a history of using broadcast media to provide educational services, such as the school of the air, an interactive radio service which allowed school teachers to communicate with students over a number of different, typically remote, locations. The impetus to this innovation was recognition by government of its responsibility to provide educational services to the children of farmers, for whom attendance at school institutions was not feasible due to locational factors.

Flexible delivery modes had also been used for some time in the area of Adult and Community Education (ACE). This area of study was considered an adjunct to the mainstream vocational education and training system, with ACE courses typically being awarded lower-level certificate qualifications. Modules in ACE were offered in flexible delivery modes in recognition of widespread community interest, especially among mature age students, in acquiring additional skills across a range of areas while continuing to manage employment/personal commitments.

In the university sector, Monash University's Distance Education Centre had commenced delivery of units using the national broadcasting service as a medium. This demonstrated the application of flexible delivery through a popular medium, although it was limited to the 'passive' presentation of learning material. However, in addition to delivering information to its primary client group, the broadcasts may have also served to increase community awareness and acceptance of the concept of flexible learning.

While innovative in their approaches, the application of flexible delivery as a feature of ACE, along with developments being pursued by universities, mainly offered examples in relation to curriculum design and flexible delivery modes. Developments in a number of other areas would need to proceed to complete the suite of features necessary for the implementation of flexible learning systems.

Implementation of the principles of flexible delivery requires the integration of strategies to design and formulate curricula, assessment tools, performance and evaluation measures which utilize various forms of media and technology in delivery. In this holistic sense, flexible learning and delivery has only recently emerged as a feature of coordinated strategies for vocational education and training in Australia.

3.1 Initiatives to promote flexible learning

National Training Reform Agenda

Economic imperatives continue to highlight the need for Australia to raise skill levels. The comparatively low proportion of the Australian labour force with post-school qualifications is a deficiency generally recognized by government, industry and unions alike. The Australian Council of Trade Unions reports *Australia Reconstructed* 1986 (AGPS 1987) and *A Programme Towards Full Employment* 1993 indicate that the union movement sees the reduction of unemployment as a pre-eminent step in improving the economic and social well-being of individuals. The important principles outlined in the ACOTAFE Report

remain relevant, but the process for providing for individual welfare has come to focus on increasing individual employability.

While progress on major issues continued over subsequent years, [3] the diffusion of responsibility brought about by the proliferation of committees made the management of the national process cumbersome. The National Training Reform Agenda (NTRA) was established as an attempt to provide a new focus to the reforms being pursued in the sector.

Under the NTRA, reforms were linked to specific objectives. The set of objectives described as the National Training Reform Agenda comprised the initiatives of consecutive Ministerial Councils for Vocational Education and Training (Ministers from Federal, State and Territory governments) over the period since 1989.

While these initiatives had a common theme in reforming Australia's training system, they were pursued in a somewhat disparate way. The 'agenda' for training reform itself became overly complex in terms of the clarity of relationships between policies and national system goals.

In 1990 the report of the Training Costs Review Committee was considered by the Ministerial Council. Improved efficiency in the TAFE sector was to be facilitated through the development of a national training curriculum and accreditation system. Also identified was the need for TAFE to form closer links with industry to improve the relevance and responsiveness of TAFE education and training to industry needs.

In 1992 Common and Agreed Goals for Vocational Education and Training in Australia were endorsed by Federal, State and Territory Ministers. Again the emphasis was on cooperation, but the involvement of industry became more formalized. Also in that year, agreement was reached through the Council of Australian Governments to establish the Australian National Training Authority (ANTA).

Legislation passed by the Federal Government set out the functions of the Authority and its role in allocating and paying funds to the State systems. The Federal Government injected additional funding into State vocational education and training (VET) systems which, through monitoring conducted by ANTA under its training profiles methodology, was related to State performance in terms of 'training effort' and progress toward reforms. Funding was also provided for research into areas identified as key initiatives in vocational education and training. One of the key areas is flexible learning/delivery.

Flexible Delivery Working Party

In 1991 the Flexible Delivery Working Party (FDWP) was established for the purpose of developing integrated strategies for applying flexible delivery to vocational education and training in Australia. Consultation with the Vocational Education and Training Advisory Council (VETAC), State government TAFE systems, industry training councils, unions and private training organizations provided input to the strategic document: *Flexible Delivery - A National Framework for Implementation in TAFE (*1992*)*.

Endorsed by Australia's National TAFE Chief Executives Committee in 1992 as the blueprint for implementing flexible delivery in Australia's vocational education and

training system, the report defines flexible delivery and identified a number of key characteristics.

> **"Flexible Delivery is an approach to vocational education and training which allows for the adoption of a range of learning strategies in a variety of learning environments to cater for differences in learning styles, learning interests and needs, and variations in learning opportunities.**
>
> **Flexible delivery is characterized by:**
>
> - **flexibility in entry, programme components, modes of learning and points of exit;**
> - **learner control and choice regarding the content, sequence, time, place and method of learning;**
> - **appropriate learner support systems;**
> - **the application of learning technologies where appropriate;**
> - **access to information on course and services;**
> - **access to appropriate learning resources;**
> - **flexible assessment processes.**
>
> **Flexible delivery finds expression in many ways including:**
>
> - **the delivery of learning at a variety of locations including the workplace, the community or neighbourhood and the home;**
> - **resource based learning with tutorial support;**
> - **the application of technology to enhance delivery or improve access opportunities;**
> - **the extension of educational opportunities through access programmes, literacy programmes, second and third-chance opportunities for obtaining qualifications and bridging courses." (FDWP, 1992: 2).**

The National Framework

The purpose of the *National Framework* is to:

- **explain the role of flexible delivery in supporting the national training reform agenda;**
- **establish nationally agreed key principles for the implementation of flexible delivery;**
- **provide a mechanism thorough which state and territory TAFE and training systems can develop innovative plans and strategies appropriate to their needs and the needs of their clients; and**
- **provide direction for national collaborative development in flexible delivery including activity at the national level to support state and territory implementation.**

The *National Framework* provided planners, practitioners and administrators with the foundation principles of flexible delivery. Although primarily developed for the public-funded TAFE system, the principles identified in the document are relevant to all education and training sector participants in understanding the opportunities, roles and responsibilities of flexible delivery.

The *National Framework* was developed to be consistent with national system goals developed under the National Training Reform Agenda. These goals included a competency-based approach to delivery; assessment based on agreed national standards; the modularization of learning; greater flexibility in teaching and learning techniques; more flexible training pathways; greater utilization of appropriate learning technologies; and the integration of workplace and off-the-job training components.

The 'traditional orientation and organization' of vocational education and training institutions was identified as an impediment to access (FDWP, 1992: 1). Physical facilities, locational factors, and operating hours were features of traditional institutions which presented barriers to many prospective clients and effectively limited the capacity of institutions to deliver training. Progress toward implementing flexible delivery could only be achieved through significant systems and cultural change: "TAFE is moving out of its colleges and into the market place. It is coming to clients ... not demanding that clients come to it." (FDWP,1992:5).

Beyond the institutions themselves, system-wide changes to national standards for learning materials, delivery strategies, professional development and operating structures would be required. The *National Framework* identified a number of areas for action to facilitate the implementation of flexible delivery:

- **TAFE's organizational structures and processes support and promote flexible delivery;**
- **funding mechanisms and performance indicators are appropriate for flexible delivery;**
- **a positive attitude to change is created to ensure the creation of learning environments which are flexible and responsive to the need of clients;**
- **adequate numbers of skilled staff are available to plan, manage and implement flexible delivery approaches and to design and develop appropriate learning programmes and resources;**
- **flexible delivery options are integrated in curriculum design and the development of learning materials and resources;**
- **learning materials and resources are easily accessible and effectively managed;**
- **delivery strategies improve access, participation and successful completion based on satisfaction of client needs; and**
- **TAFE systems and individual institutions collaborate in all areas of flexible delivery. (FDWP, 1992: 6).**

Various aspects of flexible delivery

In addition to the *Flexible Delivery - A National Framework for Implementation in TAFE (*1992*)* report, the FDWP produced a series of reports on various aspects of flexible delivery:

- **Appropriate Technologies for Flexible Delivery**
- **Physical Facilities for Flexible Delivery**
- **Learning Centres**
- **Towards New Alliances for Learning in Industry**

Each of these reports identifies aspects of flexible delivery which must be considered in an integrated approach to implementation. Throughout the reports a common theme is the importance of undertaking strategic planning. Reliable and timely management information systems need to be established to identify conditions at various stages within each area. The following is a summary of the key issues and recommendations.

Appropriate Technologies for Flexible Delivery **(FDWP, 1993a)**

To a significant extent the development of new technologies, especially in the area of communications, has paved the way for the extension of flexible delivery in vocational education and training: "The successful application of these new technologies to learning has affected and will continue to affect the design, content and delivery of vocational education and training, with its focus on providing easy access to all learners."

Simulator-based experiential learning is a leading example of how technology can enhance the quality and cost-effectiveness of the learning experience. In addition to the application of technology to the learning activity itself, efficiencies are also gained through applying technology to resource, support, administrative and management services.

The efficacy of technology in relation to learning requires both accessibility and acceptance. The widespread adoption of personal computers by households represents significant private investment in and acceptance of a technology relevant to flexible delivery. A survey by the Queensland Distance Education College suggested that 45 per cent of its students had a personal computer at home (FDWP, 1993a).

The extent and rate at which emerging technologies, such as digital television and subscriber television services with enhanced interactive capabilities, are accessed and embraced by clients and providers will provide significant impetus to the rate at which learning materials will need to be adapted.

While technology has provided various media which facilitate flexible delivery, the issues surrounding the implementation of flexible delivery are not solved by the application of technology alone. The management of technology acquisition and application is crucial. Hardware, software and technical service costs are significant, and errors in selection are costly. Providers should pursue collaborative arrangements which are cost-effective, ideally at a national level. This should include consultation with IT experts and industry to ensure that progress is made in achieving inter-operability of learning and workplace technologies.

Physical Facilities for Flexible Delivery **(FDWP, 1994)**

Flexible delivery has implications for the management of existing education and training facilities and capital works priorities. Flexible delivery requires physical facilities which allow for a range of delivery modes, appropriate support resources and services, and

variable communication/attendance patterns and demand. Integral to the physical facility is consideration of the technologies in conjunction with which it operates.

In determining the most appropriate and effective way to meet changing demand, planners should consider the needs of the client first. That is, rather than basing the assessment on the environment required to deliver a module, planners should consider what mode of delivery/enabling environment is most accessible, attractive and conducive to client learning. This should include consideration of supporting resources and services, including those related to both learning and access.

Considering the needs of the client above those of the provider may result in changes to existing accommodation arrangements. The reasons for such changes will need to be communicated to both clients and staff to ensure that those who are disrupted by the process appreciate the benefits of the new arrangements and do not suffer from any feeling of diminished status.

Where an increase in or changing pattern of demand is identified, planners should consider a broad range of alternative solutions before new construction. Through regular monitoring of utilization facility, managers can respond to changing demand patterns as they develop. Shared facilities and resources managed jointly, both within a sector and across sectors, should be considered. Leasing also provides flexibility which many businesses use to their advantage. In Australia there are examples of institutions choosing to lease space in shopping complexes to meet the access imperative of the community.

The adoption of an innovative delivery mode may circumvent the need for the construction of physical facilities. It may also, however, mean that resources need to be directed to developing/enhancing associated areas, such as resources and services, to achieve objectives.

Where planning determines that a new physical facility is warranted, formal processes need to be followed to ensure that the facility is designed and built to provide optimal potential across a range of uses: "Physical facilities must reflect design principles of flexibility and adaptability to cater for the various modes of delivery, client demands and utilisation levels. Buildings need to be adaptable over a long life and to accommodate changes in technologies and education styles and purposes. Facilities for flexible delivery will need to be adaptable to different teaching disciplines as well as to different learning approaches." (FDWP, 1994).

***Learning Centres* (FDWP, 1993b)**

Learning Centres are defined as 'mobile or fixed venues which facilitate teacher, student and resource centred learning' (FDWP, 1993b). These centres are typically common-use facilities which, through the provision of technology, support the delivery of a range of learning programmes to clients. In addition, centres can provide resource and support services.

A learning centre could form the hub of community learning. Clients could access the centre on a needs basis and learning could be pursued at institutions, in workplaces or at home.

Learning centres allow for locational and operational variations which reflect the principles of flexible delivery. The location, ownership, management and servicing arrangements can be determined according to the needs of clients and the provider consortium. Some examples of consortium arrangements include:

- **mobile facilities which could be located in areas of need;**
- **single provider centres serving a community, industry or enterprise;**
- **tele-centres providing facilities to access learning materials; and**
- **facilities providing computer-aided learning**

(FDWP, 1993b).

***Towards New Alliances for Learning in Industry* (FDWP, 1993c)**

The successful implementation of flexible delivery requires a multilateral approach. Only the adoption of flexible delivery approaches by all sectors will allow the full benefits to flow to clients. Where industry is the provider, economies can be achieved through collaborative arrangements with other providers, including the use of approved curriculum products.

Where learning is pursued in the workplace or associated facilities, industry must provide supportive arrangements which allow employees to participate in flexible learning. Such arrangements also allow industry to plan for the enhancement of skill levels among its workforce, an important consideration in maintaining competitive advantage. Flexible delivery changes the traditional process whereby firms saw their trainees leave the workplace on 'block release' for fixed periods of time, to more mutually convenient arrangements offering further potential productivity gains.

The benefits of flexible delivery and collaborative arrangements between industry and institutions/providers should be promoted. To the extent that TAFE develops expertise in flexible delivery, it should take a lead role in pursuing such arrangements.

While opening training opportunities to more clients and achieving increased participation, such arrangements may also reduce the burden on institutions' capital facilities, allowing funding to be directed to other areas.

The Report identifies the following requirements for a coordinated flexible learning system:

- **the fostering of collaborative networks;**
- **the development of the role of industry training advisory bodies;**
- **strengthening of research and development;**
- **improvement of information programmes [on flexible delivery/learning];**
- **development of the broker role;**
- **strengthening of the private provider role;**
- **co-ordination with industry development schemes;**

- **priority to promoting flexible delivery in small business. (FDWP, 1993c).**

The emphasis placed on the promotion of flexible delivery/learning among industry is based on the Report's findings that there had been 'limited adoption of flexible delivery approaches to training' among the private and public sector organizations surveyed (FDWP, 1993c).

Subsequent reports on flexible learning have drawn heavily on the work of the Flexible Delivery Working Party, and the FDWP reports remain a valuable set of working documents.

The National Flexible Delivery Taskforce

In 1995, ANTA commissioned a further study into flexible delivery through the National Flexible Delivery Taskforce (NFDT). The approach adopted by the Taskforce focussed on "what users of VET industry products want ... identify(ing) the barriers to meeting the needs of clients" and promoting inter-sectoral cooperation (NFDT, 1996:11-12).

The Report presented much of its analysis in terms of a 'demand vs. supply' side model, with many findings being premised on the need to promote a more 'demand driven' approach. This approach is consistent with the broader ANTA agenda of "opening" the Australian vocational education and training market to competition: "The intent is to support flexible delivery at the point where demand for training is satisfied." ANTA ATR 1997:32).

Recommendations from the Report have provided the basis of the *Flexible Delivery Implementation Plan*, recently endorsed by the chief executive officers of State VET agencies. The Plan incorporates 10 projects with a total allocation of A$ 2 million. This research/infrastructure effort adds to that being undertaken through ANTA's *National Projects* programme (see *Projects supporting Flexible Learning* and *Systems supporting Flexible Learning*).

In pursuing this cooperative pilot project/research approach, ANTA is seeking to effect a more pervasive, system-wide move toward flexible delivery with the objective that "in 1998, the challenge will be to move from research and piloting of Flexible Delivery to mainstream application of the principle at provider level." (ANTA 1997).

The following summary of 1997 Implementation Plan projects has been provided by ANTA: (ANTA, 1997).

1. **Communications Strategies - " ... to increase awareness of Flexible Delivery for relevant participants in VET, using written articles, seminars/workshops, information kits, online presentations and publication and dissemination of Flexible Delivery papers."**

2. **National Co-operation in Applying Standards to VET - " ... to identify and recommend VET standards for networked technologies and maximise endorsement and implementation of standards."**

3. **Evaluating New Communications and Multimedia Technologies - " ... to identify existing information about technologies, develop tools to assist practitioners to understand and choose available technologies, and make material accessible via print and online."**

4. **Resources Allocation Model - " ... to develop a resource allocation model which is appropriate for flexible delivery and [which] provides an incentive for flexible delivery approaches, using a project framework developed and managed by the ANTA Unit Cost Working Party."**

5. **National Online Learning Environment - " ... to progress the development of an online learning environment through national workshop, online conference and national conference, funding of research and development projects within States and Territories and a strategy to advance a national online learning environment."**

6. **Promoting Flexible Learning Environment - " ... to increase understanding of issues related to Flexible Delivery and the use of online technologies. Individual research and documentation project proposals have been formulated and are being managed by States and Territories."**

7. **National Training Information Service (National Register) - "The NTIS will provide up to date information on vocational education and training including details of endorsed Training Packages and their components, competency standards, assessment guidelines and qualifications. The scope of the registration of Registered Training Organisations will be detailed together with information on training delivery. It is proposed that determinations made by approving authorities on the mix of training and productive time for new apprenticeships be included."**

8. **Establishing Online Networks Among VET Groups - "to test the role of online technologies in supporting human networks in the VET sector, assess relevant case studies and developed guidelines for effective use of technology as a support mechanism for networks."**

9. **Staff Development - "To develop a kit and user guide based on TAFE studies to promote a range of flexible delivery options informed by research previously undertaken."**

10. **Cable TV feasibility study (New South Wales) - " ... to conduct a feasibility study into the establishment of a national VET channel delivering training direct to businesses and homes."**

3.2 "Opening" the training market

As identified in the *Introduction*, TAFE has traditionally been the major provider of vocational education and training in Australia. According to ANTA, moves to open the vocational education and training market to competition will, among other things, create an environment conducive to the propagation of flexible learning/delivery systems. That is, effective flexible delivery is seen as a product of competition and, through opening up the system to competition, the impetus to better meet client needs will encourage providers to offer training in more flexible modes.

According to ANTA, moves to a competitive training market will bring an increase in the number of private providers entering the market to deliver VET using cost-efficient technologies and practices, including flexible learning. Many of ANTA's initiatives are underpinned by moves to open the vocational education and training market to competition.

For the TAFE sector, the move toward a more open vocational education and training market creates uncertainty. Reliant on the Government for the vast majority of its funding, the TAFE sector faces an erosion of its funding at a time when private providers are emerging to take up the more profitable segments of the training market, including the fields of business and computer studies. Some issues relating to funding are considered in the following section.

3.3 Funding and flexible learning

Like many countries, Australia currently uses a funding formula approach to allocate recurrent funding to the vocational education and training sector. This approach promotes competition to the extent that TAFE colleges receive funds approximately proportionate to the number of students they attract. However, the system in Australia is based on student contact hours as the common unit for funding purposes. Funding based on student contact hours has not encouraged improvements in delivery efficiency and, as long as student contact hours remain the unit for funding purposes, may discourage the pursuit of flexible learning systems.

As an interim step, the system of funding VET has been modified to encourage development of flexible learning/delivery in three major ways:

1. **The Federal Government has linked State vocational education and training funding to system reforms; ANTA requires State agencies to report on progress in a number of key areas, including flexible learning, in their training 'profiles' or plans (submitted annually).**

2. **Funds are made available to State training agencies to undertake discrete projects which pilot flexible learning approaches or undertake research in related areas (examples of these are considered in the section Projects supporting Flexible Learning).**

3. Funds are made available to provide for the development of systems complementary to flexible learning across the vocational education and training system (examples of these are considered in the section *Systems supporting Flexible Learning)*.

More substantively, a new funding model is needed. Funding models appropriate to flexible learning systems need to both promote the adoption of and accommodate the requirements of flexible learning systems. As noted by the NFDT, there is a need to redevelop funding models to make them consistent with flexible learning: "the basic unit used to support resource allocation models and profiles should be changed from student contact hours to a measure that is expressed in terms of skill outputs offered [and] not hours equivalents; is aligned with competencies; and requires providers to align their training products and services with the basic unit." (NFDT, 1996: 24). The Report further recommended that the work of the ANTA Unit Cost Working Party should include the development of a model which supports a more flexible approach to learning.[4]

The formulation of more appropriate funding models has been recognised by ANTA as a co-requisite to achieving a more open training market. In conjunction with the strategy of opening the training market, funding models which promote and accommodate competition are being developed. Under the auspices of ANTA, a number of groups are undertaking development work on new performance indicators and funding models.

As identified by the NFDT, ANTA's Unit Cost Working Party is continuing work on appropriate funding and performance models, including work undertaken for the 1997 Flexible Delivery Implementation Plan project *Resources Allocation Model*. ANTA's Performance Review Committee is also pursuing the issue of funding and performance indicators. Key performance measures previously developed on the basis of contact hours are being re-developed in the context of a more flexible and competitive system.

The strategy of opening the training market implies significant reform of the system of funding. Although no agreement has been reached on the final form for a new national funding model, a number of options are emerging from the current debate in Australia.[5]

***Allocative funding* (government to provider) could be modified to use performance indicators which are not contact-hour based. Work in this area has focussed on developing 'outcome measures' intended to provide an indication of the extent to which education and training objectives are satisfied. Suggested examples include measures of employability and productivity. It is generally conceded, however, that 'outcome measures' would need to be considered in the context of a suite of measures, including traditional input (eg. funding) and output (eg. graduates) measures.**

***Competitive tendering* is a funding system consistent with the strategy to increase competition. The operation of such a system could vary according to a number of features. Under one proposal, the Government (or its agency) would receive information on demand for training and tender for its provision; funding would be awarded to the most cost-efficient providers. Such a system would obviously need to incorporate standards to ensure that cost efficiency was not achieved at the expense of quality.**

In recognition of the role of industry, a variation might see tendering agency responsibility conferred to an industry body. The industry body would receive advice from its member firms on training demand and tender for its provision. Proponents of this approach claim that industry is in the best position to determine the skills and quantities of labour it requires, and therefore the skill level and quantum of training required by its sector.

A problem common to most competitive tendering systems is the substantial administrative cost associated with the level of management required to match demand and provision of training.

An '*entitlements*' or *voucher system* would provide for a 'user buys' system. Government-issued vouchers would be redeemable for units of training, allowing student and industry clients to manage their own education and training. The provider then receives funding proportionate to the number of students, according to a pre-determined cost schedule. According to proponents of this option, empowering clients would make the system more responsive to client needs and reduce the administrative burden of reconciling demand with provision. Indeed, this system has been advocated by Dr. Vince Fitzgerald in previous work conducted for ANTA and conceivably may feature in the report he is currently preparing for ANTA (Dwyer, M. 1994:5).

An alternative funding system may also incorporate elements taken from a number of proposals, according to their respective efficacy in various segments of the training market.

For the Australian system to make significant progress on the question of funding, a number of key issues need to be addressed, including:

- **the cooperation of States in disclosing the detail of their current individual costing methodologies and cost data;**

- **progress toward differentiating the costs of alternative delivery strategies (under current arrangements the costs of individual delivery strategies are not separately identified; available cost data is usually aggregated and averaged across methods of delivery).**

If costing measures are not related to specific methods of delivery, then it is not possible to determine the cost-relativities of different delivery strategies. The continuation of this situation would inhibit identification of efficient delivery strategies/providers and moves to a competitive tendering system. The move to a competitive tendering system of funding provides many challenges for the ANTA Unit Cost Working Party. The extent to which flexible learning is adopted in the Australian VET system will largely depend on the timely and successful implementation of a more appropriate funding system.

3.4 Projects supporting flexible learning

Under its *National Projects* programme, ANTA has supported pilot projects on flexible learning / delivery and related research work. ANTA identifies this support as a key initiative in promoting flexible delivery/learning. Under its 1995 *National Projects*

programme, there were 28 flexible delivery pilot projects which were undertaken by State agencies. The 1997 programme allocated funding for 3 National projects and 35 State and Territory projects.

The 1997 National projects were:

- ***Evaluating Communications and Multimedia Technologies*** **- to "identify and make more accessible to teaching practitioners existing information about communications and multimedia technologies and their use in education. It will involve mainly collection, interpretation and summarising of existing research and project report material and publish this material (print & online) in professionally presented and accessible formats."**

- ***National Cooperation in Applying Technology to VET*** **- to "develop and document endorsed VET standards for various networked technologies in order to maximise compatibility between content and delivery of VET in the various States and Territories and to obtain the maximum feasible level of endorsement and implementation of agreed standards by States and Territories."**

- ***Establishing Online Networks Among VET Groups*** **- to "test the role of online technologies in supporting (people) networks in the VET sector by establishing a series of demonstration projects; documenting case studies; and developing guidelines for [the] effective use of online technologies in supporting networks in the VET sector."**
  (ANTA, 1997b).

The titles of the State and Territory projects are provided in Box 1.

Box 1: National projects managed by States and Territories (ANTA, 1997d)

1. Documentation of Canberra Institute of Technology and ACT VET system in implementing online information and delivery projects.
2. On-line delivery with other VET providers.
3. Sydney Institute of Technology flexible learning initiative.
4. Rapid document conversion to the World Wide Web**.**
5. Audiographics documentation project.
6. Sydney Institute of Technology information technology teacher peer-to-peer support.
7. Cable TV.
8. Access to the Internet - Equity issues.
9. Environmental studies statement of attainment.
10. Sydney Institute of Technology information technology flexible learning initiative.
11. Online delivery of VET modules to remote Northern Territory clients.
12. Use of flexible delivery in VET.
13. Assisting remote, rural school-leavers achieve job readiness via videolink.
14. The readiness of the VET client for flexible learning through learning technologies and online delivery.
15. VET on the Internet: A resource guide for teachers and students.
16. Research into the effectiveness of online technologies as a learning resource for the workplace.
17. Change management strategies for organizations moving to online delivery - 03.
18. Teaching and learning styles that facilitate online learning.
19. Online delivery platform.
20. Change management strategies for organizations moving to online delivery - 07.
21. Teaching and learning styles that facilitate online teaching.
22. Guidelines for online materials development projects.
23. Online access to library and information services and the skills required by users to effectively use the 'digital library'.
24. Development of collaborative ventures in online delivery.
25. Content and delivery methods for teacher training in the use of online technologies.
26. New learning technologies initiatives in the adult and community education sector.
27. Elements of successful marketing in the online training environment.
28. Support tools for decision-making in online training delivery.
29. Workplace learning and technology.
30. Research and development on how regional, rural and remote external learners can best use the services provided by regional college learning resource centres.
31. Learning materials development, delivery and transfer to the Internet via an Intranet platform.
32. The development of a methodology for the delivery of distance learning material and provision of industry skills assessment for the Western Australian exploration drilling industry.
33. Academic support for online education and training programmes for access by international clients.
34. An online service for isolated participants in computer managed learning (CML) via the Internet.
35. Investigate the use of online technology for delivery of training to remote areas.

In making available funds to promote pilot projects, the development of supporting systems and associated research, ANTA has used a devolved approach to achieving system-wide collaboration on flexible learning initiatives. The devolved approach of funding pilot projects which are managed by State agencies should address some of the concerns of the TAFE sector over moves toward an open market by:

- **assisting TAFE to be at the forefront of developments in flexible learning;**
- **facilitating access to supporting services and infrastructure;**
- **facilitating information sharing, promoting best practice and cost-effectiveness;**
- **creating conditions for the progressive adoption and development of flexible learning systems.**

In addition, then, to the direct benefits provided by support for TAFE in its development of flexible learning systems, the increased confidence which should accompany the acquisition and sharing of expertise across the system may serve to reduce the level of anxiety apparent in the TAFE sector. This anxiety is a normal feature of any reform process and may be due to perceptions of competition as a threat to TAFE's position in the vocational education and training market. Given the agenda for reform and the moves to a competitive training market, the challenge for TAFE is to adopt flexible learning systems which will enable it to be a competitive provider.

3.5 Systems supporting flexible learning

Education Network Australia

Education Network Australia (EdNA) was established in 1995 by the Federal Government to provide a forum on information technology for all sectors of the Australian education and training system. Services provided by EdNA include the management of a directory on educational resources and the support of advisory groups representing individual sectors. Sectoral advisory groups provide channels for both the contribution and distribution of information. The system-wide collaboration facilitated by EdNA allows institutions to enjoy cost-benefits and inter-connectivity.

The establishment of an EdNA/VET Working Group was recommended to manage system-wide acquisition and application of technology relevant to flexible learning in the vocational education and training sector. (NFDT, 1996:23).

The EdNA/VET Advisory Group advises both EdNA and ANTA on matters relating to flexible learning technologies. The Group is also managing a number of projects funded under the Flexible Delivery Implementation Plan.

Open Learning Information and Materials Clearing House (OLIMCH)

Another key organization supporting the national implementation of flexible learning systems is the South Australian Department of TAFE. This account is based on a study prepared by Di Booker, Manager, Open Learning Information and Materials Clearing House (Booker, 1995).

The Open Learning Information and Materials Clearing House (OLIMCH) acts as a central depository and information service on open learning course materials. Its functions include:

- **maintaining a database on open learning materials, with links to other databases;**
- **managing a collection of open learning materials across all media;**
- **providing advice on the availability of subject-specific materials; and**
- **providing advice on developments in the field of open/flexible learning, including exemplars and case studies.**

In performing these functions OLIMCH contributes to system efficiency by providing authoritative advice on the availability of resource materials and developments in the field. The database, OLEARN, can be accessed at no charge within its home State, under reciprocal arrangements with other States, or as a subscription service, either online or as a disc product.

Client feedback indicates that OLIMCH provides a valuable support service for providers seeking materials or methods to assist in implementing flexible learning systems.

The outcomes of the OLICMH service can be identified as:

- **cost savings for providers in the design, development and production of flexible learning materials;**
- **facilitation of the extension of flexible learning systems across the State;**
- **increased awareness on the subject of open learning, flexible learning, etc.**

OLIMCH sees its future in enhancing services through:

- **continuing to build its collection of materials;**
- **development of its database and extension of external client access;**
- **recruitment and development of professional staff;**
- **broader promotion of OLIMCH services; and**
- **development of new services, such as a materials preview service.**

A flexible learning materials service, like OLIMCH, which offers professional advice and quality products, and which is easily accessed, offers significant cost and time efficiencies to providers planning flexible learning systems.

Other innovations supporting flexible learning

In many respects the move to flexible learning systems is also supported by a range of discrete reforms and innovations. During the 1990s the Australian VET system has pursued many complementary initiatives which have served to facilitate the broader strategic move to flexible learning.

Some specific innovations which have enhanced conditions for flexible learning include:

- **modularization of offerings, allowing students to undertake learning on a progressive basis, removing the barrier presented by a compulsory/concurrent schedule of learning;**
- **national accreditation and recognition, providing students with the benefits of transferability of credit and national recognition of qualifications;**
- **recognition of prior learning (RPL), allowing individuals to receive credit toward a qualification in recognition of competencies gained through experience;**
- **competency-based training (CBT), providing training and assessment which is related to the achievement of competency rather than a fixed period of time in training;**

- **application of delivery strategies which recognize that people are capable of learning in a range of ways;**
- **innovations in curriculum design which accommodate flexible learning;**
- **innovations in teaching practice which facilitate flexible learning;**
- **innovations in facilities design and construction which accommodate flexible learning;**
- **requirements for State VET providers and industry training bodies to undertake a strategic planning approach to the formulation of annual training plans, including consideration of flexible learning strategies.**

These innovations have been implemented to varying degrees. In some cases, considerable work remains to be done before the full benefits of these reforms can be enjoyed. In November 1996 VET Ministers endorsed the National Training Framework (NTF). The NTF is designed to simplify national regulatory arrangements and includes measures to pursue system reforms.

3.6 Industry involvement

The Australian VET system has formalized the role of industry in the vocational education and training system through the establishment of Industry Training Advisory Bodies (ITABs). ITABs are recognized system participants and receive Federal Government funding to research and formulate training plans in coordination with ANTA and State training agencies.

In addition to this advisory role, the increasing responsibility of industry to provide vocational education and training raises the issue of recognition and accreditation. In a number of cases, industry has sought the expertise of the public and/or private providers to achieve cost-effective, quality flexible learning systems. Once in-house expertise has been developed, industry providers can apply for accreditation from the relevant State training authority. The accreditation process varies from State to State; the requirements of some States appear onerous and may act to discourage firms from seeking accreditation.

The role of industry in informing the development of training products has been extended to provide for direct development of national training products under the *Training Packages* initiative. As a key feature of the NTF, *Training Packages* will allow industry to customize training. *Training Packages* will focus on qualifications gained through apprenticeships and traineeships, and will replace the declaration of trades in States and Territories.

Each *Training Package* will include a set of core elements, comprising competency standards, national qualifications and assessment guidelines applicable across an industry or sectors. Training Packages may also include a range of additional material such as learning strategy, assessment materials and professional development materials. The three core elements of *Training Packages* will be subject to endorsement by the Australian National Training Framework Committee (NTFC). Additional resources will be noted by the NTFC and recorded as features of the Training Package.

The NTFC is a business-led committee chaired by the Chief Executive of the Australian Chamber of Commerce and Industry and includes representatives from employer and employee bodies, Federal, State and Territory governments. In addition to its endorsement responsibilities, the NTFC will provide a range of advisory functions on *Training Packages*, recognition, quality and other aspects of the National Training Framework.

Training Packages **are intended to allow registered training organizations the opportunity to develop flexible training programmes to meet enterprise, regional or individual training needs, while maintaining the integrity of a national qualification (ANTA, 1997b).**

3.7 Adoption of flexible learning by VET system

As indicated in Section 6, a number of pilot projects and related research activities have been undertaken to support the adoption of flexible learning systems. Many case studies documenting recent experiences from the implementation of flexible delivery have been published.

All case studies recognized that flexible learning marked a vastly different approach to traditional methods of learning and delivery. In coming to terms with the multitude of elements necessary for a holistic approach to flexible learning, many found (and subsequently recommended) a gradual transition to flexible learning/delivery. This approach allowed providers to work through the issues concerning the creation of a flexible learning system without causing major disruptions to their continuing education and training commitments. As many training providers needed to maintain full education and training services during pilot/implementation periods, a gradual approach to the introduction of flexible learning appeared to be the only realistic option.

A number of studies suggested that an important element for successful implementation was the induction of students and staff into the system of flexible learning. Flexible learning requires a different set of expectations and skills on the part of both students and teachers. The self-directed nature of flexible learning requires that students recognize the learning choices available and appreciate their responsibility in self-directed learning. Equally, teachers need to recognize the expanded role which facilitating flexible learning requires, including a range of supporting responsibilities and maintaining communication with students beyond traditional contact hours.

While the proliferation of reports on flexible learning/delivery over the 1990s is consistent with statements identifying flexible learning as a major priority for Australia's VET system, indicators of the extent of adoption are comparatively scarce. While case studies provide examples of the innovations being pursued in the VET sector, system-wide indicators are only beginning to emerge.

For the 1994, 1995 and 1996 national VET system data collections, an indicator on 'delivery strategy' has been included. The enumeration of data for this indicator requires respondent State agencies to identify module enrolments by delivery strategy. National Centre for Vocational Education and Research data on module enrolments by delivery strategy indicate that over the period 1994 to 1996, the proportion of units exclusively

delivered in 'traditional' modes has declined from about 90 per cent to 80 per cent of total module enrolments (NCVER 1997). [6]

While the adoption of flexible learning/delivery has been promoted at national level, progress depends on the degree to which State training agencies pursue the agenda. The extent and rate of adoption of flexible learning differs across State VET systems, and is indeed largely at the discretion of the responsible State VET agencies. As noted in the *Introduction*, in Australia VET is administered by State agencies, but the sector relies on significant Federal Government funding. As ANTA is unable to implement national system changes unilaterally, it seeks to promote the cooperation of State agencies on a range of reforms. Underpinning this cooperation is the reliance of the State agencies on Federal funding.

Summarized below are some conditions which should ideally exist to allow for effective implementation of flexible learning and delivery.

Flexible delivery requires:

- **a commitment by government, at all levels, to ensure recognition, accreditation, eligibility in terms of funding criteria, and eligibility for clients seeking to participate;**
- **a commitment by education and training planners/practitioners/administrators to manage change and design suitable planning/pedagogical/administrative systems;**
- **a commitment by industry to its role in providing for the continuing learning of its employees (e.g. incorporate training as part of strategic plans);**
- **a commitment by clients to take up the challenges of self-directed, flexible learning;**
- **a strategic approach to the implementation of flexible learning systems to ensure that objectives are clearly identified and pursued in an integrated and effective way (e.g. through the development of flexible learning 'blueprints').**

These 'ideal' conditions may be pursued through strategies which:

- **raise the awareness of government of the benefits offered by flexible learning in terms of raising the skills of the population and the productivity implications for the labour force; in Australia this has chiefly been achieved through representations and reports by the Australian Council of Trade Unions (ACTU), the publication of reports of inquiries, academic research and departmental advice, including reports on innovations implemented by providers in the vocational education and training sector;**
- **raise the awareness of education and training planners/practitioners/administrators of flexible learning and delivery objectives and methodologies which facilitate implementation, through convening expert working parties, conferences etc. and promoting access to resource centres;**
- **raise the awareness of industry of the benefits offered by flexible learning in terms of the opportunities to enhance employee skills through more flexible learning arrangements, including promotion of collaborative efforts between education and training providers and industry;**

- **raise the awareness of clients of the benefits offered by flexible learning in terms of choice of learning mode and entry/exit points, module-based courses, competency-based assessment, recognition of prior learning etc., through the provision of pre-enrolment counselling services, print and multi-media material explaining the features of flexible learning and the obligations of self-directed learning;**
- **raise the awareness of education and training planners/practitioners/administrators of the importance of strategic planning to the effective implementation of flexible learning and delivery systems, through promoting resource centres, publishing planning and design materials, and case studies which illuminate theory with practical examples.**

Conclusions

The main benefits of flexible learning systems, as summarized by Hinchcliffe and Cunningham (1992), include:

- **cost effectiveness;**
- **time efficiency;**
- **self-paced learning, providing for individual learning differences;**
- **flexible access to training resources, including the feature of convenience**
- **consistency of quality of materials and instruction;**
- **standardization of training outcomes, as a product of consistency measures;**
- **application of a range of access/delivery modes, including the utilization of technologies; and**
- **elevating the priority of training for the organization and individuals.**

Flexible learning systems do provide a responsive approach to the learning needs of clients and offer solutions for continuing learning and raising labour force skill levels. It should be said, also, that flexible delivery does not hold solutions to all problems: it does not necessarily suit client learning needs in all situations and at all stages of learning; it is not necessarily less costly than 'traditional' modes of delivery (although in the case studies considered in this paper, cost effectiveness was identified as a common outcome); it is not well supported by 'traditional' practices, facilities and services; and it is not easily integrated with government funding formulae and administrative requirements based on 'traditional' modes of delivery.

In considering the conditions for implementing a flexible learning and delivery system, the provider should first identify its objectives and the requirements of students, and determine whether these are attainable through the adoption of flexible learning systems.

Despite recognition of the need to raise skill levels and the benefits of flexible learning in achieving this objective, skill levels among Australia's employed labour force remain comparatively low. A recent study by the Australian National Training Authority (unpublished) shows the proportion of post-school qualification holders among Australia's employed labour force as 53 per cent, compared with rates of 85 per cent in the United States of America and 84 per cent in Germany (Carbon, 1997: E1).

Why, if raising skill levels was identified as a priority by ACOTAFE in 1974, has this issue apparently persisted? Certainly there have been improvements to the vocational education and training system since that time. But additional resources and effort have been primarily directed toward 'traditional' modes of delivery/facilities and 'traditional' clients. While this has been necessary to some extent to meet the demand of new school leavers, an important client group, large sections of the labour force have not been provided with adequate information, support and access to post-school education and training. [7]

If we consider ANTA figures - that while 80 per cent of people currently employed will still form a proportion of the labour force in the year 2000, 53 per cent are identified as having a post-school qualification - the implications for Australia's competitiveness become apparent (ANTA 1995, p.13).

The new order of flexible learning will require a commitment from all training market stakeholders. The Australian experience demonstrates that consultation, resource sharing and collaboration are essential elements in achieving the system-wide awareness and support required for the successful implementation of flexible learning systems. Learning consortia will become a key feature of the new vocational education and training system, with students, industry and training providers working together in new ventures.

The need for people to participate in continuing education and training, combined with the individual economic imperative of continuing employment, means that providers must offer training that is flexible, accessible and relevant. The accessibility of flexible learning can be enhanced by the employer making provisions - time, facilities, support - for this to occur, even where the employer is not the provider.

Industry needs to recognize and accept its responsibility to facilitate raising skill levels of its workforce. Evidence from the case studies considered in researching for this paper suggest that employees will respond in kind. Up-skilling and multi-skilling can be achieved while maintaining employment levels, increasing employee productivity and commitment. Further, subject to productivity and output improvements, growth may be possible. [8]

That there is a relationship between the skills that are in demand by industry and the skills which will improve the employment prospects of individuals would appear to be self-evident. Indeed, the recent debate in Australia has been based on this relationship. But more relevant and extensive skills training will not increase employment opportunities. As a result of significant structural adjustments, unemployment in Australia has remained at levels above 7 per cent over recent years and shows no sign of abating.

Finally, it is interesting to observe that much of the debate in Australia has focussed on the skills of 'workers' and labour productivity generally, as if improvements in this sector will provide a panacea to all productivity and competition issues. To adopt this position is to presume that all other factor markets are operating efficiently, and that it is the labour market alone which is preventing Australia from realizing its competitive potential. Berating workers and 'demonizing' the labour market is not constructive; improvements can be made in all factor markets.

What is required is a system-wide approach to providing flexible learning opportunities for the labour force. Increasing skill levels among the labour force will provide the potential to improve efficiency and competitiveness. To the extent that flexible learning and delivery systems provide for increased learning opportunities, such systems should be pursued by government, clients and stakeholders. While it is not the panacea that some suggest, flexible learning and enhanced skills will make a positive contribution toward efficiency and competitiveness.

Notes

1. **For a discussion of innovations being pursued by the higher education sector see Blair, A. W. (1995) *Technology, Open Learning and Distance Education,* New York: Routledge.**
2. **For a treatise on the relationship between skills and competitiveness see Porter, M. (1990) *The Competitive Advantage of Nations,* New York: The Free Press.**
3. **For a detailed account of the development of Australia's Technical and Further Education (TAFE) sector over this period see Goozee, G. (1993) *The development of TAFE in Australia,* Leabrook, South Australia: National Centre for Vocational Education and Research Ltd.**
4. **On the question of funding models which support flexible approaches, the National Flexible Delivery Taskforce Report deferred to the work undertaken by the Boston Consulting Group (unpublished) and the Unit Cost Working Party. This issue is critical to the success of flexible delivery, however ANTA and its partners are yet to finalize details of an agreed resource allocation model(s).**
5. **On developments in funding methodologies, in the absence of published VET-specific material it is worth referring to publications on funding of the higher education sector, such as: Higher Education Council (1996) *Performance-based Funding of Universities,* Canberra: AGPS. The principles contained in this publication are applicable to VET and may influence the current consideration of VET funding models.**
6. **Figures based on data for selected states to allow for progressive enumeration and extension of base coverage; across all levels of VET, including some adult and community education and private provider information, as collected by NCVER.**
7. **It should not be inferred that workers who do not hold a formal post-school qualification are 'unskilled'. Indeed, there is much evidence to suggest that experiential learning is a most effective means of acquiring skills. Generally, however, workplace experience has not been accompanied by the theoretical and conceptual elements which would enhance workplace learning.**
8. **An example of productivity improvements to be derived from flexible learning and skills acquisition can be found in Semler, Ricardo (1994) "Why my former employees still work for me" in *Harvard Business Review,* January - February, pp.64-74.**
9. **For a detailed discussion of the methodology used in analysing responses to the study see Pattison, J. and Thiele, D. (1994) "Evaluation of Flexible Learning Systems at Tea Tree Gully Campus of Torrens Valley Institute of Vocational Education", in Steele, J. R. and Hedberg, J. G. (eds.) *Learning Environment Technology - Selected Papers from LETA 94,* Canberra: AJET Publications, pp. 228-233.**

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Open and Flexible Learning: Experience in the United Kingdom and in the Moscow Region of the Russian Federation

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Part I: Background

Section 1: Introduction

This paper has been written from the viewpoint of an insider, as the writer has been a participant in, as well as an observer of, the main developments in Open and Flexible Learning (OFL) below university level in the United Kingdom, and has been the leader of the consultancy team helping to develop Open Learning in the Moscow Region of the Russian Federation. The emphasis is on vocational education and training (VET), but with attention paid to developments in general and university education where these have influenced VET.

The main focus for the United Kingdom is on the twenty-year period 1977-1997, although it is necessary to consider earlier developments where these have had an influence on the way in which Open Learning developed. In Russia the focus is on 1993-1997. These periods have seen rapid changes in the structure of industry and of the labour market in both countries and in the application of technologies to all branches of manufacturing and service industries (and to some extent to agriculture and related industries) with a consequent need for updating the occupational skills of the labour force. They have also seen an explosion in the use of information technology (IT) for self-study.

The structure of this paper is as follows: sections 2-4 of Part I describe the features common to Open and Flexible Learning, wherever it is introduced, including definitions, models, elements and sustainability. Part II describes developments in the United Kingdom. At present there is plenty of experience but no 'system* of Open Learning in the United Kingdom. This part seeks to explain this paradox by a short historical study and sets out the potential of new opportunities. Part III describes developments in the Moscow Region, where a 'system* has been developed by a partnership between the Russian authorities and the United Kingdom consultants. Part IV draws conclusions from the two national studies.

Section 2: Definitions and models of Open and Flexible Learning

Attempts are often made to define Distance, Open and Flexible Learning. In this paper the definitions used are those in the glossary provided by Technologies for Training (TfT), a United Kingdom initiative to provide information and advice on the application of

technologies to training. There can be logical objections to the definition of Flexible Learning in that it makes it less flexible than Open Learning, but this definition reflects actual usage in the United Kingdom:

- **Distance Learning - Individualized study in which the learners work entirely away from an educational campus. Contacts with tutors are usually by telephone or mail (including e-mail)**
- **Open Learning - A method of learning that enables people to study at a time, place and/or pace which suits them best. It may involve self-study at home or work at convenient times supported by telephone or face-to-face tutorials and practical work**
- **Flexible Learning - Delivery of a predetermined study programme to a group of individuals, usually on a single site, in a manner that provides limited options regarding time, content and speed of progress.**

There is no single model of Open, Distance and Flexible Learning, rather a number of components which can be put together in a variety of ways. Nevertheless it is convenient to describe a number of major models which provide contrasting ways of putting together these components (or elements). The following descriptions of the major models draw on the work of John Coffey, a leading British expert in the application of Open Learning to vocational education and training. Coffey has described the three main models of open study systems as being defined in terms of their geographical distance from the student and the amount of additional support which they can provide. The models are:

- **distance study arrangements which provide access to study opportunity through correspondence or another distance study mode (eg computer conferencing) to students who are remote from the institution. The study material and student support arrangements need to be very well thought out and delivered. Badly designed systems can have very poor results**
- **centre-based open study which provides access to study materials, a space in which to study and tutorial support. Such systems normally serve a particular locality. They can be very flexible and responsive to student needs. Frequently their results are better than other systems, including conventional class-based tuition**
- **flexible teaching arrangements which provide correspondence or other mediated course materials to help teachers in conventional classrooms increase the range of subjects they can teach. Such systems are particularly useful when there is a shortage of teachers qualified to teach particular subjects, but they can also be used to provide a degree of self-pacing to students when integrated with face-to-face sessions to provide a complete course.**

In addition to Coffey*s three models, it is worth noting

- **resource-based learning in an institution; in this model there is a separate resource centre (often the library) which holds a stock of learning materials, often relevant to a range of courses, which students can use in the centre or**

borrow for use elsewhere; tutorial support may be provided in the resource centre or by the course teachers

- **home-based learning, where the learner undertakes most of the study at home, sometimes with tutorial support provided at a distance or by attendance at a study centre, sometimes with tutorial support on the Internet, sometimes with no tutorial support**
- **(potentially) a virtual centre based on network technology. Using Internet, Intranet, or e-mail links to tutors a whole institution could provide a World Wide Web centre for geographically dispersed learners, with on-line tutorials, downloading of materials and peer group contact.**

In general the more remote the student is from the centre, the harder it is to achieve good results. Remote students need excellent support and excellent material. It is usually easier to plan and implement a good centre-based open system or flexible teaching system than a distance study system.

The key characteristics of any Open Learning system (learning materials, tutorial support and freedom of study) have been described by W.J.K. Davies (1997) as

- **Specially designed study materials which can perform some teaching functions: they tell the student what he/she is to study, provide content organized for easy assimilation and allow him/her to test what has been studied**
- **Individual help and advice provided by a specially allocated tutor who supervises the work, answers queries if required, etc. This help may be provided by occasional visits, by telephone or letter**
- **Freedom of study in that the student has some control over when and where he/she chooses to work and, to some extent, how long the study programme takes.**

The inter-relationship of these learning materials and tutorial support was commented on by Douglas Spencer in *Thinking About Open Learning Systems* (1980):

> ***To obtain as an output any given quantity of learning from a given (large) number of students, the quality of the materials is related to the volume of tutorial help required... as the quality (and one may assume the cost) of learning materials falls, so the cost of tutorial help rises.***

In *Open Learning for Technicians* (1982) the present writer commented:

> ***Presumably, the converse is also generally valid: If more frequent tutorial help is available, lower quality learning material will suffice for a given educational output.***

Section 3: The elements of Open and Flexible Learning

In *Open Learning for Technicians* (1982) the present writer set out the view that

> ***Open Learning is a mixture of general concepts, hard-won experience and highly specific points and procedures. No element by itself is difficult to understand; few are difficult to resolve. Complexity stems from the interaction of a large number of elements.***
>
> **and again**
>
> ***A student, with a particular study aim, should be able to feel that the system has been designed to be 'friendly* to his particular circumstances. All the complexities should, so to speak, be concealed in a 'black box*. We believe that this is possible of achievement. For any student the study aims will be subject-based, and in any one subject at any college the 'menu* of possible courses will be known and the choice of the various operational systems already determined. The only people who are likely to find the system complicated are its original developers, and anyone rash enough to attempt a comparative analysis of different courses.***

The main elements of any OFL system are:

- **Course content and organization (which often depends on qualification structures)**
- **Individualization**
- **Learning material**
- **Delivery (including student support)**
- **Administration**
- **Finance**
- **Supporting functions (information, staff training, research, quality assurance, coordination).**

In many open learning systems there will be a division of responsibility between different organizations or authorities for different elements. This implies that a degree of coordination is a prerequisite for successful development and for sustainability.

Successful Open Learning is a result of balancing the different elements. Some of these are background factors largely outside the control of those responsible for developing or operating an Open Learning scheme, eg the characteristics of VET, industry*s needs, the type of students, qualification structure. Some other factors are largely within the control of the developers or operators, eg individualization, learning materials, delivery, administration. Getting the right balance of all these elements for particular circumstances (or students) depends on choosing the best from a series of options.

3.1 Characteristics of VET

The key characteristic of vocational education and training (as compared with more general academic education) is that it must meet the needs of employment. In particular it is important that a qualification awarded as a result of a vocational course is recognized and accepted as evidence that the holder has reached an employable standard. Although academic qualifications may also have a relevance to employment opportunities, they

provide evidence of a more general standard of educational achievement, so the external reference point is weaker. One consequence is that the staff responsible for vocational education, both in educational establishments and in awarding bodies, not only have to operate the system but also constantly have to keep up with developments in commerce and industry to ensure that the content and standards of courses continue to meet the needs of employment.

VET has to be designed to provide variations in levels of attainment at entry, academic and/or competence output requirements, specialisms, even for students in the same general occupational area. One way of overcoming the strains such differing requirements put on VET provision is to provide modular courses, which can (at least in theory) provide alternative routes for different needs within the same framework (see paragraph 3.5).

Much of the subject content of VET is susceptible to rapid technological change, and also to structural and organizational change as job patterns alter. Not only commercial education but also some aspects of technical education are influenced by changes in legislation or industrial standards. Such change not only reduces the shelf life of the learning material and so often makes the recovery of the original cost problematic, but also requires the material to be kept under constant review, which in turn raises questions of the responsibility for such monitoring and has implications for operating costs.

Within VET there are wide variations (depending on the nature of the work the person is being prepared for) in the balance between theory and practice and in the nature of any 'hands-on* work. For example, different approaches (type of learning material; frequency, duration and nature of face-to-face sessions; links with current employment) are likely to be required for different levels of occupation (management, professional, sub-professional, craft) and for such subjects as: applied statistics; office work; marketing; inorganic chemistry; building surveying; engineering product design; electronic circuit design; garage management; customer care; computer programming; maintenance and repair of instruments. There cannot therefore be one standard pattern of general applicability, but it is possible to reduce the range to a limited number of possibilities and to identify possible alternative approaches.

There is a particular problem for technical VET. Compared with general or business education, it has large numbers of subjects, most with comparatively small numbers of students or trainees. One consequence is that, unless acceptable short cuts can be found, the capital cost of providing learning material for a comprehensive system of Open Learning for technical VET will be very high and in most cases will not be recoverable from student fees unless these are also very high indeed. The calendar time required would also be very long.

3.2 The needs of industry

Three aspects of industry today which are particularly relevant to the need for, and design of, Open Learning provision are speed of reaction to change, tight manning (at least in Western Europe) and the emphasis on soft skills. All over the world commerce and industry are subject to constant and rapid change, which may be due to:

a) industrial innovation, classified by ACARD (1978) as:

- **improvement and development of existing products**
- **improvement and development of existing processes**
- **introduction of novel production methods based on new technology**
- **introduction of novel products based on new technology**

b) changes in legislation or standards

c) changes induced by external financial factors (eg increased cost of a raw material may put a premium on waste reduction; a variation in the exchange rate or international competition may alter the viable product mix)

d) changes relating to internal organization (particularly where agreements are reached on more flexible deployment of labour).

All such changes carry with them the need for training, both for new entrants and for existing staff. Even where the innovation is based on new technology, the retraining need may itself be based on established technology which is new to members of that particular workforce.

The shake out of employees in many countries has led to tighter manning of industry, with the following probable effects:

- **It is increasingly difficult to release productive employees on a regular basis. For post-experience education, many firms are so tightly manned that release for vocational education is not readily requested nor easily granted, unless established as a legal right (as in France).**
- **In-company training may itself have to become more flexible to fit closer round production timetables.**
- **In-company training services may themselves be vulnerable to cut-backs.**

In modern commerce and industry considerable emphasis is being put on 'soft skills* which have been listed in a recent project as: problem solving, facilitation, team leadership, team working, negotiation, relationship development, adapting communication style to suit audience, written communication, oral communication, sharing knowledge, listening, time management, coaching, networking, and influencing others.

Open Learning can contribute to solving retraining problems created by tight manning, by providing opportunities for learning at the workplace or at home. Multimedia is often the most effective means of soft skills training. Speed of response is more difficult. Package production can be extremely slow. Often, however, the retraining need will be for existing technology. Once enough material has been developed to cover a wide range of topics, it is merely a matter of logistics to identify, acquire and make available to the students the appropriate 'package* (with suitable support).

3.3 Students/trainees

Although Open Learning can be applied to the 16-20 age group, its main benefits are likely to be for the 21-24 and, even more so, the 25+ age groups (see paragraph 7.1 for United Kingdom figures). Some characteristics of these age groups are:

- ***wide variations in pre-entry attainment*** **and, especially for older people, the possible irrelevance of the qualifications they already hold for what has to be studied**
- ***study aims*****: these could be a full qualification for those without one, or a specialist module for those already qualified**
- ***motivation*****: this is a complex issue; mature students who make their own decision to study by Open Learning are likely to be highly motivated; those who are required to do so by an employer (or, if unemployed, by benefit requirements) may be less well motivated. This has implications for learning material design and tutor support**
- ***special problems*****: these may include lack of confidence to restart learning after a gap; perhaps also with a recollected experience of poor learning at school, fear of examinations, time flow (one of the concepts developed in the *Open Learning for Technicians* study was that many people, particularly employed adults, have time flow problems analogous to those of cash flow, and that Open Learning procedures should be designed to help with these).**

3.4 Individualization

OFL requires a focus on individual learners. To quote W.J.K. Davies (1997) again

> ***Open and flexible study is a range of methods in which individuals have some control over what they study, where they will study and when they will study.***

It does not use straightforward teaching. Instead it is based on specially prepared interactive study materials which a student of any age can study directly. Advice and information are provided by specialist tutors only when needed. Open and flexible study can, therefore, allow a wide variety of individuals to study different programmes. For many struggling with trying to learn a new skill it may be the only realistic option. This applies especially to mature adults who may not wish to 'return to school*.

In many education and training systems the existing focus is on the needs of the provider (the institution or training centre) rather than on the consumer. How difficult it is to create changes in attitudes to put the individual first, will vary from society to society, and over time, but should not be underestimated.

3.5 Qualifications

The process of awarding qualifications is made up of several components, those which apply to all candidates: the title and wording of the qualification, the structure of the award, the statement of content (knowledge and skills) required by the candidates; and those which apply to individual candidates or groups of candidates: assessment of candidates as a basis for making the award, procedures for entry to the assessment

process, the preparation (education or training) of the candidates (as students or trainees) for the assessments.

In higher education, all these components are likely to be the responsibility of a single institution. In VET they can be split; for example in the NVQ regime in the United Kingdom, the six elements may be the responsibility of four or five different organizations. This division, or otherwise, of responsibilities may have important consequences for the successful development of Open Learning.

Characteristics of qualification components which are particularly favourable or unfavourable to the development of Open Learning are as follows:

- ***Qualification title and wording.*** **The most favourable to Open Learning is a qualification which has the same title and wording, no matter how the candidate has prepared for the assessment. The least favourable is a separate qualification for those prepared by Open Learning. In between is the use of the same qualification, but with wording such as 'who studied at ..... College* or 'who studied by Open Learning*; the status of this type of qualification will depend on the equivalence or otherwise in employers* minds of Open Learning as a means of preparation.**

- ***Structure of award*****. A credit accumulation and transfer system based on fairly small modules is the most favourable to Open Learning, as it allows a student to complete a part of the overall award in a comparatively short time and add the successes together until a complete award is attained. Similarly, complete certification based on a small amount of study is also favourable. Unfavourable structures are those where all the components of the qualification have to be passed at one sitting and where the components themselves represent a substantial amount of work.**

- ***Statement of content required of candidates*****. Favourable to Open Learning are statements of knowledge and skills based on outcomes. This 'changes the status of time*. In a traditional course, time is the constant and the standard reached is the variable, while in a course based on outcomes, the outcome is the constant and the length of time taken to achieve it is the variable. This opens the door to self-paced learning. However, if the outcomes are competences which can only be assessed by observation in the workplace, they can close doors to many students (eg the unemployed). If the award of the qualification requires proof of competence in practical or laboratory work, this may make preparation by Open Learning difficult, but not impossible.**

- ***Assessment of candidates*****. Assessment based on external examinations is favourable to Open Learning, provided such examinations are more frequent than once a year, preferably available on demand (eg as Computer Delivered Assessment). Such assessments include assignments which can be marked externally. Unfavourable to Open Learning are assessments marked by course tutors or depending on observation in the workplace (as these limit access to the assessment process).**

  The concept of evidence of attainment (as used in NVQs in the United Kingdom) can be favourable to Open Learning if it allows a mix of evidence (eg previous

performance, previous qualifications, external test results as well as proof of newly acquired competences) but can be unfavourable if only observation in the workplace is acceptable.

- ***Procedures for entry to the assessment process*. Entry to the assessment process can be a barrier to candidates who have prepared for the assessment by Open Learning, in particular if the procedures require entry to be made through a registered centre, often an educational institution, and give such centres the right to enter only those candidates who studied there.**

- ***Preparation of candidates for the assessment*. Particularly favourable to Open Learning are rules which do not distinguish between different methods of preparing students. Particularly unfavourable are rules which require candidates to be associated with a recognized institution.**

A country*s procedures and policies on qualifications can therefore have a considerable (but sometimes hidden) influence on whether the adoption of OFL is successful. It is, of course, possible to establish OFL which does not lead to a qualification, and this often happens. However, this approach may fail to exploit the full potential of OFL for enhancing employability.

3.6 Learning materials

In *Open Learning for Technicians* (1982) the present writer stated

> ***To many people Open Learning, and particularly Distance Learning, hinges round its learning material. The glamour and influence of the OU material conceals the importance of the tutorial and administrative backup. The literature of educational technology tends to emphasise choice and effectiveness of various media. In our work with the pilot studies colleges we found that, despite warnings in the briefs we provided, the staff tended to think of Open Learning in terms of the creation of learning material.***

Such attitudes persist 15 years later, and are international.

One of the features of centre-based Open and Flexible Learning is that it creates a system in which learning material can be obtained from any source, according to the need of students. It can contribute to the ideal goal of Open and Flexible Learning: provided that suitable learning material is available, almost anything can be learned almost anywhere. This separation of learning material production from the delivery of learning enables there to be specialist providers of Open Learning materials, using both printed and electronic media. As with Open, Distance and Flexible Learning in general there is no single 'right* model for the production and supply of learning materials. There is, however, a sequence of processes which have to be followed, consciously or unconsciously. The more conscious

the approach to any process, the less likely that 'wrong by accident* decisions will be taken over the options to follow for that process. The processes can be described as follows:

- **Decision to produce**
- **Choice of media**
- **Specification**
- **Origination**
- **Production**
- **Distribution.**

It is not the purpose of this paper to describe in detail the options for these processes. However, there is a major issue over origination, whether for print, true multimedia or computer-based training. The received wisdom often is that a team approach is best, with highly qualified specialists in the subject matter, in educational technology, in editing, and (if a computer-based medium is used) in programming and (as appropriate) the application of graphics, and video or sound. In practice a number of alternatives, including special accelerated writing workshops and the use of individual authors, have produced high-quality learning materials.

3.7 Delivery

In view of the work done in the Moscow Region, and that contemplated for the *University for Industry* in the United Kingdom (see section 8), it is worth giving more details on centre-based open and flexible learning. The following description (in a draft article for the Russian journal *Man and Labour,* 1997) has been provided by W.J.K. Davies, who has run study centres in the United Kingdom and is the lead consultant for their introduction in the Moscow Region.

> ***An open study centre is intended, first, to provide a friendly place in which a person is able to:***
>
> - ***attend at times convenient for the student or sponsor***
> - ***study without the distractions of home or work***
> - ***socialise with others studying similar programmes***
> - ***use materials and equipment which may otherwise be too expensive to provide for one individual***
> - ***obtain immediate advice on many study problems from generalist tutors, who can help a wide variety of students.***
>
> ***It will normally consist of a number of interconnecting rooms which include:***
>
> - ***an area for student reception - often combined with an area where students may sit and socialise***
> - ***study rooms of various sizes for small groups and individuals - at least one equipped with good quality computing and/or multimedia devices and software***
> - ***offices for tutorial and other interviews***

- ***staff accommodation***
- ***ideally an area equipped for provision of tea and, perhaps, light meals. The writer has found that many unemployed people especially are much reassured by meeting others socially and being able to discuss common study problems.***

Such a centre can also make efficient use of staffing resources:

- ***some full time staff can have several functions - tutorial, methodological and administrative***
- ***specialist tutors can be employed part-time to help a number of individuals at the same time rather than on a one-to-one basis***
- ***administration is easier where most students come in to study rather than studying elsewhere.***

The emphasis on IT-based Open and Flexible Learning provides an additional reason for adopting the centre-based approach. As the *University for Industry* report (1996) suggests:

> ***These centres would give access to more advanced technologies than are available to most people either at work or at home...***

Centre-based Open Learning is often based on Learning by Appointment, in which the student books his or her time at the learning centre in advance. Some centres also operate on a 'drop-in* basis, where would-be learners can come in off the street, almost on impulse. Drop-in centres are particularly valuable for catering for potential learners who lack confidence and may be alienated, at least at first, by any formality; however, they do require careful planning by the provider.

One particular feature of the centre-based model is worth elaborating. This model is economically viable because experience shows that in most cases the barriers to successful learning by students are not the specialist content of the subject being studied, but ambiguity in the wording of the learning material, uncertainty on how to proceed, lack of feedback on progress, or even personal problems. In such cases a good generalist with tutoring and counselling training is more helpful than a subject specialist without such training. This means that one generalist tutor can support a range of students each studying different subjects (or the same subject at different stages), and makes the organization of Open and Flexible Learning Centres economically more viable for small numbers and many subjects than face-to-face tuition. An exception to this general rule is where the subject matter is computing, or the learning is computer-based, when it is important to have a member of the support team with adequate knowledge of the hardware and software which is available for the students. It also helps if subject specialists are available in the locality to be consulted if necessary.

3.8 Administration

In *Open Learning for Technicians (1982),* the present writer stated

> ***One of the features of Open Learning compared with face-to-face courses is an increased emphasis on administration both in terms of the resources required (eg for postage and keeping track of students) and of quality. Whereas in face-to-face tuition the quality of administration seldom has much effect on the learning by the student, in Open, and in particular Distance, Learning there is a constant interaction between educational practice and administration. Inefficient administration (eg delays or mistakes in despatching material or returning marked work) can nullify good quality learning material and careful work by distant tutors, while some forms of apparently very efficient administration can overstructure a course and remove many of the advantages of self-pacing.***

This general statement is still valid today. In the intervening period, student tracking software has become freely available and inexpensive and helps simplify the administrative task.

Section 4: Sustainability

Once Open Learning has been successfully introduced, in order for it to survive, to be sustainable, consideration has to be given to:

- **Finance**
- **Embedding Open Learning in mainstream VET**
- **Coordination.**

4.1 Finance

In theory at least, Open and Flexible Learning should be cost-effective if all the benefits could be aggregated: the lack of need for additional premises, the convenience to the student, the advantage to the employer of not having to do without key personnel, the possibility (at least in centre-based Open Learning) of providing VET for individuals or small groups, updating 'on demand*. In practice, there are important issues to be considered by any government, authority or organization contemplating the introduction of Open or Flexible Learning.

The first issue is that there has to be a considerable initial investment before there are any learners. This applies both to the production of learning material and to the establishment and equipment of learning centres. The former carries more risk than the latter; unused learning centres (and often equipment) can be reallocated for other uses, but ineffective learning material has no alternative use. In VET, where learning material may have a short shelf life (because of technological, industrial or institutional change) the recovery of the initial investment, or the ploughing back of sufficient income to finance the next generation of learning material, may have to be undertaken over a short period of time.

The second issue is that those who meet the costs may not be the ones who reap the benefits. Open Learning in VET typically involves a number of categories of actor, often public and private sector, almost certainly with different priority calls on their own budgets. Creating a system which matches costs and benefits, and finding ways to 'pump money round* to meet the costs where they occur is singularly difficult.

The third issue arises from the nature of VET, with its large numbers of occupations and subject areas. Those subjects which attract large numbers of students for Open Learning may prove financially viable and self-sustaining, if the students (or their employers, or the state if they are unemployed) are willing to pay fees at a level which covers the cost of tutorial support, study location (eg computer work stations) and learning material. But there will be many cases in VET in which there will be specialisms needed by only a small number of students, and yet which may be vital for individual companies or for the economy as a whole.

If the size of the market, and the amounts customers are willing to pay, are insufficient to support the publication of learning material or the continued existence of learning centres, then there are several options:

- **to accept the inevitable closures and diminishing opportunities**
- **to subsidize the providers (of learning material or delivery arrangements), which may not give them the necessary incentive to be cost effective**
- **to subsidize the customers, but this may lead to rationing if resources are scarce (as they nearly always are)**
- **to find ways to help providers increase the size of the market.**

There are also issues, which vary from country to country, arising from the levels and basis of the pay of personnel involved in Open and Flexible Learning, and also the nature of, and rules governing, public finance. Failure to address these financial issues in advance may cause the development of Open and Flexible Learning to be still-born, or make its continuation unsustainable.

4.2 Embedding Open Learning in mainstream VET

In *Open Learning for Technicians* the present writer advocated a policy which treated Open Learning as a mainstream commitment in further education (FE).

> ***We believe that eventually it should be the natural expectation of all lecturers in FE that they would spend part of their working life as Open Learning tutors, and that their conditions of service would reflect this expectation.***
>
> ***This is not an impossible dream. Although Open Learning does differ from other teaching modes because of the importance of administration (particularly in distant systems), and although the techniques associated with Open Learning do involve changes in teachers' attitudes and approach, these techniques are not complex mysteries available only to an elite high-priesthood and requiring years of special training and experience, but could be within the armoury of every teacher.***

And again

> ***To accept Open Learning as mainstream means a commitment of ongoing resources within the education system for the continued running of Open Learning, a major staff***

development programme, and turning on their heads many attitudes, expectations and practices. Yet without such acceptance Open Learning will only be a 'voluntary* add-on.

One of the advantages of embedding (or even partial embedding) of Open Learning into the mainstream is that the practices of Open Learning can act as a catalyst for the general improvement of VET. A policy of embedding, however, is not without its risks, as is shown by what happened in the United Kingdom (section 7).

4.3 Coordination

Because Open Learning has so many elements, involves so many actors and has its own special financial characteristics, it is unlikely to fulfil its potential (even when embedded in the mainstream) unless there is some focal point to pull all the threads together, to monitor developments and provide a powerful voice to speak for the interests of all those involved. Without this, Open Learning will often be perceived and treated as of secondary importance to those who have responsibility for it and also for, say, face-to-face teaching or text book publishing. Without coordination, Open Learning will only be sustainable if the market is large enough and rich enough to be efficient without intervention.

Part II: Developments in the United Kingdom

Section 5: Origins

In the United Kingdom Open Learning for VET took off in the 1980s with the launch of the Open Tech programme. The origins of that programme were diverse, but there were four major trigger influences:

- **FlexiStudy**
- **the Open University**
- **the Open Learning Systems Project of the Council for Educational Technology**
- **the technician problem.**

5.1 FlexiStudy

Correspondence courses started soon after the introduction of the Penny Post in 1840. Gradually commercial courses developed in many academic and commercial subjects and in a few technical subjects. A not-for-profit correspondence school, the National Extension College (NEC), was launched in 1963, concentrating mostly on general education. In the late 1970s the NEC developed a special relationship with Barnet College (a college of Further Education in outer London), whereby the college provided the delivery of open learning using materials developed by NEC, originally for its correspondence courses. This model, with local tutorial support rather than support at a distance, was marketed by the NEC under the registered trademark of FlexiStudy and taken up rapidly by over 80 of the 500 or so Further Education colleges, mostly for general (not technical) education.

FlexiStudy influenced Open Learning in the further education (FE) system in the United Kingdom in a number of ways, including

- **the demonstration that if suitable Open Learning opportunities were made available large numbers of students would take them up**
- **the lesson that rapid growth was possible provided colleges concentrated on the 'delivery system' and obtained their learning material from outside sources rather than developing their own**
- **the identification of a number of educational, administrative, financial and even 'political' issues.**

Although there was no immediate impact on technical education, (both because of the lack of suitable learning materials and because, in many cases, the technical departments of colleges were unaware of the developments in the general education departments) at college management level, and among resource centres and libraries, FlexiStudy was often seen as a possible model for eventual adoption in technical education. This line was followed in the *Open Learning for Technicians* report.

5.2 The Open University

It is not really possible to discuss Open Learning in the United Kingdom (or possibly anywhere in the world) without acknowledging the influence and importance of the United Kingdom Open University (OU). It took the rather dusty concept of correspondence education and made it not just respectable (some will argue that it was already) but even glamorous. And, in the far from gentle world of academic education, the OU works and is seen to work. The OU model, in the opportunities it offers, in methodology, in the attractiveness of its learning material, provides a 'bench mark' against which all Open Learning is likely to be judged. The OU has a strong, if sometimes hidden, influence on most developments in Open Learning in the United Kingdom.

Although the OU is said to have bid to run the Open Tech programme, it was not given this opportunity, apparently because it was felt that its approach was too expensive and too slow to produce results.

5.3 The Open Learning Systems Project

Another development of the late 1970s was the Open Learning Systems (OLS) Project of the Council for Educational Technology. This postulated the development of an Open Learning System in Further Education (1978), and sponsored a number of studies which raised, and suggested solutions for, a number of practical issues about the introduction of Open Learning in VET. Perhaps the most important influence of the OLS project was that it prepared the way for the general introduction of Open Learning by publicizing and investigating many of the issues which had to be faced, and by providing a focal point for assistance to those who wanted to start an Open Learning scheme in their college.

5.4 The technician problem

One of the most important triggers, however, arose from the policies of the Technician Education Council. In the late 1960s the Government appointed a committee under Dr Haslegrave to review the education of technicians. The *Haslegrave Report* (1969) recommended the establishment of a Technician Education Council (and a Business Education Council) which would be responsible for unifying the National Certificate and City and Guilds Technician courses and awarding technician qualifications.

In 1974 the Technician Education Council (TEC) defined its policy which had the following characteristics:

- **a modular course structure, allowing for credit accumulation and transfer**
- **syllabuses based on outcomes (learning objectives)**
- **internal assessment of students subject to external moderation**
- **a requirement that study had to be at a centre (usually a college) which had had its programme of study validated by TEC.**

After several false starts at creating a more general scheme, the Technician Education Council, jointly with the Manpower Services Commission and the Council for Educational Technology, in 1979 commissioned Guildford Educational Services Ltd (GES) to undertake a study which culminated in the *Open Learning for Technicians* report presented in 1981 and published in 1982. In parallel with this study TEC developed workable conditions for accepting Open Learning students for its awards.

The aims of the GES study were interpreted as being intended to provide a workable model of how a system of Distance Learning for technicians could be established and would operate. GES therefore explored the general feasibility of a system of Open Learning based on a network of colleges, the various components of such a system and many related issues.

These various trigger influences were converging by 1979 when the general election brought a change of government. The new Conservative government was intent on revolutionising VET. In 1981 The Manpower Services Commission (MSC), then the main government agency for training, published *A New Training Initiative,* its blueprint for major changes in the structure and policies of VET.

Section 6: The Open Tech Programme (1981-1987)

6.1 Launch

In a debate in the House of Commons on 26 November 1980, the then Secretary of State for Employment, Mr James Prior, had said *I am convinced that we need more open opportunities for technical training. By 'open* I mean that there should be no formal pre-entry educational qualifications, and that such opportunities should be available to people irrespective of whether they can join with others for structured classes at set times in working hours.*

In May 1981 the MSC published a *Consultative Document on An 'Open Tech* Programme*: 'To help meet adult training and retraining needs at technician and related levels.* A great deal of interest was generated in the Consultative Document. An initial print run of 5,000 had been ordered, but eventually some 30,000 copies were distributed. By the end of the consultation period over 500 responses had been submitted; these were referred to a specially appointed Open Tech Task Group which reported in June 1982.

The Open Tech programme did not create a single new institution but was based on what was already there, and was run by a small unit at the MSC headquarters in Sheffield. An explanation was given by the first Director of the Open Tech Unit (Tolley, 1983):

> ***How then will the Open Tech operate? It is important to make the point that it will not operate as does the Open University. This is in no way intended as a criticism or rejection of the OU model. The Open Tech must operate in and affect markets that are significantly different to those of the Open University and it might be surprising if structures and procedures developed for one set of markets were directly applicable to another. The Open University established its course structures centrally; it devises syllabuses and course materials centrally; it enrols its own students; it makes its own awards; it is a national institution, an entity and funded accordingly. None of these things will apply to the Open Tech - deliberately so. For what the Open Tech is about essentially is the business of affecting the process of education and training as it is carried on in the many agencies and interests which are involved, and must be involved in education and training and retraining of adults.***

Tolley went on to describe the four major characteristics of the Open Tech Programme:

- ***It is project-based. The Open Tech Programme will fund development projects, each of which will have defined objectives. It is these projects that will provide the working face of the Open Tech. Projects may be based in colleges, companies, ITBs, Skill centres or in consortia of various agencies.***
- ***It is collaborative. It will work largely through these existing agencies and will seek to bring together in effective cooperation the resources, expertise and interests of the colleges, the training centres in companies, the Industry Training Boards, the Skill centres, the producers of educational materials...***
- ***It is developmental. Projects will be funded on a pump-priming basis for a specified and limited period. Open Tech funds will not be used permanently to sustain an activity in any given area of work. The outcome of developmental work that is funded through the Open Tech Programme will be expected to be applicable, in some way, to extend the range of open learning opportunities...***
- ***It is vocational.... By vocational, I mean related in some way to the interests of work; and often but not always, the use of the word in the Open Tech connotation will indicate the identification of an intention to satisfy labour market needs. The Open Tech must be an employment led activity in the sense that there must be a pay-off in the enhancement of skills and performance of technicians and supervisors in the competitive world in which we live, and there must be an effective response to shortages of skills, where these are identified.***

6.2 Achievements

The Open Tech programme was conceived as having a finite life from 1982/83 - 1986/87. It was to explore a whole range of issues and approaches through a large number of projects (over 140 were operational in Spring 1986). Projects covered learning material production in most industrial sectors (this had been recommended as the priority by the Task Group), training for trainers, regional and local delivery systems, support and advice on practical training facilities, information and advice on materials and resources. By the end of the programme in March 1987 the projects had produced some 34,000 learning hours of new material and had provided training for almost 65,000 trainees.

The hope and expectation was that once the Open Tech Programme had formally ceased, ***the work and developments created through the Programme will certainly continue and further work will be done as open learning becomes accepted and embedded as a normal method of vocational education and training, within the MSC and outside. (Open Tech Programme News No 12, autumn 1986).***

Some of the other results of the Open Tech programme were described by David Tinsley (then an ex-director of the Open Tech Unit) in a contribution to *Open Learning in Transition: An Agenda for Action* (1988):

> ***...almost all the Open Tech projects continue to function, though some are more actively developing than others and form a strong nucleus of expertise and enthusiasm in the training sector. This has stimulated the creation of wholly commercial open-learning providers who were not involved with the programme but who have been influenced by the general rise in interest in open learning. The programme raised the profile of open learning in vocational training and gave a major boost to the whole concept of flexibility and learner-centred training throughout the training sector, particularly within further education institutions.***
>
> ***The further education sector did not find it easy to come to grips with ideas of openness, and it is greatly to its credit that substantial moves have taken place in the past few years. The difficulties were rarely to do with any active resistance; they were the result of the historical development of an FE system designed originally to cope with apprenticeship-style training, based on the idea of training for life of large homogeneous single-craft groups. Where there was a need for the large-scale delivery of comparatively standardised skills, this system was ideal. But it does not provide the basis for delivering skill training to individuals in industries where the acceleration of technological change requires a constant updating of the workforce.***
>
> ***Against this background, the Open Tech Programme designed a system of training geared to the needs of the individual. Many barriers had to be removed: inflexible college enrolment arrangements, inaccessible courses, inappropriate or non-existent accreditation arrangements and the high costs of subsistence and substitution while employees were away on training events. As the Open Tech developed its strategy, all sorts of sacred cows were slaughtered, including the rigidity of course content which***

was replaced by modular approaches enabling learners to select precisely those parts of the material which are relevant to their needs.

The present writer agrees with David Tinsley*s judgement but, as will be seen in the next section, embedding (which was central to the policy) has been a comparative failure, with adverse side effects. And no system was created.

Section 7: Fragmentation, decline and rebirth (1987-97)

The end of the Open Tech Programme led to a fragmentation of Open Learning. There were too many developments and activities for it to be possible to keep track of all of them in this paper. This section concentrates on eight strands which illustrate reasonably accurately activities in the decade 1987-1997:

- **Embedding**
- **The Open College**
- **Quality issues**
- **Qualifications and the Matching Programme**
- **Information and advice**
- **Research and development**
- **Open Learning materials**
- **Information Technology.**

7.1 Embedding in the infrastructure

In 1987, when the Open Tech Programme came to an end, it appeared that there was considerable momentum to embed the concepts and practice of Open Learning into the VET infrastructure of the United Kingdom (see paragraph 6.2). This infrastructure included

- **Industrial Training Boards for industrial sectors**
- **Local authorities**
- **Colleges in the FE sector**
- **The MSC itself and its regional and area offices**
- **The qualification system.**

Between 1988 and 1992, however, the Government changed the VET infrastructure:

- **In December 1988 the White Paper *Employment in the 1990s,* announced the intention to transform statutory training boards into non-statutory employer-led voluntary organisations. Implementation followed the Employment Act 1989, and by 1991 most of the industrial training boards had been converted into Non-statutory Industrial Training Organizations.**
- **In 1988 also, the Education Act gave colleges greater autonomy. The 1992 Education Act made them incorporated bodies and completely independent of Local Authorities and, for purposes of funding and quality control, brought them under the control of the Further Education Funding Councils for England and for Wales (or the Scottish Office in Scotland).**

- **In 1989, following a disagreement between the Government and the Trade Unions, the MSC was abolished and was transformed from being a quasi-independent agency to being a Directorate of the Department for Employment (which was itself merged in 1996 with the Department for Education to become the Department for Education and Employment (DfEE)). In 1989 the Government initiated the creation of 82 locally-based Training and Enterprise Councils (TECs) in England and Wales and 22 Local Enterprise Companies in Scotland to administer programmes previously run from the regional and area offices of the MSC (and, later, the Department of Employment); all were operational by 1991.**

The overall effect of these changes, and of those to qualifications (paragraph 7.4) was to damage the embedding process, because

- **ITOs tended to be very small organizations, seldom able to support Open Learning**
- **once Local Education Authorities were no longer responsible for colleges, most (not all) tended to close any general support systems for Open Learning in their areas**
- **the development of Open Learning in colleges was less than was predicted in 1987 (see the following paragraph)**
- **TECs (not to be confused with TEC - the Technician Education Council, referred to in section 5) mostly showed little interest in Open Learning, to the extent that a DfEE initiative was launched in 1996 with the objectives of**

  - **helping TECs examine the business case for the use and promotion of flexible training methods and to develop appropriate strategies**

  - **providing support for TECs in implementing and advising on the use of flexible training methods.**

Although the funding regime of the Further Education Funding Council for England (FEFC) has treated study by Open or Distance Learning quite favourably, the numbers studying by this mode are small in aggregate and only amount to 2.9 per cent of all students in the further education system. The table below (derived from an FEFC Press Release of 29 July 1997) shows the numbers for 1995/96 in thousands by gender and age group:

Age group	M	F	Total
Under 16	0.1	0.2	0.3
16-18	1.7	2.2	3.9

19-20	**1.6**	**2.1**	**3.7**
21-24	**4.2**	**5.7**	**9.9**
25-59	**27.3**	**39.0**	**66.2**
60 and over	**1.0**	**1.0**	**2.0**
Age unknown	**1.0**	**1.1**	**2.1**
Total	**37.0**	**51.2**	**88.2**

However, Open Learning seems to have been more successfully embedded in the training culture of larger companies. Figures for 1993 (published in *Training Statistics 1996*) show the use of Open Learning as a training method in more than 50 per cent of firms employing 200+ people and in as many as 88 per cent of firms with 500+ employees.

The previous government set targets for the qualifications to be obtained by the labour force, including Lifetime Target 1, by which 60 per cent of the workforce should have vocational or academic qualifications (NVQ level 3, Advanced GNVQ or 2 GCE A levels) by the year 2000. In autumn 1995 it was estimated that, with 40.9 per cent having reached that level, an annual 3.8 per cent rate of increase would be required to meet the target. This would not be possible without a greater use of Open Learning.

7.2 The Open College

Despite the reasoning put forward about the way the Open Tech programme would be developed (see section 6), in July 1986 the Government decided to establish what was first known as 'The College of the Air* and then as the 'Open College*. It was seen by many as the flagship of the Open Learning movement. Characteristics of the Open College included:

- **a considerable use of broadcasting**
- **student centres, which were to be established providers of open learning, including Further Education Colleges, employers or private sector training providers. They could offer all or part of a range of services (eg tuition, use of equipment, assessment) and offer services outside their own premises (eg Women*s Institutes and adult education centres)**
- **a National Distance Learning Centre (NALCO) to offer services to students who did not want or were unable to use the services of a local student centre (eg mobile occupations, prisoners, disabled, or remote areas). The NALCO might also be the contact point for individuals who wanted to purchase Open College materials without enrolling as a student**
- **the requirement to become self-sustaining from student fees, after the initial government funding ceased**
- **an emphasis on market research, and marketing through television**
- **the development of a qualification for teachers and trainers involved in Open Learning.**

The Open College had plenty of vision, but not enough funding to realize that vision. Nor was there a long enough guarantee of funding, which meant that a large amount of senior staff time was spent on negotiating with government. Broadcasting turned out to be an expensive burden. Its market research proved unreliable and its marketing ineffective. It never obtained the anticipated number of students. Nye Rowlands, who had played a major part in launching FlexiStudy at Barnet College (section 5), and had become Principal of a major college in Manchester, commented in *Open Learning in Transition* (1988):

> ***The arrival on the scene of the Open College has had little effect so far on the operation of open learning within a large institution. This surprises me a great deal because I, for one, always believed that the impact of the media and the regular marketing opportunities afforded through any kind of national television output would be something that one would seek to use as a major marketing force.***
>
> ***Though it is now over six months since the introduction of the Open College and, to my knowledge, we have not discouraged a single Open College student, it must also be confessed that we have not received more than a handful of enquiries. The relationship between the enquirer and the materials is one of lack of enthusiasm, whether because of the initial cost or because of the brightly coloured explosion of learning that they enclose is another matter.***

After a few years the Open College changed its mission and became a publisher of learning material. In 1997 this function was taken over by the Pearson publishing group and the Open College ceased to exist as an independent organization.

7.3 Quality issues

There are two main approaches to quality in Open Learning: qualifications which identify the competences of personnel working in this field, and approaches aimed at the organizations. One of the important initiatives of the Open College was the development of the Certificate for Open Learning Delivery (COLD) which was based on agreed standards for staff involved in Open Learning and was piloted in 1988/89. COLD was replaced in 1991 by the Award for the Development and Delivery of Flexible and Open Learning (ADDFOL), which was also competence-based, and provided for a range of awards for staff working in Open and Flexible Learning, based on a range of 30 separate units. As part of a general move to rationalize qualifications, in 1995 the ADDFOL awards were subsumed into more general Training of Trainers* qualifications. In the absence of a strong voice on behalf of the Open Learning movement, the replacement qualifications do not enable the separate identification of competences in the development and delivery of Open Learning. The United Kingdom now has no specialist qualification for Open Learning staff.

The Open Tech Programme included a project which developed a Code of Practice for those involved in Open Learning and then a Quality handbook published in 1988. More recently DfEE has funded the British Association for Open Learning to develop quality marks for Open Learning materials production, delivery and guidance. This process-based

quality system (based on similar thinking to ISO 9000) was piloted in autumn 1997 for a launch in spring 1998.

7.4 Qualifications and the Matching Programme

In the Open Tech programme itself the attitude of the MSC had been that adult learners were scared of examinations and did not need qualifications. So, in many cases, there was only a very tenuous linkage between Open Learning developments and qualifications. In some cases, however, the Open Tech programme did fund the production of materials to support the vocational qualifications which were then on offer, until replaced by National Vocational Qualifications (NVQs).

The National Council for Vocational Qualifications (NCVQ) was established in 1986 and created the NVQ framework. Although often claimed to reflect a totally new approach, some of the features of the framework can be traced back to those initiated by the Technician Education Council, especially:

- **a modular course structure, allowing for credit accumulation (although credit transfer is less easy than within the TEC system)**
- **syllabuses based on outcomes (but on competences rather than learning objectives)**
- **internal assessment of students subject to external validation.**

Other features are:

- **an acceptance that preparation for assessment could be of any length and by any mode**
- **an initial insistence on assessment of competence in the workplace, with knowledge being inferred from observed actions rather than direct questioning.**

Although most of the other features were favourable to Open Learning, a somewhat doctrinaire insistence on the last point was often inhibiting as it devalued knowledge (which can be learned from Open Learning systems) in favour of observable activities which are less easily learned this way. It was generally accepted, therefore, that while Open Learning could contribute to NVQs, there would be few situations or subjects in which a full NVQ could be obtained by this mode of study.

However, the Department of Employment (into which the Manpower Services Commission had been incorporated) became convinced that Open Learning should relate to qualifications. It therefore funded the Matching Programme, in which existing learning materials were matched to NVQ competences and the result coded on a database. Because of the tendency for there to be frequent changes in the content of NVQs, the Matching Programme became too expensive to sustain. However, its main legacy is that United Kingdom publishers of Open Learning materials are increasingly designing materials to support specific NVQ units and elements.

7.5 Information and advice

The Open Tech programme created two information systems on Open Learning:

- **Materials and Resources Information Service (MARIS), a computerized database with information on Open Learning products**
- **A printed directory.**

MARIS was provided initially on-line, then on PRESTEL, then on CD-ROM. It was originally run by the National Extension College, and then devolved to a separate private company (MARIS-NET Ltd) once the Open Tech funding ceased. The income from the database was never sufficient to maintain it, but the company survived by cross-subsidies from MSC consultancy contracts. When these were not renewed MARIS-NET Ltd was taken over by Dawsons, a large educational supply company. Dawsons could not make it pay and closed down the MARIS service in the early 1990s.

The Open Tech Programme originally commissioned the National Extension College to provide a printed Directory of Open Tech Programme Opportunities. This was piloted in 1985 and a revised edition published in 1986.

In 1988/89 MSC itself published a replacement Open Learning Directory. This was later published as a commercial venture by Pergamon Open Learning, one of Robert Maxwell*s companies which he sold to a major publisher, Butterworth Heinemann. After this had been transferred from Pergamon Open Learning to a different division of Butterworth Heinemann, the decision was taken in Summer 1997 to suspend publication.

Meanwhile the DfEE had undertaken a study of why there was a low take-up of technology-based training and had come to the conclusion that there was market failure due to a lack of impartial information and advice. Following competitive tender, a contract (now running to March 1999) was awarded to a consortium led by Guildford Educational Services Ltd to provide an information and advice service on the application of technologies to training. This service, Technologies for Training (TfT), became operational in Summer 1997.

7.6 Research and development

In parallel to the Open Tech Unit (but separate from it) the MSC had established its Training Technology Unit to provide a central focus for the use of technologies in training. Largely this activity was undertaken by sponsoring research and development projects, including those with pedagogical aspects (eg learning styles, screen design). In due course both the Open Learning Branch (which succeeded the Open Tech Unit) and the Training Technology Unit became part of a much larger Learning Methods Branch. When the Department for Education and the Employment Department merged in 1996 the various parts of the Learning Methods Branch were dispersed, with the Training Technology Unit (which now included the remnants of the Open Learning Branch) becoming part of the Education and Training Technology Division.

Over the years the Training Technology Unit sponsored and managed a large number of projects related both to the use of technology and to Open Learning. In all some 130 research reports were produced, some of which were very influential in guiding technical and pedagogical developments, and for the adoption of Open Learning by companies. Gradually, however, both the staffing for project management and the funds for sponsoring projects were reduced again and again, so that by 1997 only a few contracts were being managed, and these were operational (eg TECs and Flexible Learning - see paragraph 7.1, and Technologies for Training - see paragraph 7.5), rather than research. In Summer 1997, only 28 of the research reports were still available to the public; the remainder were archived.

7.7 Learning materials

As noted in paragraph 6.2, the Open Tech programme generated a large volume of learning materials. Many different approaches to the production of materials were attempted. It was found that the course team approach developed by the Open University was too costly and time-consuming for VET. A theory was developed that it should be easier and more cost-effective to train subject experts in the rudiments of educational technology and give them a disciplined approach to learning material writing, than to attach highly qualified educational technologists to materials writing teams. An experiment was carried out with teachers of Mechanical Engineering craftsmen, under the auspices of the Open Learning Systems project of the Council for Educational Technology, in an accelerated workshop at Ferryside in Wales. The result was a qualified success and aspects of the so-called 'Ferryside system* have been successfully applied in the United Kingdom, India, Pakistan and Russia.

A comparison of the fate of two of the Open Tech projects concerned with materials (Southtek and BOLDU) can serve as an illustration of how fragmentation led to decline or to change of status.

Southtek was one of the earliest and largest of the Open Tech projects. Funded by £1.75m of pump-priming money from 1982, Southtek was a consortium led by Brighton Polytechnic and comprising 14 colleges and 14 private companies. Southtek*s training methodology was based on a multiple media system with a range of training packages using books, audio cassettes, videos, computer simulations and practical kits. The system was backed by a network of Support Centres where advice on the choice of package, tutorials, and opportunities to view the videos and use the computer simulations was available. The distribution and commercial phase of the project was launched with great publicity by the Chairman of MSC in September 1984. The intention was that Southtek should be self-financing by the end of 1985. In Summer 1985 Southtek was taken over by Macmillan, one of the United Kingdom*s largest educational publishers. The rationale was that Southtek*s materials design expertise and Macmillan*s marketing resources would provide a very powerful combination. Later in 1985 the name was changed to Macmillan Intek. Macmillan Intek struggled for some years and eventually in 1992 the Macmillan group closed the company, selling on its publications and kits to other companies in the Open Learning field.

Birmingham Open Learning Development Unit (BOLDU) was set up in 1984, funded as a delivery project under the Open Tech Programme. The unit was originally based at East Birmingham College and its main purpose was to provide a resource base and to deliver specific staff development and training on Open and Flexible Learning. As well as providing a support service and staff development function to colleges and schools in Birmingham, a major part of BOLDU*s work was to provide advice, consultancy and support to industry, commerce and public bodies. When MSC funding ended in 1987, the unit was integrated into Birmingham*s Local Education Authority.

The National Open Learning Library was set up by BOLDU in the late 1980s, as a collaborative venture between BOLDU and MARIS-NET (see paragraph 7.5) and was formed by combining BOLDU*s existing library and the MARIS-NET Open Learning Materials Library. Over 5,000 packages from many suppliers and other educational initiatives were available in the library for evaluation, all of which were included in the on-line database accessible through MARIS. Following the disappearance of MARIS-NET, BOLDU continued to host the library and developed it as the national resource for the open learning industry and a preview centre for prospective buyers of open learning.

From 1987 to 1993 BOLDU was an integral part of Birmingham City Council*s Further Education Department and as such was fully funded by the Council. Following changes in the funding of Further Education nationally, the funding arrangements for BOLDU ceased. A management buy-out ensured the continuity of BOLDU and the National Open Learning Library. In April 1993, BOLDU Limited, a private limited company, was formed and moved to other premises in Birmingham.

The National Open Learning Library now contains over 7,500 packages and is one of the largest collections of learning resources in the United Kingdom and probably in Europe. It receives regular visitors from all over the United Kingdom and from as far afield as Australia, India and Hong Kong. The National Open Learning Library remains as an integral part of BOLDU*s business. The size of the National Open Learning Library and its growth since 1993 is evidence that the Open Learning 'industry* is still active, and indeed has been one of the factors for regeneration through Information Technology.

Another successful operation has been the Open Learning Foundation. Originally established in 1990 as the Open Polytechnic, it was an alliance of 20 polytechnics to produce, share and sell Open Learning material for higher education. When the polytechnics became universities in 1994, the name was changed to the Open Learning Foundation (OLF). It now has 26 full and 5 associate members and is involved in European Commission projects as well as learning material production. The Open Learning Foundation, by a combination of membership fees, sales of materials and project funding, is able to employ a team of permanent staff who provide the necessary drive and coherence.

In Further Education two consortia of colleges have developed learning materials for sharing among the consortia members. One consortium, in existence since 1990 and with about 100 college members has mainly produced print-based materials which it is now converting to CD-ROM. The other, formed in 1996 with over 20 members, is concentrating on multimedia.

7.8 Information Technology

Although printed materials have the advantage of convenience and practicability, a great deal of thought has to be given to their design if they are to be sufficiently interactive to support effective self-study. Interaction is much easier to produce on a computer, and even before personal computers became common, there was a great deal of interest in technology-based training (TBT). This has accelerated recently because the lowering of the entry thresholds has meant that more actors are encouraged to enter the market.

TBT is an expanding and fast moving market working in three main media: Computer-based training (CBT), Video and CD-ROM, while interactive training on the Internet is just starting to emerge. CBT and video meet as multimedia, usually now using CD-ROM; in the United Kingdom the earlier alternatives of CD-I and interactive laser video disc are on the decline.

The IT industry is giving a new life to Open Learning in the United Kingdom. Because of the need for high specification hardware to run the latest courseware, new well-equipped study centres are being opened in companies and in colleges. Yet the market is being driven by supply and marketing techniques (some of which are dubious) rather than by demand. As noted in paragraph 7.5, the DfEE believes that there is a market failure in the use of technologies for training, especially in medium- and small-sized companies, and has established the Technologies for Training (TfT) service to tackle one identified cause of the market failure: the lack of objective information and advice. But the market failure may also be due to the lack of coordination for Open Learning or of a comprehensive and high profile policy on lifelong learning.

There is some development, and a great deal of interest, in providing on-line learning through the Internet. Although current services are often slow and difficult to use, the expectation is that the Internet will be a major factor in Open Learning within the next few years.

Section 8: The University for Industry

8.1 A new approach

The new Labour Government, elected with a large majority on 1 May 1997, is developing coherent policies for lifelong learning. Central to these policies is the 'University for Industry*, the name provisionally given, in a report by Josh Hillman of the Institute for Public Policy Research (1996), to an initiative which could meet four challenges for lifelong learning:

- ***boosting the capabilities of the workforce***
- ***widening participation in learning***
- ***inspiring national demand for learning***
- ***modernizing the supply of learning.***

(Note: It is generally accepted that the title is a misnomer because what is proposed is neither a university, nor is it primarily for industry, but until another title which catches the imagination is found, it is likely that 'University for Industry* will continue to be used).

The University for Industry would:

- ***be the hub of a national learning network extending to workplaces, homes and local learning centres***
- ***act as a cataloguer and broker of information, materials, courses and services***
- ***provide access to user-friendly services on the Internet and create links with tutors, experts and other learners***
- ***commission new learning programmes in strategic areas***
- ***sustain an accessible system of support and guidance services***
- ***stimulate mass-marketing of learning opportunities.***

In determining the strategy for the University for Industry initiative, Josh Hillman considered three approaches: "laissez-faire" and "dirigisme" (both of which he rejected) and "animation" (which he recommended). In an article in EDUCA the present writer commented:

> ***If the University for Industry turns out to be anything nearly like the blueprint in the report of the Institute for Public Policy Research, it will have a much greater chance of achieving permanence than its predecessors.***
>
> ***First, like the Open Tech programme, but unlike the Open College, it will build on the diversity of what is already there, rather than try to create a new institution.***
>
> ***Secondly, unlike Open Tech, it will create a system and link what is there into a 'national learning network*.***
>
> ***Thirdly, although it expects learning to take place at the workplace and at home, it sees a major and central role for local learning centres.***

In late February 1998 the United Kingdom government published a consultative document The Learning Age which included its broad intentions about the University for Industry. The main concept of UfI was described as follows:

> ***The UfI will connect those who want to learn with ways of doing so. It will act as the hub of a brand new learning network, using modern communication technologies to link businesses and individuals to cost-effective, accessible and flexible education and training.***
>
> ***People and companies will be able to contact the University for Industry by telephone, letter, fax, e-mail (through the UfI's website) or by calling at a UfI enquiry desk in, for example, a supermarket, high street shop, college, TEC or Business Link. The UfI will***

> ***tell you what learning is available and offer advice if you need it and provide you with a course that meets your needs, whether full-time, part-time, or through study at home, at work or at a local learning centre. For example, it could deliver a learning package on a CD-ROM to your home or send it by e-mail, or contract with a college for an evening class, or broadcast an interactive TV programme, or provide a course over the radio or on the Internet. Students will not need to be tied to one particular location.***

The Learning Age also described learning centres:

> ***These will be places equipped with technology where people can go and access UfI courses and materials. The centres should be within easy reach of most people's homes. They could be in their firm, in a library, shopping centre, or football club, or at a school or further education college. ...The UfI will ensure that learning centres meet the high standard required for providing access to UfI programmes. Like any other learning institution, the UfI will look after its learners offering advice and support to businesses and individuals. Everyone who takes a course through the UfI will become a UfI 'student'.***

UfI's early priority areas are likely to cover: basic skills; information technology skills; the management of small and medium-sized businesses; and skill needs in specific industries and services. Where there are gaps in provision UfI will commission courses to cover them. The government will provide funding to support UfI in a private-public partnership, and will support some learners, especially those on low incomes.

The Sunderland University for Industry Project has been piloting the UfI idea in 1997/98. In this pilot information, advice and registration are available via a free telephone help line operating seven days a week. There is access to hundreds of courses, materials and free tasters, such as 'IT for the Terrified'. People can learn on their own when it suits them, on-line over the Internet, or meet a tutor. Learning takes place at work or at 35 learning centres in colleges, schools and libraries, as well as shopping centres and the local football stadium. A sophisticated computer 'virtual engine' supports the call centre with a courses database and immediate enquiry and registration facilities. Using the Internet a range of instant statistics are provided such as learners' details, course bookings and progression routes. There were over 1,400 registrations in the first four months. The project has created a network of local, regional and national stakeholders, including companies, voluntary agencies, the BBC, the NHS, Sunderland City Council and Sunderland City TEC. The project is funded via a public-private partnership.

8.2 Future developments

The creation of UfI has a long way to go. A 'transition team' is being appointed in autumn 1998 with UfI becoming operational in late 1999. Its main problem is likely to be finance, both for the central support and to ensure the continued viability of the organizations in the 'partnership*. The history of Open Learning in the United Kingdom, as recounted in this paper, shows how so many promising initiatives have withered because they are not capable of self-sustainment. And, as the present writer wrote in EDUCA, this is not the only problem:

> ***Another problem may be lack of trained people to support UfI. Our work in Russia shows the enormous advantage of having a cadre of good well-trained educational technologists (who Russians call 'methodologists*') if a new approach is to be launched successfully. At the height of the Open Tech programme there were plenty of educational technologists and courses to train others were being launched. All seem to have faded. The Association for Education and Training Technology (AETT) has disappeared. Some of the familiar names are in universities, becoming more remote from the target audience (despite its name) of the University for Industry.***

There is also faith in some quarters in media-based marketing. The Kennedy Report: *Learning Works* (June 1997) in recommending ways of achieving wider participation in Further Education, quoted examples of successful use of media to advertise educational opportunities and recommended:

> ***The government should take the lead in stimulating the demand for learning. The initiative should be ongoing, popular in appeal, draw in all providers, make use of the media and be coordinated with local activity. It should harness the enormous potential of the national and local media to reach people in their own homes and workplaces, and to convince people that learning can be relevant and beneficial to their lives. The government should call upon the expertise of media professionals to help it design the best approaches.***

The problem is that media advertising is expensive, as are media professionals. Ineffective marketing via TV and other media represents a serious opportunity cost, ie the same amount of money spent differently could provide additional usable facilities. The experience of the Open College (paragraph 7.2) is salutary, as are failures of other general TV advertising in the training field in the United Kingdom (eg Employment Training, a government programme for the adult unemployed, which was extensively advertised on TV to little effect). The success stories all seem to have been related to specific opportunities rather than the general promotion of learning. Promotion through media may help establish UfI, but experience suggests that the risks are substantial. Nevertheless at the time of writing there is an atmosphere of hope and enthusiasm for UfI.

Part III: Developments in the Moscow Region

Section 9: The Moscow Region

The Moscow Region (which excludes Moscow City itself) is the size of Belgium, with a population similar to that of Sweden and has about 60 cities with 60,000 or more inhabitants. It is highly industrialized but also provides Moscow with food. There is a preponderance of high tech industries (eg nuclear research at Dubna, specialist steels at Electrostal, aviation research at Zhukovsky, astronaut training near Sholkovo). Defence industries are a major feature. There are one or two potential tourist traps (especially Sergiev Pasad, the centre of the Orthodox Church). Some practices of the Soviet era still linger - especially the assumed need to have a permit to live or work in a particular city. As a result the cities are more self-contained and have a stable - almost trapped -

population, which is strange to those used to the mobility in and around the cities of Western Europe.

The Russian economy - and hence its workforce - is going through a period of very rapid change. New skills, in management, information technology, and business administration are urgently in demand, while many professions and crafts have a challenge of reorienting their approaches to working in a market economy. Other professions, for example the military, have to become smaller and are faced with resettling and redeploying people into new careers. These changes are not confined to Russia, but there the speed of change is even greater than in the West.

In 1995 in the Moscow Region, the labour force offer (ie those seeking work) was on average two to three times higher than demand. The level of officially-registered unemployment by the end of the year was 2.4 per cent of the economically active population. At the same time, estimated real unemployment reached 10 per cent.

The attitude to unemployment in the Moscow Region can be illustrated by the following comparison:

> **In the District of Lukhovitsy in the Moscow Region in February 1997 there were just over 1,400 registered unemployed. This was perceived as a problem of almost crisis proportions, with considerable concern being expressed about the effect on individuals, their families and society as a whole. Despite shortage of funding the authorities initiated a vigorous approach to retraining (including Open and Flexible Learning) for the new types of job which changes in the economy demanded.**
>
> **In the area of Guildford District Council in the United Kingdom (with less than a third of the population of Lukhovitsy District) on 13 February 1997 there were 1,407 'claimant unemployed*. The general reaction reflects the fact that Guildford has one of the lowest unemployment rates in the United Kingdom (the corresponding travel-to-work area has a better rate than the average for Japan - actually 2.3 per cent). The concern here is for overheating and wage inflation in some sectors. No specific action is perceived as necessary to cope with unemployment.**
>
> **Of course, like is not being compared with like in terms of social conditions (the Lukhovitsy unemployed had not received benefits for 5 months), expectations and definitions of unemployment rates. But the comparison shows a contrast in attitudes.**

Section 10: The introduction of Open Learning (1993-1997)

10.1 Origins

The introduction of Open and Flexible Learning into the Moscow Region was more or less accidental. After the Berlin Wall came down GES decided to investigate the education and training market in the then Soviet Union. GES had at least three false starts, brought about by the collapse of the Soviet Union, the lack of donor funding and, when GES tried

to get together a consortium of United Kingdom colleges with industrial backing, changes in United Kingdom college priorities following incorporation.

Following the GES team's presentation in Zhukovsky to a group which included the local Employment Service and a study tour by the head of that service to the United Kingdom, the Director of the Moscow Region Employment Service decided that GES should be contracted to help create an Open and Flexible Learning Centre based on Vocational School 49. The task was extended also to include two other cities in the same area: Ramenskoe and Sholkovo. All three cities have populations in the 100,000-200,000 range. Zhukovsky dates from 1947, Sholkovo was 75 years old in 1996, and Ramenskoe is much older. Zhukovsky was dedicated to aviation research, the others have defence industries and textiles, and an agricultural hinterland. Sholkovo contains Star City, where astronauts are trained. Ramenskoe has Gzhel, Russia*s equivalent of Delft, and the trotting arena for Moscow. Zhukovsky hosts the Moscow Air Show.

10.2 Early developments

There have been three projects: June 1994 to December 1995; January 1996 to December 1996; and February 1977 to September 1997. In the first two projects the GES team visited the three cities about every second month, usually with three consultants for a week at a time. It was found that this frequency and length of stay was the best balance for getting things done without disrupting too much the other operations of the Employment Service or of the staff being trained. The first project started with the general concepts of Open Learning, together with advice on centre layout, equipment and staffing structure. It continued with learning centre administration, tutoring and other aspects of student support and an introduction to marketing of a centre and to learning material production.

The consultants saw the centres grow before their eyes. They changed from traditional classrooms (empty because of the decline in demand for vocational schools), to empty spaces, to redecorated, well-furnished and equipped learning centres. In some centres computer equipment was provided with World Bank funding. Even before the centres were officially opened (as Russian-British Open and Flexible Learning Centres) in October 1995, they were taking in trainees, mainly for computing on a flexible basis, and were starting to meet local demands for retraining.

The second project involved further training for the staff of the first three cities who had been trained in the first project, and initial training for new staff of those cities, and for those who would staff centres in five other cities (Golitsino, Khimki, Orekhovo-Zuevo, Voskresensk and Lukhovitsy) in a ring round Moscow. During the second project, the Moscow Region Employment Service has introduced its own contribution to the practice of Open Learning: a 'Methodological Unit*, which would provide educational technology support to the cities and oversee future dissemination to other cities in the Region. However, this concept has not fulfilled its expectations, largely because the level of salaries which could be approved for the Methodological Unit staff were too low to attract and retain applicants of suitable quality and experience.

Also during the second project, there was a change for the worse in the funding available for developments. One result was that the Open and Flexible Learning centres, and the Methodological Unit, had to become partly self-sustaining through earnings. The GES team had to adjust the training to include entrepreneurial skills for centre staff, with Business Plans for the centres being a major element in the final assessment of centre management staff.

10.3 The ETF Seminar

It had been hoped that EU TACIS funding might be available to support the development of Open Learning materials. In April 1996 the European Training Foundation (ETF) contracted GES to organize an invitational Seminar on Distance Learning in Russia. Although the main focus was on higher education, one of the working groups was on vocational education and training. However, there has been no substantive follow up, and Open and Distance Learning does not seem to be a high priority for the use of TACIS funds.

In a paper delivered to the Seminar, Mr V A Ponomaryov, then Director of the Moscow Region Employment Service, wrote:

> ***Open learning should enhance employability, competitiveness and mobility for those strata of the population who, for different reasons, cannot obtain occupational training in conventional learning institutions. This system of training, upgrading of qualifications and retraining of unemployed citizens, the working and the non-working population will in future be a major feature of the labour market infrastructure.***

10.4 Staff training

There were four main categories of staff of the centres who were being trained: managers, tutors, methodologists and office staff. Fairly soon in the second project the training of the office staff was complete, in that the Russian side were clearly capable of creating their own student tracking forms and needed no additional input from the United Kingdom consultants. By the end of the second project this was also true for tutorial staff, because they were so ready to accept new ideas. By the end of the second project also, the managers did not need further training, but rather the opportunity to bring to the United Kingdom consultants their own particular problems, to see if there was any United Kingdom experience to help them.

The third project thus concentrated on

- **further work with the methodologists to help them with learning material writing**
- **individual discussions with managers**
- **training for new personnel of the Methodological Unit**
- **discussions with the Moscow Region Employment Department on dissemination outside the region.**

In March 1997 a short, but intensive, visit to the United Kingdom was organized by GES for a Russian team comprising three members of the Moscow Region Employment Service and five of the centre managers or their deputies.

The GES team has found that the Russians who had been chosen as centre staff were, almost without exception, very intelligent, well-educated, keen to learn and hardworking. Time and time again the consultants remarked that the response of the Russians to new ideas had been more positive than that of their counterparts in the United Kingdom. This may have been due to good preselection. At the ETF Seminar the Moscow Region Employment Service reported that only 20 per cent of the available staff were able to deliver Open Learning. Whatever the cause, the concepts of Open and Flexible Learning, which were as strange to the Russians as they were to the United Kingdom colleges in the early 1980s, took wings. The centres are also acting as catalysts for the general change in the teaching approach in the vocational schools and training centres to which they are attached.

10.5 Qualifications

There is a demand for joint Russian-British qualifications for Russian Open Learning staff. So far this has been met by a certificate signed by the Head of the Moscow Region Employment Service and the Chairman of Guildford Educational Services Ltd. It would be more satisfactory to involve a major British awarding body, such as City and Guilds, but neither the funding available nor the number of potential candidates is sufficient for this. All the centres are licensed until 1999 by the Federal Ministry of Education to provide qualifications in a range of subjects to those who study there. There is no distinction between study by open learning and study by more conventional means.

10.6 Differential development

The eight Open and Flexible Learning centres are developing in different ways. To some extent this reflects the need of the communities they serve, but it is also largely a result of their legal status:

- **two are attached to vocational schools, without a separate legal status**
- **one is housed in a vocational school, but with a separate legal personality; this also covers the Methodological Unit and a Canadian-supported project for small businesses**
- **one is housed in premises belonging to a vocational school, but has separate legal status**
- **four are extensions or *faculties* of existing face-to-face training centres supported by the regional Employment Department.**

The combined annual throughput of these centres is about 4,500 students, mostly studying by flexible learning and, in many cases, learning to use computer application programs either for the office or for financial management. The Moscow Region Employment Department is monitoring their performance, but does not seek to impose a rigid set of procedures.

Section 11: Issues

The main issues in the Moscow Region are: finance, learning materials, qualifications, the Methodological Unit, and dissemination to other regions.

11.1 Finance

Finance will be the major factor which will determine whether the Open and Flexible Learning centres can be sustainable in the longer term. Other financial pressures on the Moscow Region Employment Department mean that

- **the creation of centres in other cities of the Moscow Region cannot be funded at present; the emphasis has to be on supporting the existing ones and the Methodological Unit**
- **there is no up-front capital investment available for the development of learning materials, and support from funding agencies has so far not materialized**
- **it is difficult to find money for upgrading equipment (eg one of the earlier centres was still equipped with 286 PCs in Autumn 1997, although more modern equipment for this centre had been agreed by October 1997)**
- **the centres themselves are required to become 50 per cent self-financing in 1997 and 70 per cent in 1998. There is thus no run-in period to enable the Open and Flexible Learning component to be fully established**
- **any extension of the qualifications for centre staff has been put on hold.**

There appears to be sufficient demand for retraining, and in particular for training in computer skills, to fill the centres on a flexible learning basis. The Moscow Region Employment Department believes that if sufficient learning material were available it would be possible to shift the balance more to the use of Open Learning, thus increasing the throughput. The question is whether the individuals, their employers, or the Employment Service in the case of the unemployed can afford the fee levels necessary to cover the running costs of the centres. One possible use of the centres, to provide start-up businesses with access to office equipment and computers, has not materialized because of the perception that such activities would be subject to high levels of taxation.

Except in the case of learning material production, where external consultancy could still be useful, the centres no longer need an input from technical assistance consultants and will operate in their own way.

11.2 Learning materials

As already noted, if more good learning materials in Russian were available, the throughput of the centres (and thus their viability) could be increased significantly. However, eight centres are too few to support the commercial development of learning materials. There are several possible approaches, which could be complementary to each other rather than alternatives. The most efficient approach, because it would produce learning material most rapidly, would be for a funding agency to support Ferryside-style (see paragraph 7.7) accelerated writing workshops. An approach has been made to TACIS for funding, but at the time of writing the chances of success are not highly rated. In the absence of any external help, methodologists in some of the centres are producing their own material. One of the roles of the Methodological Unit could be to manage a 'materials exchange* for the eight centres, using office printing quality rather than commercial printing. One of the problems, however, is that the writing of learning material has to be combined with the writers* other duties.

In the longer run, the extension of the concepts of centre-based Open Learning to other regions, and the establishment of other learning centres in such regions (and in other cities in the Moscow Region), could enlarge the market sufficiently to attract commercial investment, or a better funded 'materials exchange*.

11.3 Qualifications

The provision of qualifications for the centre staff (including methodologists and others writing learning materials) will remain an issue. There are no suitable Russian qualifications, and an international link is seen as desirable. But the number of staff involved are too few at present to warrant a strongly-based system, eg one based on City and Guilds, which would normally require a minimum of 200 candidates a year. In order to involve City and Guilds there would need to be an initial investment of £15,000 - £20,000. This might be feasible if other regions became involved.

11.4 The Methodological Unit

GES consultants have identified five major functions for the Methodological Unit:

- **Coordination of training activity throughout the region**
- **Liaison with regional headquarters, other regional employment services, major institutions which may be involved in training (eg the Federal Institute of the Employment Department; some universities), possibly major employers**
- **Quality monitoring including identification and dissemination of good practice**
- **Support for individual training centres and district employment offices within the region**
- **Development centrally of materials, etc, where this is required (eg design of new training programmes for use throughout the region).**

The problem is that, to establish credibility, a central unit must have greater specialist expertise than the centres it aims to support. The Russian concept of having trained methodologists means that, for conventional (group-based) training, many functions (eg design of taught courses) can be quickly provided. Even here, however, if non-methodologists are employed, some methodological training will be needed. For new methods such as flexible and open study, training and personal experience in specific functions will be required for all staff.

11.5 Dissemination outside the Moscow Region

Interest in the Moscow Region developments in Open Learning have been expressed by several other regions. There are four main reasons for disseminating the Moscow Region experience to other regions:

- **the opportunity to show how Western European concepts and practices have been adapted successfully to Russian conditions**
- **the expansion of the customer base for Open Learning materials and staff qualifications**
- **the possibility of the Moscow Region centres, and eventually the Methodological Unit, earning consultancy and training fees within Russia**
- **as a recent project report to ETF has argued, wide dissemination provides a better chance of sustainability.**

An introductory paper on dissemination to other regions has been prepared by the Moscow Region with input from GES consultants. An article (the draft of which has been quoted in this paper) has been written for *Man and Labour*. At an International Symposium 'Community Development through the Development of Small Enterprise* held in Moscow in October 1997, the use of Open and Flexible Learning Centres for business training was introduced to the delegates, which included representatives from some 50 other regions. A prerequisite for successful dissemination will be the ability of the Open and Flexible Learning Centres to operate successfully now that the GES consultancy has been completed. In technical terms they should be able to do so, but (as in the earlier examples in the United Kingdom) they may be subject to external (mainly financial) pressures which could threaten their continued viability.

Part IV: Conclusions

Section 12: The potential of Open and Flexible Learning

Some time ago the present writer was told that an adviser to a major international aid agency had stated that Open Learning was an unsuitable study mode for vocational education and training. Experience in the United Kingdom, and in Russia (eg see paragraph 10.3), as described in this paper, certainly disproves that ill-considered (indeed ignorant) judgement. It would be more correct to have stated that the distance teaching model, however valid for higher education, is of doubtful use for vocational education and training. This is both for the reasons advanced by John Coffey (section 2) in relation to the difficulty of implementing the distance teaching model, and for those set

out by Dr George Tolley (paragraph 6.1) which relate to the real world of vocational education and training.

Based on the experience in the United Kingdom, Russia and elsewhere, the preferred model of OFL seems to be by the centre-based Open and Flexible Learning as described in paragraph 3.7. The preference for the centre- based model is supported by the proposals for the University for Industry, which will largely be based on a network of learning centres (paragraph 8.1). The centre-based approach is particularly suited for areas where there is a concentration of population, as in the United Kingdom or the cities of the Moscow Region. Other models would be needed for areas of very sparse population (eg in much of the Russian Federation east of the Urals), but such models are available from experience in, for example, Australia, or could be based on a virtual centre as suggested in section 2. In countries where higher level vocational education is undertaken in comparatively powerful sub-university institutions, the Open Learning Foundation (paragraph 7.7) may be a useful model for inter-institutional collaboration.

The introduction of centre-based Open and Flexible Learning in particular, and of Open Learning approaches in general, is likely to have beneficial side effects on the provision and methodology of more traditional vocational education and training (paragraphs 6.2 and 10.4). Central to the beneficial side effects is the focus on individual learners and their needs (paragraph 3.4).

Section 13: Conditions for success

The national studies suggest that there are three essential conditions for sustained success of Open and Flexible Learning. These conditions are essential in that if any one of them is missing it will be difficult to introduce, and impossible to sustain, Open Learning. These conditions relate to people, finance and systems.

13.1 People

There is a contrast between the experience in the United Kingdom and in the Moscow Region. In the United Kingdom there was a gradual build-up of interest in Open Learning, driven in particular by the National Extension College (paragraph 5.1) and the Council for Educational Technology (paragraph 5.3) and with the shining example of the Open University. When the Open Tech programme injected funding into the development of Open Learning there were enough people with interest and ideas to take up the challenge (see section 6). For some, however, it meant a radical rethink of their expectations and behaviour.

In the Moscow Region, Open and Flexible Learning was introduced to highly-educated personnel in an education system which was creaking and a national economy which was in crisis. The rapid acceptance of new ideas (paragraph 10.4) astonished the United Kingdom consultants. In other situations, however, the introduction of Open and Flexible Learning could be seen as a threat to established, sometimes cosy, practices. The almost incredible positive reaction of Russian personnel to new ideas may not necessarily be a feature in all societies which could benefit from Open and Flexible Learning. Indeed GES itself found that it had to be very selective in the consultants it included in its teams for the Moscow Region projects. Attitudes and adaptability to local conditions were of particular importance and not every consultant, however eminent, could adapt.

13.2 Finance

It is clear from the national studies that finance is a main constraint on the development and sustainability of Open and Flexible Learning. Once pump-priming or project funding ceased there were severe financial pressures on Open Learning organizations, whether they have been materials producers, delivery centres, or information providers. Part II (section 7) related a number of closures in the United Kingdom: Open College, MARIS, Southtek, The Open Learning Directory. These represent the tip of the iceberg, as many more organizations deriving from Open Tech days have disappeared. In Russia, too, the Open Learning centres are under severe financial pressures. Survivors in the United Kingdom, eg BOLDU Ltd, the Open Learning Foundation (paragraph 7.7) (and others also, such as NEC) have observable characteristics such as strict control of costs, spread of different types of work, and a close relationship with their main markets. The ones which closed did not obtain an adequate income to support their activities, although it is not always clear whether this was a general failure of the market as a whole, or of a particular market niche, or of the marketing effort of the individual organization. The United Kingdom organisations which closed may have lacked realistic business plans; the Open College, for example, was wildly optimistic. In Russia, the GES team put considerable emphasis on each of the centres drawing up (and being prepared to review and revise) their business plans, with the centre management being interrogated on the realism of each plan.

If Open Learning developments are being planned at national or regional level it is sensible to consider in advance (see also paragraph 4.1):

- **the initial investment**
- **the relationships between costs and benefits**
- **whether there are areas of importance but poor commercial viability which will need a continuing subsidy**
- **the adequacy of the funding**
- **the need for the continuity of funding (and the implications if it were to cease).**

Despite the exciting developments in the IT industry, the message of the Institute for Public Policy Research (paragraph 7.8) reinforces the story in section 7: market forces on their own will not provide a healthy Open Learning system.

13.3 Systems

The failure of the successors of the Open Tech to match up to the promise engendered by the programme was not solely due to financial issues. It was also due to the deliberate decision not to create a system. Because of the complexity of Open Learning and the interaction of different elements for which different bodies are likely to be responsible, there needs to be some form of system which links the various actors and which has the responsibility for making Open Learning work. In Russia, at regional level, a combination of a working Methodological Unit (paragraphs 11.4) and a small team in the Regional Employment Department, might be adequate to coordinate those Open Learning activities which fall within the Employment Department*s remit. In the United Kingdom, since the end of the Open Tech programme, there has been no such central organization. Possibly it was hoped that the British Association for Open Learning (which now has about 100 members) would fulfil this role but, although it has made a contribution, it is not the right

type of organization to provide the necessary coordination. This is why the proposals of the University for Industry (section 8) look more likely to work.

There are also a number of conditions which are desirable for the effective development and sustainability of Open and Flexible Learning, without being so essential that their absence dooms a system to extinction. These desirable conditions relate to qualifications, quality assurance, information and advice, research, monitoring and evaluation and learning materials.

13.4 Qualifications

Although it is possible to create an Open Learning system which is not concerned with the award of qualifications to those who study, the linking of Open Learning to qualifications should improve the employability of the individuals and increase the potential market for Open Learning. The main issues were discussed in paragraph 3.5 with case studies in paragraphs 5.4 and 7.4. Qualification systems, and the way qualifications are accredited or recognized, tend to be country-specific, so if Open Learning for VET is to be developed in a country for the first time it would be sensible to study the characteristics of the VET qualification system to see if valuable links can be made.

By definition it would not be possible to have a national qualification system for those working in Open Learning in advance of the introduction of Open Learning. If one has to be designed, eg if funding is available for developing such qualifications for Russia, then the ADDFOL model (paragraph 7.3), although superseded in the United Kingdom, would be the one which the GES team would recommend (although some adaptations would be needed).

13.5 Quality assurance

Poor quality learning material and poor support for delivery not only fail the students who depend on them but also give Open Learning as whole a bad name. Although very good materials do not need much tutoring, and very good tutoring can help compensate for poor materials (see section 2), it is better to aim to have both materials and tutorial support which are of the highest quality. Competence-based qualifications for Open Learning staff may help, and so can good written procedures (provided they are followed) and, for the production of computer-based training materials, even a good authoring system.

There are those who believe that an ISO 9000 approach is a guarantee of quality (paragraph 7.3) but at the time of writing this has not yet been proved for Open Learning. In the United Kingdom, UfI may pioneer new approaches to recognizing and improving quality of materials and delivery.

13.6 Information and advice

In Russia, the Employment Services in the various cities each employ two or three psychologists who help to match clients with occupations, training needs and training opportunities. This undoubtedly helps the Open Learning centres. In the United Kingdom, market failure in the application of technologies to training has been blamed on the lack of impartial information and advice, which is being remedied by Technologies for Training (paragraph 7.5).

The University for Industry report suggests a 'learning support pathway* which includes:

- **a national telephone helpline (a project initiated by the previous government and now launched by the new government)**
- **a national on-line database covering learning materials and courses within and without the UfI umbrella**
- **an initial learning audit, resulting in an individual learning plan**
- **access to UfI-accredited advisory and counselling staff and information systems.**

If the ambitious UfI arrangements can be made to work, they may be a model from which other countries can borrow.

13.7 Research, monitoring and evaluation

There is a strong case for basing developments, wherever possible, on research and on the results of monitoring and evaluation, rather than on political whim. Indeed research can sometimes influence political decisions, as may have been the case with the Open Tech programme (paragraph 6.1). The research reports of the Training Technology Unit (paragraph 7.6 have been influential. Now that research results are increasingly available on the Internet, it may be more important to concentrate scarce research funds on local applications. Research might thus dovetail more with monitoring and evaluation. An Open Learning system needs constant monitoring based on feedback, rather than the sort of one-off evaluations suitable for projects. In a dispersed system (as is proposed for the University for Industry) this may be more difficult to provide than in a system like that in the Moscow Region.

13.8 Learning materials

The Russian experience shows that if only limited learning materials are available, flexible learning can be introduced, using the same basic principles and training as for full Open Learning (paragraph 10.6). The throughput of the centres would be enhanced if a large quantity of good learning materials were available (paragraph 11.2). In the United Kingdom, the true position of the market in learning materials is obscured by the transition to, and growth of, technology-based training. Although the National Open Learning Library at BOLDU has 7,500 titles (paragraph 7.7), not all are in print and there are bound to be many gaps to cover the complete range required for the University for Industry. The use of multimedia is particularly suited for 'soft skills* (paragraph 3.2), which are seen as especially important for employability.

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Glossary of Acronyms and Abbreviations

ACARD		**Advisory Council for Applied Research and Development**
ADDFOL		**Awards in the Development and Delivery of Flexible and Open Learning**
AETT		**Association of Educational and Training Technology**
BOLDU		**Originally, Birmingham Open Learning Development Unit, Now BOLDU Ltd**
CBT		**Computer-based Training**
CD		**Compact Disc**
CDI		**Compact Disc Interactive**
CD-ROM		**Compact Disc - Read Only Memory**
COLD		**Certificate of Open Learning Delivery**
DfEE		**Department for Education and Employment**
ETF		**European Training Foundation**
FE		**Further Education**
FEFC		**Further Education Funding Council**
GCE		**General Certificate of Education**
GES		**Guildford Educational Services Ltd**
GNVQ		**General National Vocational Qualification**
IPPR		**Institute of Public Policy Research**
IT		**Information Technology**
ITO		**Industrial Training Organisation**
MARIS		**Materials and Resources Information Service**
MARIS-NET		**(The company which operated MARIS)**
MSC		**Manpower Services Commission**
NALCO		**National Distance Learning Centre (Open College)**
NCVQ		**National Council for Vocational Qualifications (now merged into the Qualifications and Certification Authority)**
NEC		**National Extension College**
NVQ		**National Vocational Qualification**
OFL		**Open and Flexible Learning**
OLF		**Open Learning Foundation**
OLS		**Open Learning Systems**
Open Tech		**The Open Learning Programme launched in 1982**
OU		**Open University**
PRESTEL		**British Telecommunications Videotex System**
SMEs		**Small and Medium Enterprises**
Southtek		**Title of a major Open Tech project**
TACIS		**Technical Assistance to the Commonwealth of Independent States**
TBT		**Technology-based Training**
TEC	**a)**	**Technician Education Council**
	b)	**Training and Enterprise Council**
TfT		**Technologies for Training**
UfI		**University for Industry**
VET		**Vocational Education and Training**

Open System for individualized training
A French training scheme for adults

by
Cyrille Salort
GRETA Léman - France
National Ministry of Education

Introduction

The challenges of international competition and the introduction of new technologies and imperatives concerning quality are forcing both those who are in work and the unemployed to increase their level of skills so as to obtain ever higher qualifications. High quality human resources and the fact that the workforce's qualification requirements are continually adapting, are both indispensable prerequisites for the effective management of changes for attaining economic and social objectives, and for fighting social exclusion and unemployment.

Hope of giving people who are in or out of work and who wish to embark upon qualifying training courses 'a second chance to obtain qualifications', the nature of technological mutations and organizational changes in the workplace, and the fact that French regions were invested with some authority in training matters through the 1993 law, have brought about two profound changes in the training market.

Firstly, there has been a quantitative change. Training has become a standard consumer product, with an ever-increasing volume of demand to satisfy, in an increasingly competitive market. Furthermore, there has been a qualitative change, i.e. moving from a logic of 'offer' to a logic of 'demand'. It is now the sum of individual training needs which incites the training offer to adapt, causing 'traditional courses' to disappear. There is such a huge effort required both at the qualitative and the quantitative level, that this can only be achieved through a greater rationalization of means and through the development of personalized itineraries.

Faced with these changes, training organizations must therefore anticipate new demands, take into account students' limitations (employees who lack time for training, those living at a distance etc.), create permanent open entry and departure training systems that are flexible and adapted to the local economic context, and capable of setting up individualized 'made-to-measure' training courses. These necessities make the act of training more complex, as they imply a totally reorganized training management system (which had hitherto always been adapted to group teaching) and the development of innovative units which truly serve their social and economic environment.

In the 1970s, when the French Ministry of National Education became involved in adult training, a network of educational establishments, the GRETAs, was formed to remove barriers between initial and further training. The GRETA Léman (1) which is a part of that network made one of its priorities the project for setting up a unit which would anticipate new requests from public organizations and from businesses for 'individually

chosen' training courses. Situated on the border between France and Switzerland, only 5 km from Geneva, the GRETA Léman is made up of 11 local public educational establishments (middle schools, technical and professional high schools) and trains about 11,000 people each year, i.e. 8,000 young people doing initial and further training, and 3,000 employees and unemployed people from the tertiary and industrial sectors.

Research work which begun in 1991 by a GRETA Léman project team allowed a new unit to be set up, in 1993, christened Système Ouvert de Formation Individualisée et Européanisée or "SOFIE" (Individualized and Europeanized Open Training System), whose specificity is to be able to offer 'personally chosen' training courses in many fields to the unemployed and to those in work, whatever their age, their available training time or their status. SOFIE is the result of ten years' educational engineering research, centred more particularly on individualization and on the integration of new training and communications technology.

Located in a technical high school, SOFIE has ten classrooms furnished with specific equipment, and offers, at a local level, individualized and better adapted, flexible training solutions, which lend it a distinct advantage over its competitors. SOFIE can group together, within the same training sequence, trainees with different statuses, professional goals, timetables and learning goals. This optimum flexibility is now made possible thanks to the mastery of an original but complex training system.

Interest shown in SOFIE by many European partners, their eagerness to acquire the system's approach and its tools, encourage us in our resolution to continue SOFIE's development through individualization, making our offer even more adaptable to different needs through the introduction of new communications technologies (visio-communication and the Internet).

This paper intends to bring detailed replies to the many questions typically asked when the subject of individualized training is approached, in the hope that it will help to conceive and to set up similar systems.

1. The major characteristics of SOFIE

SOFIE is a complete training system which covers all the possible training solutions within a given area and which attaches importance to the individualization of both student itineraries and learning possibilities, whichever public and training objectives are concerned. It aims to offer a permanent service to all types of training candidates. The system's flexibility when compared with 'traditional' training solutions may be summarized by the following illustration: if you go into one of SOFIE's 20 training sessions any Tuesday of the year, during one of the 200 weekly time slots, chosen at random, you will note that each of the 15 students present may have (whilst being in the same place at the same time) different status, different training objectives, timetable and the study goal.

The flexible nature of the way SOFIE functions is due to eight essential characteristics which will be developed in depth in Section 3. These particularities are as follows:

A multi-user, multi-funded system

SOFIE's audience may be defined by their 'status', the French specificity which means giving each training candidate, depending on his/her personal employment situation (employee, long- or short-term unemployed, vocational trainee), a certain number of hours of training financed at a specific hourly rate. For example, employees may follow a training course either:

> **within the context of a 'Contrat Emploi Solidarité': 400 hours, financed at 22 F/hour**
> **within the context of a 'Qualification Contract': 507 hours, financed at 60 F/hour**

and the list of possibilities goes on. For the unemployed, there are even more possibilities. SOFIE enables trainees to begin training with one 'status' (e.g. unemployed) and to end with another (e.g. employee) and thus student itineraries may be personalized using all the different existing training measures and funds. A computer programme, created especially for SOFIE, allows this great number of measures and types of funding to be managed on an hour-by-hour basis.

Permanent open entry and departure dates

Whatever the trainee's learning goal, SOFIE offers the possibility of beginning and ending training at any chosen date, with 300 or so students using the system every week. Individual and company training needs are discontinuous by nature and often difficult to anticipate. The open entry and departure system allows for a continuous renewal of training candidates. The average waiting period before starting training is less than two weeks.

Individualization

Individualized training is not an educational fad; it has become essential and is imposed on the vocational training centre through external social and economic pressure. SOFIE allows for three levels of individualization:

***Individualization of learning goals.* At this level, trainees can pursue one of the following goals:**

- **reaching a stated level in general subjects (mathematics, French, sciences, social and family-based economics, English, history/geography, economic environment, biology, social and professional life);**
- **reaching a stated level in a chosen professional field (Information Technology, accounting, sales, secretarial skills);**
- **preparing for 'traditional' or 'capitalized units'(2) examinations (office skills, sales, business and accounting administration, administration for the service sector, administration for commercial services employees);**
- **benefiting from support if enrolled in distance learning courses;**
- **specializing in use of professional tools (word processing, EXCEL, file organization, stock management);**
- **seeking assistance in finding work experience;**
- **preparing for an administrative selection examination;**
- **following a 'self-service' training course in a multi-media room.**

Individualized timetables. **This form of individualization requires a certain number of permanent training workshops. Here, individualization consists of choosing and 'dosing' the various available workshops for each individual, depending on the priorities defined for attaining personal objectives. Five trainees with the same learning goal (preparing for an administrative selection exam, for example) will not necessarily either train for the same length of time, or study the same subjects, nor train at the same moment. The choice and the 'dosing' of subjects depends on the trainee's level at the outset, his/her personal objectives and the amount of time he/she can spend training. This type of individualization is more difficult to set up and requires precise management of the different workshops and timetables.**

Individualized training content. **Finally, it is possible to group together on the same day and at the same time, within the same training module (e.g. mathematics), 15 trainees with 15 different professional goals (sales diploma, preparing an administrative examination, etc.), 15 different timetables, and working towards 15 different training goals (addition, drawing graphs, etc.). Individualized training, or 'assisted self-training' adopts as its initial premise the idea that in order to master the same knowledge and skills, trainees will not necessarily need the same amount of time, the same explanations, the same exercises, the same amount of encouragement, or the same outside assistance or leadership. The objective of differentiated teaching is to allow individuals to learn at their own speed, with the methods best suited to them, while extending content and following personalized itineraries, in accordance with their general objectives, and enjoying educational support which suits their needs.**

The trainer is no longer the centre of the training process, transmitting knowledge, but is there to facilitate learning. Each trainee works on course content suited to his/her own training contract, and learning resources are no longer limited to the teacher's talk/explanations. Instead, the teacher takes on other roles, providing sources of information, knowledge, learning tools and methods for 'learning to learn'. These methods should be part of the training programme, and perhaps the teacher's main role is to make sure these skills are developed. Learning to learn has become essential.

However, individualized training does not signify 'isolated trainees'. Learning groups are formed, leaders are used and these provide important assistance for the trainer in creating group dynamics and in making trainees take charge of their own progress and discover their own learning methods. This teaching method is used in 90 per cent of the 200 hours training provided each week by SOFIE.

The systematic approach

Within SOFIE, the contents, the length and the rhythm of training are defined for each potential trainee. For each training project a personal itinerary is developed using the established system which made up of the following five functions :

1. **Reception and information**
2. **Coordination and counselling during the whole course of study**
3. **Assessment**
4. **Training**

5. Recognition and validation of learning

Systematic organization is doubly advantageous: for the 'customer', it means a standard quality in services offered, which does not depend on their level of funding. For the training institution, it means adopting a 'customer-centred' logic, and optimizing training at all levels of the organization.

The offer is adapted to local needs

The essential difficulty faced by traditional training institutions today is to respond to specific demands for training from business which are sometimes impossible to organize due to, for example, the low number of candidates for training (profitability problem) or the complexity of organizing training from an educational point of view. If a professional sector (surface treatment, for example) offered six posts to young people on the condition that they were trained for a diploma, a traditional training offer would be unable to satisfy their demand. SOFIE, on the other hand, could set up a qualifying training course leading to a diploma and a job in the 6 companies concerned, for those 6 young people.

Indeed, the individualized system would allow:

- **the young people to be integrated into general individualized training sequences (very frequent throughout the week) with trainees from other sectors of the public**
- **a modular qualifying professional training course to be set up, either within SOFIE or through a partner organization.**

Thanks to its permanent availability and the fact that its different audiences and funding are brought together for mutual benefit, SOFIE can respond rapidly to specific, irregular demands which may emerge locally, thus allow profitability and educational organizational problems to be solved. This flexibility is a major advantage of SOFIE in a training market.

The use of new training technologies

Since 1994, SOFIE has had a multimedia room, which works on a 'self-service' basis. It offers various made-to-measure training courses to trainees who are unable to follow a course requiring regular attendance at a specific time, date and place, whether it be for professional, geographic or personal reasons. These courses use new, user-friendly training technology (CD-ROMs, videodiscs) which combine texts, sound and video sequences. This leads to autonomous learning. Trainees define, by personal choice and depending on their objectives and the time they have available, the contents, dates, lengths and rhythm of their course. In this way, 5,000 of the 57,000 trainee hours in 1996 were used in multimedia.

Various forms of validation of learning

Each training course culminates, either partially or completely, in one of the following forms of validation:

- **The 'Capitalized Units' system which allows for total or partial validation, seems to be the system best adapted to individualized qualifying itineraries. The National Education System reference book details the knowledge and skills to be acquired for each diploma, within a certain number of units, defined by the general field of study (vocational, mathematics). Each of these units may be the object of a separate validation process (during the three validating sessions organized each year) and may be accumulated until the set number of units required for the qualification or diploma is achieved.**
- **The 'traditional' system, with set examination dates.**
- **Attestation of Vocational Aptitude, used when the professional field concerned does not have defined capitalized units.**
- **The General Training Certificate.**

These different systems are complementary to each other and thus cover the requirements of all individualized training courses.

The Unit is integrated into European programmes

SOFIE is participating in the European programmes Leonardo, Socrates, Youth Start, and Adapt (3). Indeed, many European training institutions are faced with the same problem - making their offer more flexible. The use of the GRETA Léman's experience with SOFIE is contributing to the solution of this problem.

2. SOFIE's mission

There are two major reasons for having a training scheme like SOFIE: to satisfy training needs at a local level and to optimize internal training potential of the institution.

Training of human resources is an essential aspect of developing an area in terms of employment and commercial competitiveness for all private and public entities. However, setting up a training scheme like SOFIE requires a preliminary study into its social and economic usefulness. This implies a reliable area diagnosis to justify its creation and its place within the local training system. Prior to establishing SOFIE, the "French Geneva" area had the following particular characteristics:

Total population: 119,200
Working population: 60,528
The population concentrated in the town of Annemasse (56 per cent)
A large immigrant population
A large proportion of the population with low of qualification: 53 per cent of the local unemployed had a level equal to or lower than the 'CAP'.

The local economy is centred around the service sector. Neighbouring Switzerland, attracting French workers through higher salaries, destabilizes the labour market during periods of economic growth (professional skills leave French territory), and also during slump periods, as the 'border workers' then come back to inflate the number of unemployed. The local economy is represented predominantly by small- and medium-sized companies. Companies employing less than 50 people represent 98 per cent of local business, with the following characteristics in

common:

- **The lack of a human resources management function, able to anticipate the different skills needed for introducing new technologies.**
- **A majority of companies are aware that training should play a new role to meet the process of economic and social mutation they are faced. Challenges from international competition and the introduction of new technologies have forced them to consider training as a genuine priority in favouring their staff's potential, and increasing their skills and know-how (also those of the unemployed) - allowing them to achieve a higher level of qualification.**
- **Production limitations, together with the employee's own personal limitations, are often at the origin of the failure of a training project. Different studies of this problem carried out locally show that companies' demands for training are often left unsatisfied, due essentially to the quality of local training possibilities.**
- **Companies' training requirements are made up of many small, specific needs and cannot be satisfied by a traditional offer.**

The large number of training demands remain to be satisfied, whether from companies for their employees or from public funding, for finding work for the unemployed. However, the size of this market should not hide the fact that it is made up of a multitude of small, individual demands, which can be satisfied only through setting up training units capable of finding 'made-to-measure' solutions and with the following characteristics:

- **being continuously available**
- **being capable of validating all training itineraries**
- **offering flexible course construction and individualized training**
- **being adapted to local economic reality**
- **working with other training organizations to build global solutions.**

The idea of creating SOFIE was not exclusively designed to respond to the need to adapt to a changing market. The second objective consisted in grouping together different individualization-centred work accomplished since 1989 into a single training system. Personalized educational workshops (4), teaching to objectives, self-training documents, distance learning, training credit - all these experiments were centred on individualization and multimedia, and all had helped to create training units, bringing together methods and tools, thus being essential prerequisites for setting up SOFIE. Thus, before September 1993, the GRETA Léman was the sum of several different training systems, which were designed to create individualized training programmes leading to qualification and employment, often in competition with each other, rather than being complementary to each other, having each developed specific tools and methods over the years. This development of different systems produced two counter effects which would in the end have threatened the structure as a whole, namely:

- **Priority was no longer given to customer satisfaction, but to allowing each separate unit to survive through "catching" as many trainees as possible, whether the unit's offer was adapted to their needs or not. In the end, this strategy inevitably brought about loss of customers.**

- **The fact that the units functioned separately meant that each was duplicating methods and tools which already existed within other units, causing major unnecessary expenses which were supported by the structure as a whole.**

The creation of the single SOFIE system, which brought together all separate units solves these problems and allows to increase the training product, to make each trainee's itinerary more coherent within the whole system, and to improve the effectiveness and efficiency of training.

3. Functioning of SOFIE

3.1 Example of training projects

On Tuesday 17 March 1997, having made an appointment, five people came to the SOFIE reception service with the following training requests:

- **A: An unqualified unemployed person (over 26years old), with work experience in metal cutting, needs to improve his mathematics and French.**
- **B: A young unemployed person (under 26) with a general diploma, wishes to prepare for the Post Office entry examination.**
- **C: A supermarket employee (4 years of experience), wishes to obtain a sales diploma (CAP Sales), so as to try for promotion within her company.**
- **D: A young unqualified trainee (under 26) wishes to pass a secretarial diploma whilst continuing work experience in a company.**
- **E: A secretary with 5 years of experience, wishes to get up to standard in her professional field, (IT, Word, Excel).**

These five training projects differ in the candidates' statuses (employees, unemployed, trainee alternating work experience and studies), training needs concerning the level of training, the professional field, training content, the rhythm of learning, the length of the course and possible training times. When these differences are taken into account, five individualized itineraries will be drawn up and followed using the system's five functions, namely: reception and information; coordination and counselling; assessment; training; and recognition and validation of learning. Specifically, the following steps must be taken in order to ensure that the five individual training courses are carried out in a coordinated and effective way:

Step 1. A feasibility study of training demands

The five requests are studied by a permanent reception service, which ensures the feasibility of all individual training requests, whatever the candidate's status. This study is designed to check the request's coherence on two essential points: educational feasibility (can SOFIE's training offer accommodate the five requests?) and financial feasibility (covering training costs).

SOFIE's current training offer enables trainees to:

- **reach a stated level in general subjects (mathematics, French, sciences, social and family-centred economics, English, history/geography, economic environment, biology, social and professional life);**
- **reach a stated level in vocational subjects (Information Technology, accounting, sales);**
- **prepare for traditional 'CAP', 'BEP' and 'BP' (5) examinations with capitalized units (office skills, sales, business and accounts administration, administration for the service sector, administration for commercial services employees);**
- **benefit from support if enrolled in distance learning courses - specialize in the use of professional tools (word processing, Excel, file management, stock management);**
- **have help in finding work experience;**
- **prepare for administrative selection examinations;**
- **follow a 'self-service' training course in a multimedia room.**

For each training candidate the reception service investigates different possibilities open to him/her for covering training costs depending on their status (employed, unemployed, etc.). In order to do this, a document bringing together all the existing funds and financial measures for each type of client is used, stating:

the institution offering financial aid
the required training objective (preparation for a diploma, an entry exam etc.)
the length of time to be funded
the level of funding possible.

The synthesis of this first step for the five training requests is as follows:

Trainee	*Training objective*	*Measure*	*Number of hours*	*Amount of funding*
A	**Revision**	**Individual Training/Work Insertion Course**	**300 hours**	**25 F/hour**
B	**Preparing entry exam (Post Office)**	**Vocational Training Personalized Educational Workshop**	**150 hours**	**27 F/hour**
C	**CAP Sales diploma**	**Individual training leave**	**no limit**	**50 F/hour**

Trainee	*Training objective*	*Measure*	*Number of hours*	*Amount of funding*
D	**BEP Secretarial diploma**	**Qualifying Contract**	**507 hours**	**60 F/hour**
E	**Information Technology**	**Social Promotion**	**450 hours**	**22 F/hour**

The five requests can thus be satisfied from both the educational and financial points of view. The Reception unit also helps trainees to fill in administrative documents to obtain their funding.

Step 2. Defining objectives for each training programme

Once the feasibility study is ready, the Coordinating and Counselling function comes into play. An essential interface with the system's other functions, the Coordinating Counsellor is the manager, acting as the real reference figure for the trainee throughout his/her personal training project. This function is in charge of ensuring personalized counselling and coordination for each trainee, from the beginning to the end of training including a two-month follow-up after the course). The Coordinating Counsellor is responsible for constructing courses and devising individual training programmes, coordinating and ensuring the completion of training programmes, informing trainees on the course's different stages and of the requirements laid out in the system of reference. Whatever the trainee's training objective, a system of reference exists (for diplomas, entry examinations) which makes explicit:

- **the subjects to be covered for this diploma (mathematics, French, sales)**
- **the number of units to be obtained in each subject (2 units in mathematics, 3 in French)**
- **all the knowledge and skills required for each unit**
- **the type of assessment.**

So as to simplify illustration of this activity, which is quite complex in its implementation, we will look at the details of example "C", concerning a candidate wishing to prepare for a sales diploma. Thus, for Mrs. "C", the Coordinating Counsellor will explain:

1) The profile set out in the reference handbook, indicating the subjects to be covered and the number of units required as illustrated below:

unit 4					
unit 3	**unit 3**				
unit 2	**unit 2**	**unit 2**		**unit 2**	**unit 2**

unit 4					
unit 1	**unit 1**	**unit 1**		**unit 1**	**unit 1**
sales	***French***	***mathematics***	***science***	***economics***	***English***

2) The knowledge and skills to be mastered for each unit as shown in the example below (mathematics and sales).

Unit 2, mathematics

Objectives to be reached: After training , the trainee should be able to:

calculate the square root of a positive decimal number
calculate a fraction of a positive decimal number
use a double entry numerical table
...
calculate the volume of a cube

Unit 4, sales

Objectives to be reached: After training, the trainee should be able to:

identify different types of sales by contact
appreciate a shop sector's layout
...
make a visual presentation of products

Step 3. Assessing existing abilities before training: Assessment function

During the information phase, it often becomes clear that the trainee considers himself/herself already capable of achieving one or several of the set objectives, in one or several subjects. The Coordinating Counsellor must then rely on SOFIE's assessment function, in order to evaluate precisely what the trainee already knows, before training begins.

This phase allows for assessment of the trainees' existing capacities, through vocational or general aptitude assessment (e.g. secretarial, accounting). This 'evaluation' is performed by a team of trainers. Comparisons are made between the abilities and performance levels reached by the trainee beginning training, and those required by the reference document for the diploma concerned. Each teacher uses specific evaluation tools to create an assessment dossier, and passes on the evaluation synthesis sheet for his/her own subject (see example below).

Assessment Unit Two, Mathematics		
Objectives to be reached:	**yes**	**no**

Assessment Unit Two, Mathematics		97
Calculate the square root of a positive decimal number **Calculate the fraction of a positive decimal number** **...** **Calculate the volume of a cube**		
Trainer's remarks **Training to be envisaged: yes 9 no 9** **Is the training project coherent?: yes 9 no 9** **Length of training proposed: ..... hours**		

Step 4. Drawing up the training programme

The Coordinating Counsellor now possesses the three essential elements for drawing up an individualized training programme, namely: the reference handbook's requirements concerning learning objectives; the results of the different assessments; and the trainee's personal and professional limitations. Our case study's five trainees will thus have a training programme as follows:

Trainee	Training objective	Subjects/Units	Timetable
A	**Revision**	**French: 1, 2** **Mathematics: 1, 2**	**Tuesday a.m.: mathematics** **Thursday p.m.: French** **Friday p.m.: mathematics**
B	**Preparing Post Office selection exam**	**French: 1, 2** **Mathematics: 1, 2** **English: 1**	**Tuesday a.m.: mathematics** **Thursday p.m.: French** **Friday p.m.: English**
C	**CAP Sales diploma**	**Sales: 1, 2, 3, 4** **French: 1, 2, 3** **Mathematics: 1, 2** **English: 1, 2** **Economics: 1, 2**	**Monday a.m.: sales** **Monday p.m.: economics** **Tuesday a.m.: mathematics** **Tuesday p.m.: sales** **Thursday p.m.: French** **Friday a.m.: mathematics** **Friday p.m.: English**

Trainee	Training objective	Subjects/Units	Timetable
D	**BEP Secretarial diploma**	**Secretarial: 1, 2, 3** **French: 1, 2, 3** **Mathematics: 1, 2** **English: 1, 2** **Economics: 1, 2**	**Monday a.m.: secretarial** **Tuesday a.m.: mathematics** **Tuesday p.m.: economics** **Thursday a.m.: secretarial** **Thursday p.m.: French** **Friday a.m.: mathematics** **Friday p.m.: English**
E	**I.T. training**	**Informatics: 1, 2, 3**	**Monday a.m.: informatics** **Thursday p.m.: informatics** **Friday a.m.: informatics**

Step 5. Training

From now on, four of the five trainees will be together for mathematics from 8.00 a.m. to 11.00 a.m. on Tuesdays, with other trainees (who have already been in SOFIE for some time). These four trainees will follow an individualized training course which takes into account their initial assessment results. Each trainee will learn whilst taking into account his/her existing knowledge, shown in assessment, his/her possible learning rate, and his/her level of autonomy.

Training will use a 'learning to objectives' method as well as a large resource bank of individualized training dossiers. Self-training dossiers are based on the National Education System's reference handbooks and allow for validation through capitalized units. This learner-centred educational approach allows for a diversification of individualization methods in different learning situations and aims to gradually develop the trainee's autonomy. Training can thus be done:

- **With a teacher present (in groups of 15)**
- **Distance learning. The trainee works at home using specific dossiers. The project's coordination and contacts with the training team (personal contact is essential in a learning situation) are fully and dynamically achieved through meetings at the educational establishment site, mail, telephone and visio-communication.**
- **Training in the multimedia room. The trainee learns with new training tools (computer assisted learning, videodiscs) brought together in a multimedia room, open from Monday to Friday. Here, trainees have access to made-to-measure individualized training, using new training technologies on a self-service basis: user-friendly CD ROMs, or videodiscs, in subjects such as reception, sales, accounting, biology, job-hunting techniques, economics and professional software. This system allows each**

trainee to choose when he/she wishes to train, and his/her own training rhythm, thus remaining available for job-hunting or for work. This 'self-service' training may be associated with 'traditional' learning with a teacher.

- **Mixing the three possibilities**

The student's progress in each subject is shown on an 'assessment form' which brings together his/her assessments, and which remains centred on the abilities described in the reference handbook concerned. For validating capitalized units, this document is given to jury members, who centre their discussions on the analysis of work achieved by the trainee.

Step 6. Validation

At the end of training, each trainee in our case study will receive a certificate from the relevant authority, certifying the partial or total mastery of knowledge and skills required by the training programme. In our example, validation could be as follows:

Trainee	*Training objective*	*Validation*	
A	**Revision**	**Capitalized Units system**	**Unit one passed in mathematics and in French at first validation session**
B	**Preparing Post Office selection exam**	**Selection exam**	**Selection exam passed**
C	**CAP Sales diploma**	**Capitalized Units system**	**Unit one in sales, mathematics and English passed at first validation session**
D	**BEP Secretarial diploma**	**Capitalized Units system**	**Unit one in secretarial studies, mathematics and English, Unit two in French passed at the first validation session**
E	**I.T. training**	**Certificate issued by the GRETA Léman**	**All training objectives achieved**

3.2 Regulating and coordinating training programmes

The Coordinating Counsellor, who is the interface for all the SOFIE functions, uses a liaison tool to centralize the different information concerning each trainee's course, as he/she goes through the different stages: this is called the individual coordination booklet. This allows different training projects to be piloted, from the initial reception to the end of the course. It contains:

an administrative dossier
the results of different evaluations
trainers' assessments
work experience assessments for trainees on 'alternating' courses
recognition and validation of trainee's learning.

The Coordinating Counsellor must carry out the work experience assessment, using specific tools either to assess general behaviour or to measure 'professional abilities' at the workplace, with the trainee's tutor.

3.3 Piloting SOFIE

Profound changes in organizational and systems management are inevitable with an individualized itinerary, open entry and departure training system. It becomes essential to pilot the system, both from an internal functioning point of view and for relating to the external environment. Internal piloting concerns with financial coordination and managing human resources.

Because of the complexity of the system (almost 300 trainees with 15 different statuses and 20 different financial sources, with 200 training hours spread over 20 different subjects are to be managed each week), 'made-to-measure' management tools are needed. As the production unit is the 'hourly slot', SOFIE needs precise and reliable activity indicators to be able to check financial management. A computer programme designed specifically for this task allows a close-up view of each 'hourly slot', the number of trainees present and their funding, whether this be 'forecast' or 'achieved'. At the end of each month, the training hours used by each trainee are counted and allow the system's state of financial health to be determined, and if necessary, strategic choices to be made (closing or re-opening hourly slots, abandoning certain courses, etc.).

In the human resources management SOFIE's specific functioning requires that particular attention be brought to the following:

- **Managing staff workload. Depending on the volume of activity over a given period, trainers' workload may vary from one week to the next. Careful and thorough management of their workload is thus vital, as is an annual forecast of SOFIE's activity.**

- **Recruiting and trainer training. The creation of SOFIE has brought about huge changes in the work assumed by all the people involved in the system's various functions. New skills essential to this type of organization are asked for during recruitment. Internal training programmes aim to bring a 'new culture' linked to this training context to all the system's staff (even though trainers remain the people most concerned by these changes).**

'External' piloting is needed in view of the fact that moving from an 'offer' logic to a 'demand' logic requires a new way of perceiving the manner in which the product is defined, but also in which trainees are brought into the system. The main public and private funding organizations must be informed about the system, as must local reception structures (Local Mission for Young People, social workers, etc.). Frequent meetings held with these partners allow new training needs, which may be solved locally, to be pinpointed.

4. Setting up procedure and project management

"*Change within an organisation always leads to trauma*" (Linda Ackerman Anderson). Establishing an Individualized and Europeanized Open Training System within a training institution is no exception to this rule for it involves a process of veritable change or transition. Changing existing elements to improve them and make them better adapted to their environment, inevitably brings about modifications in the structure's staff roles and missions. A sense of collective insecurity sets in. Nevertheless, this desire for change cannot materialize successfully without the mobilization of the whole around a common project. The essential difficulty lies in making everyone concerned share in this idea of change without resorting to a 'commanding' attitude, but rather by making real future perspectives emerge for the future system.

Mastering project management techniques will thus be an essential factor in the success of this type of operation, as it allows the Head of Project to be aware of the way operations are progressing (in what is always a difficult general context) and thus remain in control.

The type of project management adopted for setting up SOFIE was implemented by respecting three separate phases: project initialization, drawing up the definitive project, and the coordination plan.

4.1 Project initialization: the foundations of the project

This phase had three essential objectives:

- **to reveal the various advantages linked to following this type of project for the structure, and to encourage the staff to accept the idea of change;**

- **to define the type of change involved, in order to measure the risks taken by the structure. Here, the type of change caused by the project has to be defined. The GRETA and its Head of Project decided to experiment with SOFIE only in those units concerned by individualization, that is to say about 40 per cent of total GRETA activity. The expected change is of a 'transitional' type. The GRETA was split into two structures: one ensuring continuity, the other (40 per cent) piloting changes. This was no innocent choice. An attempt to transform an entire GRETA into a SOFIE would entail risks that are far too dangerous for the structure. In the medium term, the objective was to reinvest the positive advances made by SOFIE into the rest of the organization;**

- **showing the project's feasibility: the diagnosis. This was a sizeable task, consisting in precisely situating the GRETA in its environment and confirming the relevance of the project. This implies detailed study and measuring of the local economy, potential training demands, competition, and internal potential.**

The first three points were treated using studies and statistics made by the different institutional and economic partners (National Employment Agency, Chambers of Commerce, etc.). The fourth point was the subject of a long and complex procedure - the internal diagnosis, which was carried out in three stages: gathering information, processing information and defining priorities.

The individuals concerned by the different functions made a list of all badly functioning aspects of their daily work situation. These are then awarded a 'degree of seriousness' (between 1 and 4) and possible corrective action to be taken suggested. Also, 50 questionnaires were given to GRETA trainees who had followed individualized training courses.

The project team synthesized these badly functioning elements and the suggested corrective action for solving the different problems. The action to be taken was classified according to function and priorities could thus be defined. In addition to the five traditional SOFIE functions, piloting and financial administration management were taken into account in this diagnosis.

At the end of the first phase, it was decided, having taken into consideration the results of the diagnosis, that SOFIE should be established, while carrying out four preparatory priority projects with the following goals:

creating reference guidelines for SOFIE

setting up a resource centre so as to store methods and tools centred on individualization

creating a computer programme to manage the administrative and financial side of individualization

setting up a 'self service' multimedia room, so as to make the training offer more flexible.

4.2 Drawing up the definitive project: the Plan of Action

This second high point concerned the operational, logistical and organizational aspects of the project. It concerns with the choice of actors for the project, defining strategy and operational set-up.

The choice of actors for the project

***"An actor's reaction is rational from his own point of view, depending on what he thinks he can gain or lose through the change."* (Bureau of Expert Consultants for Business - B.C.I.). Having said this, making the project acceptable to the actors concerned means a series of disillusions for the Head of Project, notably in sacrificing his initial project. This negotiation stage has its**

limits, however, which should be set out from the start. The strategic analysis of actors is a very useful technique for the Head of Project, both in launching and in carrying through the project (frequent regulation must be carried out).

The project team was drawn up in two stages. First, setting up the basic project team, bringing together the Head of Project and all the heads of the services to be integrated into SOFIE; and second, setting up the enlarged project team made up of the initial team along with those without particular responsibilities, but closely affected by the creation of SOFIE: a trainer and a coordinator ('target' actors) and those with the possibility of slowing down or accelerating the process or part of an influential network:'key' actors and 'relay' actors (6).

The composition of the enlarged project team was decided in a work session with the initial basic team. As regards the 'target' actors, all staff concerned by the setting up of SOFIE within the GRETA received an invitation to participate.

Defining an ideal outline and results strategy

The basic idea was not to build SOFIE from existing means but on the contrary, to imagine an ideal SOFIE for training candidates. So, a results strategy was adopted: to build a perfect system around the desire for optimum quality, then to find the means (human and material) necessary for the actual creation of this perfect SOFIE. The formula is no doubt attractive, but caused, in our example (going from known to unknown systems) distinct unease amongst the actors concerned. The main problem for them was to imagine themselves in a system which did not, as yet, exist. What will my duties, my tasks, my mission, my role be? These questions were difficult to answer!!

This work in defining the ideal SOFIE resulted in the drawing up of reference guidelines for its functioning which, for each task to be performed, detail:

- **the function concerned**
- **the actor responsible for performing the task**
- **the tool to be used for performing the task.**

Operational set-up

This ultimate phase resulted in reducing the differences between the situation that had been observed (the internal diagnosis) and the desired situation (the ideal outline). This work was formalized in a GANTT diagram (7) which shows:

- **all the corrective action to be taken;**
- **the deadlines to be respected;**
- **the actors responsible for the action, who must report to the SOFIE team by a fixed date;**
- **the means available to the person responsible for obtaining his/her objective (human and material means);**

success criteria and indicators: the element allowing the SOFIE team to check that the objective has indeed been reached.

4.3 The coordination plan

This concerns actual daily management of the project, specifically mastering communication and information and using planning and management tools. Communication around a project is a decisive factor and the Head of Project had to be attentive to this aspect concerning his team members, but also the GRETA staff as a whole. General information meetings allowed an often worried staff to be reassured. Mastering the communication element is more a question of coordination than an asset.

In order to check the project's state of progress the Head of Project has to anticipate and foresee future events by using specific planning and management tools: CANTT diagram, PERT diagram (8), project management plan, the work programme and the budget for resources. It may be noted, however, that despite the importance of those tools, they alone cannot solve every problem and that human intervention remains of essential importance in project management.

Conclusions

Adapting traditional training programmes into systems which are able to offer modular and individualized courses is the prerequisite for survival for a large number of European training organizations at the present time. Indeed, for the last few years, training has adopted the nature of the 'market', which has led to the development of considerable expertise as far as directors are concerned, and to the need for training courses which meet quality norms at ever lower prices. SOFIE was created as a result of these needs.

But setting up this type of training system implies that a certain number of conditions be brought together, guaranteeing its *raison d'être*, but also the quality of its production. Among these conditions, the first to be considered is its usefulness on a social and economic level, and in particular its capacity to conceive training offers (for people in or out of work) which respond suitably to the economic needs identified in the employment zone concerned. A virtual order of many individual training requests from one or several partners (or clients) must justify its creation and development.

Also, the idea of qualitative research must be totally internalized by the system's different participants. All levels of the organization must be covered, including heads of project, trainers, coordinators and administrative staff. All these functions, from piloting the system to human resources management and including production or promotion, must thus adopt notions such as 'project management', 'quality norms', 'procedures', etc. without losing sight of the fact that *'quality is not a goal in itself, but a way towards a goal'*.

Finally, the system must be part of an effort towards permanent change and adaptation. Setting up a distance learning unit, developing visio-communication, creating an individualized 'job hunting' workshop, developing new management tools, are all projects which guarantee the adaptation of the training system to a continually evolving environment.

If these conditions are fulfilled, SOFIE has a bright future ahead of it, both within its employment zone, but also on a European level. Orders for transferring SOFIE from Italian, Spanish, Portuguese and German partners are a base which will allow our dynamism for change and exchange to be maintained. Since SOFIE is an original, efficient training system adapted to the new limitations of the world of work, it is a perfect response to the new orientations defined by the European Commission and more particularly to the concept of 'lifelong training'.

Technical Notes

1. GRETA

In 1972, following the adoption of a law dated 16 July 1971, the French Ministry of National Education became involved in the competitive adult further training market. In 1973, an adult training service, organized as a network, was formed: the GRETAs, which are groups of educational establishments bringing together their staff, classrooms and material means and organizing themselves around a support establishment which is both the GRETA's administrative and financial centre and the headquarters for its shared services. Their code of ethics as a public initial and further training service makes them an important pole for breaking down barriers between initial and further training.

2. Capitalized Units

The Capitalized Units system is a form of validation using:

a precise definition of skills and know-how to be mastered
individually centred educational techniques
continual individualized assessment
continual validation (3 sessions per year) by jury.

3. European programmes:

The European Union finances development projects related to further training with specific objectives, within Community Initiatives Programmes (P.I.C.) or Community Action Programmes (P.A.C.). SOFIE is involved in the following programmes:

- **the Adapt initiative concerns more particularly the impact of training on the workforce's capacity to adapt to industrial mutations.**
- **the EMPLOI initiative allows financing of projects to improve underprivileged people's access to work, training possibilities, and anticipate the development of new activities. It has four schemes:**

  Youth Start: for young people
  Now: for women
  Horizon: for the disabled
  Integra: for the underprivileged

- **the Leonardo initiative finances projects whose objective is the development of access to training for underprivileged groups, the development of investment in professional training, and the development of professional qualifications.**
- **the Socrates initiative finances projects aiming to develop initial training.**

4. Atelier Pédagogique Personnalisé: APP (Personalized Educational Workshops)

The APP is not a structure but a training action set up by different institutions. It aims to offer short-length contractual training courses of revision, in general or professional subjects. The educational approach is learner-centred and aims to make it easier for the learner to become autonomous.

5. French professional certificates in order of importance

The 'Certificat d'Aptitude Professionnelle': CAP (Certificate of Professional Ability)

The CAP is a level one diploma from the French National Education system awarded after three years of professional studies, or through the 'capitalized units' system. It qualifies its holder as a worker or qualified employee in a specified trade. There are 240 CAP possibilities for specialization in the industrial, commercial and service sectors. Holders of a CAP can envisage further pursuing their studies.

The 'Brevet d'Etudes Professionnelles' : BEP (Certificate of Vocational Studies)

The BEP is a level Five diploma with two possible outcomes :

professional insertion
following higher level studies

The areas of ability covered by the BEP are wider than those covered by the CAP. The BEP allows greater possibility for adaptation and evolution and, most importantly, is a diploma which favours the continuation of studies. It has become a step towards the "Baccalauréat" (High School Certificate), particularly vocational and technological baccalauréats.

The 'Brevet Professionnel' : BP (Professional Diploma)

The BP is a national diploma attesting to a high level of qualification in a particular professional activity. Candidates for the BP should be able to justify either:

at least five years' professional practise in the profession concerned or
at least two years' professional practise in the profession concerned and a recognized diploma (of CAP or BEP level or higher) figuring on a National Education Ministry list.

The 'Baccalauréat Professionnel' : the Bac Pro (The Vocational Baccalauréat)

The Baccalauréat is a diploma leading to professional insertion and designed to prepare for immediate entry into active life. It can give access to certain higher education courses. It leads to a higher level of qualification than the CAP or the BEP.

The ‘ Brevet de Technicien Supérieur’: BTS (The Higher Technicians’ Diploma)

The BTS is a specialized diploma and qualifies its holder to assume responsibilities and to supervise other staff. It is a national higher education diploma.

6. Project actors

We call ‘actors’ those individuals or groups which have on the whole the same reactions and attitudes towards an existing situation or a change which modifies this situation. We can discern in or outside the structure the following actors :

‘target’: they are involved in project execution
‘key’: they have power to stop or to push the project, to open or to close some “doors”
‘relay’: they possess important information.

7. GANTT diagram

Created in 1900 by Henry Gantt, this tool for project management allows a continual view of the project’s progress, improving productivity and pinpointing incompatibilities in workloads. With this diagram, it is possible to plan and to follow the evolution of all the activities and tasks of the project.

8. PERT (Program Evaluation Research and Tasks) diagram

Planning method whose graphic representation shows direct links between tasks, expressed implicitly in stages and shown on a diagram using arrows. PERT’s method is an implement of prevision. It needs training but this method is essential when activities are managed in parallel.

More flexibility through modules
Scotland's vocational training reform

by
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Introduction

The main sources for the introduction have been Brown & Fairley's (1989) monograph on the Manpower Services Commission in Scotland, Clarke (1992) and Raffe (1984).

Scotland's education and training system has seen several reforms and is still changing. This paper reports on the major reform which started in 1983 and was completed in 1986 with a system of qualifications based on modules of learning and certification. This modular system has remained even though subsequent changes have refined and extended it.

The main characteristics of the reform were the replacement of long, inflexible courses by combinations of national modules. These were defined in terms of the learning outcomes and by performance criteria stating what a successful candidate was expected to be able to do.

Reports on the reform show that it has proved possible to change the whole provision of vocational education and training within an extremely short period of two or three years. The use of the new system for a range of purposes has been demonstrated by examples of good practice. In general, it has led to better planning of learning and teaching, using the flexibility of modules to adapt courses to the demands of industry and to the needs of students. This change has been appreciated by students, staff and employers.

1. Skill development in Scotland before the reform

Since the late 1960s, successive British governments had been confronted with increasing inflation and unemployment. They had concentrated on the fight against inflation. This does not mean that there was no training policy. The 1964 Industrial Training Act established 23 Industrial Training Boards (ITBs) and the 1973 Employment and Training Act created the Manpower Services Commission, a tripartite body involving government, the Confederation of British Industry and the Trade Union Congress.

The 1964 Act was a response to widespread skill shortages which were thought to have held up economic expansion. Training had been left to individual firms, many of which preferred attracting well trained staff from other firms to organizing their own training. The Act left responsibility for training with individual firms but gave the ITBs the power to raise a levy on firms in their industry. In return, an ITB could give out grants to firms for the training they organized. The Boards encouraged small and medium-sized companies to form groups and

organize their training collectively. The engineering training board and the construction board were particularly successful.

The 1973 Employment and Training Act changed the system by imposing a ceiling on levies and by limiting training needs to short-term needs. This, together with economic decline, led to a sharp decline in apprenticeships, not least in Scotland.

In the early 1980s it became accepted that unemployment was likely to be a long-term problem and required more than short-term programmes. Also, Britain's training record began to be adversely compared with that of its competitor countries, particularly West Germany. The Government began to pursue its strategic objectives in labour market and education policy through the systematic reform of vocational training and (un)employment programmes (and through the lowering of wage levels). This led to 'The New Training Initiative' (NTI), published in 1981, which coincided and corresponded globally with the new programme proposed by the Manpower Services Commission. The main objectives of the NTI proved to be uncontroversial:

- **to develop skill training and apprenticeship in such a way as to enable young people entering at different stages and with different educational attainments to acquire agreed standards of skill appropriate to the jobs available and to provide them with a basis for progress through further training**
- **to move towards a position where all young people under the age of 18 have the opportunity either of continuing in full-time education or of entering a period of planned work experience combined with work-related training and education**
- **to open widespread opportunities for adults, whether employed or returning to work, to acquire, increase or update their skills and knowledge during the course of their working lives.**

The Manpower Services Commission

The Manpower Services Commission (MSC), originally created as a means to eliminate skills shortages holding up economic progress, but increasingly used to alleviate youth unemployment, became a major provider of unemployment programmes with a training component. It was funded by the Department of Employment. In 1977 it established a partly decentralized office for Scotland to advise the Secretary of State for Scotland. In 1979, a Scottish Office Minister was appointed who coordinated the activities of both the Scottish Education Department and the Scottish Economic Planning Department.

The MSC operated by

- **identifying target groups of people for training**
- **targeting areas of training need**
- **issuing guidelines for training**
- **funding training providers and/or trainees**

It developed a series of programmes, the main ones being

- **Unified Vocational Preparation (UVP)**
- **the Youth Opportunities Programme (YOP)**
- **Training Opportunities Scheme (TOPS)**
- **Youth Training Scheme (YTS)**
- **Technical and Vocational Education Initiative (TVEI)**

Unified Vocational Preparation was meant for people who had gone into employment with few or no qualifications. Apart from an induction to their job they received little training and almost no certificates. UVP-courses combined education, training and work experience according to criteria laid down by the MSC. Employers and staff from further education colleges planned the short, free standing courses together. This provided further education staff with a new and very important experience in planning curricula and working with employers. The MSC paid 'managing agents' to offer the courses. These could be further education colleges, companies or private training providers, approved by the MSC.

The Youth Opportunities Programme, launched in 1978, was the first major programme and lasted until 1983. Although the number of unemployed young people was still low in the beginning, by 1982/3 YOP was catering for more than half of all the school leavers entering the labour market. Between 1978/9 and 1982/3 nearly 250,000 Scots followed the programme. As it expanded, the percentage of its graduates in Scotland finding a job fell from about 78 per cent in 1978 to about 39 per cent in 1980.

Characteristic of the programme was that

- **training had to be work-oriented in general, not just on a specific job with a particular employer, nor general education**
- **training providers had to be able to deliver training all year round, not starting only once or twice a year**
- **there was no syllabus, external examining body or accreditation. The curriculum designed by a particular trainer was the only means of showing what participants had achieved**
- **the curriculum was to be geared towards personal development integrated with work experience.**

For the further education colleges this again meant that they had to engage in curriculum design, something they had never needed to do for the externally examined existing courses. To cover the costs, colleges had to be agents and arrange courses with employers.

The Training Opportunities Scheme (TOPS) was meant for adult (over 19) students and provided three to twelve months training in colleges or skills centres. The courses were those already on offer. The scheme was particularly helpful to women, but employers did not value it. It was stopped in 1982.

The reform of apprentice training and the NTI's objective to provide all young people under the age of 18 with the opportunity to follow education or training was met by the MSC's Youth Training Scheme (YTS). It incorporated earlier schemes, and was extended to 17 as well as 16 year-olds. Training could be employer-based or community-based. The amount of places for employer-based training depended on the willingness of employers to co-operate, which was greater in regions where the economy was better.

Scotland's Action Plan for the modularization of further education was seen to offer opportunities for the YTS which did not exist in the rest of Britain. The MSC was therefore represented in the working groups which were set up to implement the Action Plan, but there was a general feeling in Scotland that the new scheme was education-led rather than MSC-controlled. In the first full YTS year, 1983/4, there were 40,332 entrants in Scotland and 497 of the Training Division's staff were working on the development and overseeing of the YTS.

In 1982 the Technical and Vocational Education Initiative (TVEI) was announced by the Government, which gave the MSC direct involvement in schools. This centrally conceived and organized initiative aimed to give 14-18 year-old boys and girls of all abilities a more relevant and practical preparation for adulthood and working life through a four-year course of general, technical and vocational education. The extra funding stimulated the development of short vocational courses and of new learning and teaching methodologies. The development was mainly education-driven as it proved to be difficult to involve employers in all stages of curriculum development.

Further education

Further education colleges mainly provided non-advanced vocational courses. Like the schools, they were under the control of the local authorities. Courses mainly led to certification by such bodies as the City and Guilds of London Institute (CGLI), the Scottish Business Education Council (SCOTBEC) and the Scottish Technical Education Council (SCOTEC). By 1977-78 around 15 per cent of the age group were engaged in part-time day education for awards of one of these bodies or on a MSC scheme.

The existing courses in Further Education in the technical sector, for example, had mainly been designed for specific occupations, on the assumption that pupils would follow day release courses over a period of 3-5 years. Increasing numbers of students needed short full-time courses as part of their training programme, which could start at any time during the year.

Full-time Further Education courses were offered by several bodies. They were specific to certain occupations. Some of the courses took one year, others two years. Exit points, transfer of achievements and overlap between courses of different bodies were not clear. This made it difficult for students to choose and for employers to assess courses.

Most students were full-time young male apprentices who were granted day-release for work-related training. Increasingly, adults and especially women started following courses and these were offered full-time. This meant that teaching styles had to change from didactic, i.e. lecturing

a whole class, to more student centred, providing guidance and negotiating the content of courses. Also the content had to respond more closely to employers' requirements. They were asking for more general, core skills. The college environment had to accommodate for students staying longer hours and needing places to study (and smoke).

Higher vocational education

Although further education colleges offered advanced courses to some extent, this was the main aim of the so-called central institutions. These were centrally funded by the Scottish Office. The central bodies were able to develop their own courses and submit them to the United Kingdom Council for National Academic Awards (CNAA) for validation. Although it was possible to gain access to CNAA courses on the basis of further education qualifications, most students entered with Higher Grade certificates and students with non-advanced vocational qualifications were often required to repeat part of what they had already studied.

Stakeholders

There was a large number of institutions which were active in the field of education and training for 16-18 years-olds apart from the secondary schools, further education colleges and training centres on employers' premises. The Action Plan distinguished four groups:

- **bodies responsible for syllabuses and examinations: these were the Scottish Examination Board, responsible for running examinations and award certificates mainly for secondary education; the Scottish Business Education Council and the Scottish Technical Education Council. The last two were private limited companies set up by the Secretary of State for Scotland.**
- **advisory bodies: the Consultative Council on the Curriculum and the Scottish Community Education Council.**
- **executive bodies: Colleges of Education providing teacher training for secondary education; and the School for Further Education which provide training for teachers in further education colleges; also the Scottish Vocational Education Preparation Unit which provided support to colleges and authorities.**
- **bodies responsible for training in the workplace, such as the Manpower Services Commission; Industrial Training Boards; Group Training Associations and private training firms and agencies.**

2. Reasons for the reform

In 'Six years on', the Inspectorate links the reform to two general aims of the 1970s:

- **a recognition of the role which education and training could play in reversing the decline in economic competitiveness**
- **a desire to improve employment prospects for young people through better education and training provision.**

The Scottish Education Department (SED) published a consultative paper in 1979 in which the need for reform of the system for providing education and training for the 16-18 age group in Scotland was discussed. The responses indicated a wish to reform and in 1983 the SED published its Action Plan, which formed the basis for a new system for the 16-18 group, introducing National Certificates. It soon became clear that this group should be widened to include continuing education of adults. The programme was formally relaunched as the 16+ Action Plan in 1985.

Some of the shortcomings of the post-16 education and training system in the early 1980s were the following:

- **Low participation rates. Participation rates compared unfavourably with those of Germany and Japan: 52 per cent against 86 per cent and 96 per cent respectively.**

- **Lack of articulation and flexibility. There were three main routes: full-time secondary school; Further Education colleges; and MSC programmes. FE colleges offered courses leading to certification by SCOTEC, SCOTBEC or City and Guilds of London. Credit transfer and access from one of these routes to another or to higher education were difficult to achieve. MSC trainees had few national certification opportunities and other courses offered only a restricted choice to students or made it difficult to gain access to particular components.**

- **Lack of efficiency. The existing system of long large-scale courses inhibited efficiency. It was expected that a modular system would improve choice and access and enhance efficiency. Recognition of common elements in different courses should allow rationalization of class groups and stimulate a more direct approach to curriculum and staff development.**

- **Lack of employment orientation. It was argued that the curriculum should more adequately reflect the skills required in employment. Broad transferable skills (communication, numeracy and social skills) and personal qualities (self-confidence, autonomy and social skills) were emphasised. These were thought to underpin flexibility and adaptability.**

- **Inappropriate methods of learning, teaching and assessment. There were concerns about excessively didactic approaches to learning and teaching and a desire to encourage more active and practical methods as well as to stimulate students to take more responsibility for their own learning. It was also argued that assessment should be criterion-referenced, based on clear descriptions of the required learning outcomes, rather than norm-oriented, based on rank ordering of students.**

3. Implementation of the reform

The evaluation report by the Inspectorate summarizes the objectives of the 16+ Action Plan as follows:

- **to encourage greater participation in further and higher education**
- **to create a more comprehensible system based on a single national certificate**
- **to encourage greater efficiency in the organization of provision**
- **to develop a more relevant and responsive curriculum which meets the needs of employers and the needs of the individual students**
- **to improve the integration and flexibility of the education and training system so as to encourage improved access, credit transfer, progression, and choice**
- **to encourage more active, practical and student centred approaches to learning and teaching**
- **to introduce a system of assessment of student performance on the basis of learning outcomes and performance criteria, to prescribed national standards.**

The whole concept of the new system can be described in three functions: developing and maintaining modules; provision, i.e. the planning and organisation of teaching and assessment; and co-ordinating mechanisms, called quality assurance.

Modules

The new National Certificate Modules are units of learning and certification. A National Certificate (NC) is issued to a students completing a single module and thereafter for each new module. The module itself is made up of a number of units. These consist of three parts: a general description of the competence and outcomes, their credit value and the required entrance level; the statement of standards detailing the outcomes; and support notes providing more detail information on the purpose of the unit, the required content/context (or knowledge) and assessment procedures. A sample of unit is presented in Annex A.

The main part of the unit is the 'statement of standards'. This lists a number of 'outcomes'. These are descriptions of what a person is able to do. They must relate to what actually is being done rather than the knowledge or skills which enable somebody to do it; represent safe and healthy work practices; be capable of being demonstrated and assessed; describe a result rather than a procedure; be unambiguously phrased in simple current language; and be expressed in terms which apply across jobs and organizations. All learning outcomes are mentioned on the Certificate.

'Performance criteria' accompany each outcome and contain evaluative statements defining the acceptable level of performance. They must identify only the essential aspects of performance necessary to demonstrate competence in such a way that the candidate's performance can be assessed against them. They should form the basis for the design of assessment systems and materials.

'Range statements' further refine the breath or scope of an outcome and its performance criteria by setting out the various circumstances in which they are to be applied.

'Evidence requirements' indicate, in a manner which allows for flexible application, the evidence which is necessary for a satisfactory judgment to be made of an individual's competence. This can be methods of gathering evidence; any quantity of evidence, e.g. a timescale over which assessment should occur, or repeated measurement; or classes within which performance evidence is deemed critical.

The module normally requires 40 hours of study. However, it is up to the student and the centre to decide how long the unit takes and when it will be assessed. Students might register for, undertake and be certificated in as many or as few modules as they wish. The norm for a full-time student is 6 to 24 modules a year, but about half of all NC students took 1-3 modules a year.

The following six main types of modules have been in use since their introduction:

- **employment-led modules certificating occupational competence (the most rapidly expanding group): national qualifications based on standards developed by Industrial Training Organisations or local qualifications developed in cooperation between employers and colleges. This type is called now the Scottish Vocational Qualification (SVQ).**
- **modules accrediting steps in preparation for employment covering work-related knowledge, skills or behaviour, but assessing learning rather than outcomes in terms of actual work performance. This has now developed into the General Vocational Qualification (GSVQ), which prepare for a field or family of occupations rather than a specific occupation.**
- **modules accrediting steps in progression to more advanced levels of study. The outcomes of these modules are related to the requirements of advanced courses. As most modules nowadays are work-oriented as much as study oriented, this type is only found in core skills.**
- **modules accrediting steps both towards work and further study. The purpose of these modules is to help students keep their options open and facilitate transfer. Many Higher National (HN) qualifications provide both access to employment and to the next level, with an HN certificate providing exemption from the first part of the two-year HN diploma course which in its turn provides exemption of the first years of a four year degree study depending on the subject studied.**
- **core skills, such as communication, numeracy, computer literacy, and personal and development modules.**
- **modules certificating learning and study skills.**

The modules are written by teams either under the responsibility of the national organization set up to develop and maintain the system (the Scottish Vocational Education Council (SCOTVEC) in the past) or, in the case of modules offered by only one or two specialized colleges, by colleges themselves. SCOTVEC teams consist of college lecturers, trainers and practitioners. In cases where legal standards form part of the course, statutory authorities are involved. In fact, any organization is free to submit a module to SCOTVEC (presently, the Scottish Qualification Authority - SQA) for approval. The work of these teams is coordinated

and supervised by 'sector-boards', which are made up of specialists and representatives of employers and are supported by SQA staff. Consistency and efficiency is ensured by the use of a general framework, the so-called module descriptors.

SQA keeps and provides a cumulative record of all modules the student has registered for and achieved:
the Record of Education which is being kept for each candidate registered with SQA. It also means that modules form part of a system of credit accumulation and transfer.

Coordinating mechanisms: quality assurance

Since there were to be no external examinations and candidates were being taught and assessed in a variety of centres, many of which were not included in the existing control system operated by the educational authorities, an appropriate system of Quality Assurance (QA) was established.

The basis of the QA system was the module's clear description of the learning outcomes and the standard of performance which was required. The so-called performance criteria did not only specify what a candidate should be able to do or demonstrate, but also how well, under which circumstances, in which contexts. The descriptor also suggested the ways in which this could be assessed. This was an enormous change compared with the traditional description of the content of courses, which mostly concentrated on the knowledge and processes which are necessary to achieve a sufficient performance.

SCOTVEC developed later a system to guarantee that quality is being maintained, consisting of approval, validation and verification. Firstly, an organization has to be approved before it can teach or assess the qualifications developed by SCOTVEC. Secondly, it must follow certain procedures, called verification, to check that the qualifications it develops are well-written, have a coherent composition and meet the needs of users. Thirdly, it has to allow monitoring, called verification, and show evidence that its assessment is consistent and in accordance with the required level of achievement set by the descriptors. In addition to regular verification visits for one or more subjects, there are audits of the organization as a whole.

All organizations, be they private training agencies, companies or colleges has to be approved to be allowed to offer the new qualifications. Approval is granted for the organization as a whole as well as for groups of specific qualifications. When an organization has not had any candidates for a number of years, approval is withdrawn. When it expands into qualifications in other types of subjects, additional approval has to be obtained. The criteria for approval cover:

- **management systems: presence of a quality assurance system**
- **physical resources: premises, equipment and teaching materials**
- **staff resources: qualified staff**
- **assessment**
- **quality assurance and control**
- **equal opportunities and access.**

Centres are allowed to develop, write and offer their own qualifications, as long as they follow the strict process of validation. This assures that the components of the newly developed qualifications are consistent and meet the needs of industry and candidates. Many colleges have developed their own variants of national (SCOTVEC developed) qualifications, to bring out their own strengths and to better prepare their candidates for local industries. Other colleges are so specialised that only they themselves can write and offer qualifications, such as, for example, fish farming or off-shore engineering.

Validation of a module includes an assessment by SQA of its technical quality and of the suitability of the assessment instruments proposed. Validation of a new Group Award (a cluster of modules) includes an assessment of the coherence and appropriateness of the programme. The centre has to show that it has followed its own quality assurance procedures and has consulted industry on the relevance of the qualification. See also Box 1 for an example of quality assurance at a college level.

Box 1: Quality assurance at a college level

The national system comprised a network of SCOTVEC moderators and subject assessors (all later to be called 'verifiers'). The moderators' task was to validate centres which are providing modules, checking that they are still meeting the quality criteria set for approval. The assessors ensure consistency of standards within subjects. They inspect the assessment practice within a centre, checking that assessors apply the standards as they have been published and do so consistently.

In the region there existed initiatives in which colleges applied some form of inter-college moderation, for instance teachers in the same type of subjects meeting regularly to exchange assessment materials and experiences in order to avoid inconsistencies between colleges. These meetings are being supported on a national level through the recent creation of 'quality circles' of teachers/trainers within the same sector (care for instance, or administration).

Black et al (1991) found that the most usual organization of quality assurance within the college was one in which an Assistant Principal was responsible for all quality assurance . (There usually are a small number of Assistant Principals who work directly under the Principal or Director of the college, each being responsible for certain college-wide aspects of the organization.)

A Module Coordinator was appointed to take care of the quality control of a specific module such as the maintenance of documentation on the most recent descriptors or the co-ordination and control of assessment.

One module can be part of several different 'programmes' or courses within a department, or can even appear in programmes in more than one department. Communication modules, for instance, figure in a large number of programmes. The Module Coordinator had to be in regular contact with Programme Coordinators, to ensure that the module will fit in their courses without being changed so much that the content and assessment do not meet the standards anymore. If necessary, it may be decided to develop a new, specific module. Decisions within a programme would be taken by the Module Coordinator and a Programme Coordinator, decisions involving more than one programme would be taken by the Head of the Department the programmes were in. All decisions were reported to the Assistant Principal.

The aim of verification is to ensure that the centre's assessment of candidates has been consistent and has complied with the required level of assessment for success in the award. This is particularly important as there are no external national examinations for these qualifications. These have been replaced with the verification procedures and internal assessments.

An internal verification ensures that all assessors in the centre have applied the same standard of assessment, while an external verification ensures that the centre's assessment and internal verification processes have operated successfully.

The external verification is operated by a force of several hundred subject specialists, with a background in education and industry, who are employed part-time. After a rigorous selection and initial training they keep following two training sessions each year. These verifiers pay regular visits to centres, not only inspecting assessment materials and records but also interviewing staff on their assessment methods to ensure that all applied the standards in the same way. On top of this there is a small staff of full-time officers who consult centres on more general matters. If centres are found not to be applying the standards as they were described in the module descriptors, approval is withheld. This means that their assessments are not accepted and their candidates receive no certificates. Each year a few of these 'holds' are applied. In most cases centres which are being criticized can avoid a hold by showing that they have addressed the problems within a reasonable time.

Policy decisions and legislative measures

The 16+ Action Plan's objectives were put into practice within a very short time. Within three years all non-advanced courses in further education were replaced by National Certificate Modules. The National Certificates were awarded by the Scottish Vocational Education Council (SCOTVEC), a new national body. It was set up by the Secretary of State for Scotland on 29 March 1985 as a company limited by guarantee. It replaced the Scottish Business Education Council (SCOTBEC) and the Scottish Technical Education Council (SCOTEC), inheriting their functions and continuing to offer their wide range of awards. Its staff structure had been determined in advance by the Scottish Office. The average number of employees in the first year was 155.

The Council had 28 members, which formed the Board. Apart from the chairman and members who were appointed directly by the Secretary of State for Scotland, there was representation from the Convention of Local Authorities (COSLA), industry and commerce, the teaching profession and professional and technician bodies. Sector Boards were set up to discuss qualifications. They contained around 20 members each, from industry and education.

Following guidelines developed by the Scottish Education Department in 1983, SCOTVEC undertook the task of producing modules and descriptors specifying learning outcomes, performance criteria and assessment procedures and also containing advice on the preferred entry level, content and context, learning and teaching approaches. The first modules were offered in 1984/85 and by the end of 1985/86 the SCOTVEC catalogue contained almost 2,000 of them. In 1987-88 the traditional awards offered by SCOTEC and SCOTBEC were almost completely phased out.

In view of the National Certificate's growing popularity, a policy decision was taken at an early stage to allow it to be offered not only in schools and colleges but also in other centres which could meet the criteria for SCOTVEC approval. There was a wide variety of centres - from private trainers to commercial enterprises, from adult education to prisons. Major companies, like Shell and Esso constructed integrated education and training programmes around National Certificates.

General recognition and good relations with other bodies developed quickly. In 1985 an agreement was negotiated with the City and Guilds of London Institute, a traditional provider of craft and technician courses. Under the agreement certain National Certificates would be accepted as equivalent to specific City and Guild schemes. The first joint certification with an industrial training board was agreed in 1987 when the large and active Engineering Industry Training Board signed a formal agreement with SCOTVEC for the joint certification of the induction period for engineering technicians and the training of craftsmen and supervisors.

In 1987 SCOTVEC initiated a comprehensive process of consultation with employers, educational and professional organizations about the advanced courses. This led to pilot programmes in 1988-89 and the phased introduction of new courses in 1990-1992. The new courses followed the same principles of discrete units and performance based or criterion referenced assessment. By 1992 the total stock of advanced courses had been replaced.

In 1990 SCOTVEC introduced the first Group Awards, most of them called SVQs (Scottish Vocational Qualifications). These are clusters of modules, usually consisting of a core programme and a choice from a limited number of additional modules. This facilitated a coherent choice for candidates and recognition by employers.

The framework for SCOTVEC's funding had been agreed with the Convention of Local Authorities (COSLA) in consultation with the Scottish Education Department. At that time the COSLA was funding all secondary and further education. In its first year, 1985-86, SCOTVEC had an income of £2.5m for general purposes and £1m from examination and assessment fees, all from COSLA and Central Institutions. This covered the development of the new non-advanced National Certificates as well as the administration of existing advanced courses, certificates and diplomas. Since 1994/95 SCOTVEC received its main income from registrations and enrolment fees.

Colleges were accountable to the local authority (region) in which they were situated. In 1989-90, however, a new act substantially enlarged their autonomy, giving the college council a larger responsibility in financial, personnel and curriculum management. Employers were expected to play a major role in the College councils. Development plans and business plans had to be in line with the education authority's strategy. In 1993 the Scottish Office took over the funding of the colleges from the regional authorities and in 1996 the colleges became responsible for distributing the money available for grants to students, which had been the responsibility of the regional authority. Colleges now have management boards, consisting of employers (at least 50 per cent, including representatives of local enterprise agencies, which stimulate the local

economy). Funding is based on a) the available money and b) the student activity (number of students following 40-hour units).

4. Analysis of the results

In the following analysis we will follow the objectives of the reform and discuss the results. The discussion will be based mainly on an three studies by the Scottish Council for Research in Education (SCRE) in 1987, 1988 and 1991, and an overall evaluation by the Inspectorate in 1991. The relevant issues have been treated in Clarke's (1992) report as well. Where relevant information from later sources has been added.

Greater participation in further and higher education

Understandably, the studies by SCRE and by the Inspectorate take achievement of this objective for granted as the uptake of the NC modules was obviously successful. Figure 1 shows a big increase from 50,000 students taking one or several modules in 1984/85 to more than 200,000 five years later. The major part of these fell into the 15-19 year-old band. By contrast, the number of students in the traditional (SCOTEC and SCOTBEC) non-advanced courses fell from 7,109 to 242 in 1988/89 (SCOTVEC statistics).

A more comprehensible system based on a single national certificate

There is no evidence of studies into this aspect. It was clear from the outset that guidance procedures would have to be provided and the colleges have done that. The Inspectorate reports that about two-thirds of students enjoyed some form of guidance before entry and that also the quality of student induction and tutoring is improved. The provision by SCOTVEC of a catalogue containing all available modules was widely welcomed. Black et al (1991) report that there was a basic broad understanding that the rationalizing and modularizing according to the model suggested in the 16+ Action Plan was seen as a substantial improvement on the system by those involved because it has revolutionized teaching and learning in the vocational sector.

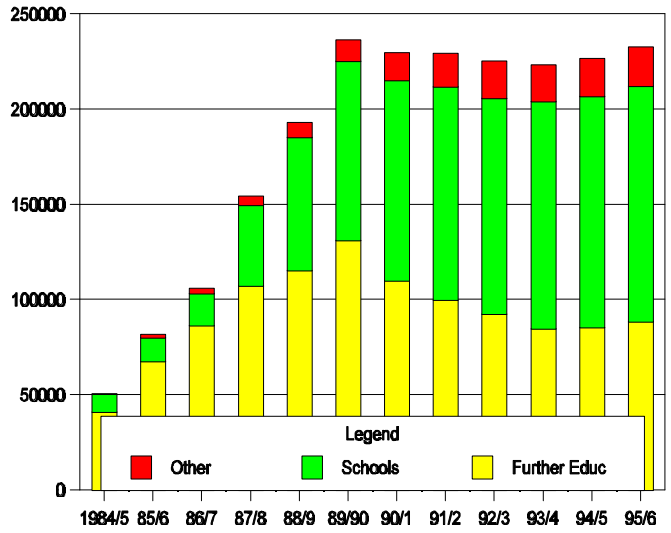

Figure 1: Number of students enrolled for one or more National Certificate Modules, 1984/5 - 1995/6

Greater efficiency in the organization of provision

The organization and timetabling have been looked at mostly to assess the amount of choice they offered students. During these years the focus has been on flexibility and responsiveness (see the following paragraph).

A more relevant and responsive curriculum which meets the needs of employers and the needs of the individual students

Both the Inspectorate and Black et al (1991) found that the reform had delivered a better system. Students liked the teaching methods, particularly the amount of diagnostic feedback, and the possibility to resit assessments instead of doing end of course exams. Although few courses stuck to the recommended 40 hours, an enormous flexibility has been gained by offering them more than once a year.

Employers most often mentioned flexibility and saw advantages in negotiating more appropriate courses tailored to their needs. The tailoring could consist of the provision of theory connected with practice taught in-company, or in identifying sets of modules as mandatory parts of particular courses appropriate for jobs in large industries. In some cases large industries have developed their own qualification, together with SCOTVEC (for example, a qualification for engineers in the field of semiconductors in seven large electronics companies).

Clarke (1992) points out that employers were known to have a rather narrow view of training, and prefer buying (or poaching) qualified staff, maximizing an unqualified workforce or provide in-house induction rather than using FE colleges. Employers tend to be frustrated in particular by the educational jargon. In the late '80s concepts such as Standard Grade and National Certificate which dated from 1984 proved to be not widely known about or understood. However, Black et al (1991) and the Inspectorate report improvements. Employers approved of the increased flexibility of provision, appreciating the fact that courses could start at several times during the year and could be completed in a relatively short time.

In many occupational sectors the overall aims and content of programmes were determined by employers, and increasingly by the industry Lead Bodies and Local Enterprise Companies - LEC (organizations which aim to stimulate the local economy). This took place during the development phase, either by a Lead Body developing the industry standards upon which a qualification could be based, or by consultation between college and LEC, leading to consensus on the qualifications needed in the local industry and on the specific needs of local industries. Black et al note that it is mainly the larger employers who were able to take full advantage of the flexibility, and selected or developed courses together with the colleges.

The Inspectorate gives a few examples of good practice in this respect (see Box 2). They also note that colleges showed a more market-sensitive approach in those sectors where demand had been falling in recent years. For example, in vehicle maintenance, the colleges have realized that the traditional college-taught courses are not acceptable any more. They are now planning SVQs

and approaching garages to arrange the use of their more advanced facilities and availability of cars to repair, offering a combination of theory and workplace provision. In this way they hope to be able to compete successfully against larger companies offering in-house training.

Access, credit transfer, progression, and choice improved by integration and flexibility

Access on the basis of recognition of prior (be it certificated or experiential) learning became an issue which was piloted only from the late '80s on. The practice of offering students exemptions on the basis of previously achieved courses of outcomes, was occasionally extended to (parts of) modules and experience, showing that NCs make a flexible response to prior learning possible. Documented prior learning was considered equal to a part of the course, and not-documented experience could be demonstrated, assessed and absolved immediately. For a consistent approach, however, clear policies and proper resources are required.

Box 2: Two case studies on programme development (from HMI Six years on. 1991)

2.1 Colleges also provide tailor-made programmes, designed to meet the needs of a particular customer, and most colleges could point to at least one entirely original programme. For example,

in response to an Engineering Industry Training Board (EITB) initiative to strengthen first-line supervision in the engineering industry, a number of engineering companies approached a college to set up a programme for their supervisors in which management and technological skills would be incorporated and which would permit the inclusion of industry-based project work. The college was able to respond quickly by working with the companies and the EITB to assemble and provide an innovative programme made up of modules selected from the existing National Certificate Catalogue complemented by others developed to meet specific needs.

2.2 Sometimes a programme was designed for a single customer. For example,

in a scheme organized jointly by a large company and a college, the company's trainees were following a programme in multidisciplinary engineering incorporating education and training based on National Certificate modules. This well-designed programme, the result of an extensive and effective partnership between industry and education, provided trainees with the skills to cope with the complex and rapidly changing technology encountered on offshore oil and gas installations. College and company staff shared accommodation, jointly developed workshop, laboratory and classroom activities, and regularly reviewed and modified the programme. Their close collaboration enabled projects to be devised which integrated many elements of the programme.

On the basis of the single unit based system, a Credit Accumulation Transfer system (SCOTCAT) was set up, first within SCOTVEC provisions, but this was later extended to all higher education. Access to higher education courses is granted to students with a sufficient number of points in relevant subjects. The students can collect points by achieving modules or even units, each 40-hour unit providing a standard number of points. Clarke (1991) reports that the unified accreditation and certification system provided improved means of upward progression in vocational education, because of easier recognition of earlier learning.

Some colleges demonstrated how progression could vary according to the time available or required by individual students. Apprentices participating in training programmes can take different times (from a few months to over a year) to complete the module. This has even led to training providers in these programmes not being paid according to the duration of the training but by results, as soon as distinct units, or milestones, are achieved. In most classes students were proceeding at the same pace, in three-hour periods and 13 week blocks. Timetabling arrangements were found to be rather inflexible and determined by the programme rather than by negotiation with students. Part-time programmes were determined by agreement between the college and the employer or sponsor. It was felt that there was a clear lack of open learning materials.

Before the introduction of the NC the only choice available to students was between courses. Hart et al (1987) report that the amount of choice for students was still small, although difficult to quantify. The Inspectorate (1991) concludes that in a third of the colleges they inspected fewer than 20 per cent of the students considered that they had been given any choice. In two-thirds of the colleges this rose to 40 per cent or more, even to 70-80 per cent in three colleges. Clearly there were enormous differences between colleges (or even departments within colleges). Even today, in smaller colleges, candidates may have to choose between rather different courses. Other colleges try and combine candidates taking similar modules into groups. There was a concern with staff and researchers that modularization might lead students to learn and plan on the very short term, only within the module, losing sight of the required broad learning. This problem has been solved by introducing group awards.

The student population in further education colleges is varied: in 1995-96 there were just over 50,000 full-time and about 250,000 part-time students. Of all students, 18 per cent were younger than 19, 19 per cent were 19-24 years old and 47 per cent were 25 years old and over.

Several types of links exist between colleges and universities varying from recognition of subjects as equivalent to subjects taught in the university to coherent programmes offering candidates the possibility to gain access to Higher National Certificate courses on the basis of NC modules and to progress to degree studies.

Active, practical and student-centred approaches to learning and teaching

Black et al (1991) found clearly positive staff and student reactions to styles of learning and teaching they came to associate with modular courses. The clear identification of modular learning outcomes was associated with greater emphasis on student-centred learning strategies and the use of assessments for diagnostic purposes. The emphasis on clearly articulated short-term aims was also seen as benefiting slow attainers and this again supported one of the fundamental arguments in favour of modular designs. At the same time, this emphasis was perceived as encouraging passive, reproductive styles of learning and inhibiting the teachers to focus on long-term aims such as helping the students to take more responsibility for their own learning. Employers were concerned that short modules were less of a challenge than two-year courses. Again, group awards have changed this, because they take one or two years to achieve.

The Inspectorate found a positive change as well: learning and teaching was better planned than before, was active and practical, and a major effort had been made to change learning and teaching from didactic to more student-centred approaches. It noted that issues of whole-programme design had been relatively neglected because of an overemphasis on the new principle of modularization. Some programmes developing broad skills and transferable core competences were found in an early stage, more followed after the introduction of group awards.

Assessing student performance to prescribed national standards

Assessment has been one of the major issues, as the central, external exams of the old system were replaced by continuous internal assessment. Black et al (1988) report that staff in general did not regret the demise of external examination and welcomed the clarification of goals which came with criterion-referenced assessment as well as the opportunity to develop a better relationship between assessment and learning. The innovation had also created more cooperation within colleges. Staff (and students) appreciated the fact that the new assessment covered all outcomes, while the previous external examinations could only cover a sample.

However, both Black et al (1988) and the Inspectorate found that the staff were not very confident about the technical aspects of assessment (see Box 3), or were in need of staff development on these aspects. As a result, the assessment suggestions in the descriptors were often taken as the last word and other, innovative instruments were rarely tried out. This situation led to uncertainty about the feasibility of internal moderation and about the comparability of the standards between different centres. Support and development by verifiers and more explicit examples and guidelines for assessment have improved this. A recent development is the setting up of 'quality circles', groups of trainers in the same subject who discuss their practice with a verifier. According to the Inspectorate, the new assessment system was more valid.

In the most recent development to an integrated system of academic and vocational courses, to be offered in schools and colleges, a mixture of both internal and external assessment and the availability of item banks is foreseen.

The introduction of modules has changed a quality control system into a system with quality assurance. As Clarke (1992) reports, colleges were still being inspected by the Inspectorate, the Employment Department's Training Standards Advisory Service and often by industry training boards. The inspectorate has stimulated the development of performance indicators. SCOTVEC required the colleges to build a system of internal moderation, to ensure consistency and reliability of assessment. Many colleges put a big effort into the standardization of their assessment procedures and instruments and these colleges were more positive about quality assurance, according to Black et al (1991). The author's own research has shown that colleges put a lot of effort into their quality assurance systems in order to obtain more responsibility. While developing these themselves, they were better able to realise their usefulness and plan further improvements.

Conclusions

Box 3: Two case studies on assessment (from Black et al. Assessing modules 1988)

Case 1. Problems insurmountable

One case study concerned a vocational module being used in a programme which replaced the college's own diploma. The prevailing ethos in this college seemed to be that assessment was a means of selection and of fostering a meritocracy. Thus for example, the deputy principal hoped that, in time, the value of norm-referenced exams would again be seen, perhaps incorporated into the more advanced stages of modularized programmes. He made it clear that the college wished to retain some form of grading in the overall course structure. Criterion-referenced assessment was not being discounted, but was seen as insufficient in itself for a number of reasons. It was not seen as providing a basis for selection, nor did it encourage students to think creatively. While it was considered appropriate for 'craft level students' it was not thought to be so for anyone with 'more than this level of talent or ability'. It was felt by some of the staff that the combination of criterion-referenced assessment and modularization encouraged students to look at knowledge in isolated units, did not sufficiently test long-term recall and hindered the integration of knowledge and the development of ideas. It was seen as a matter of 'ticking boxes' in multiple choice tests and as being designed to 'give bits of paper to lower achievers' but was unable to reflect the higher standards attained by other students. In contrast the use of a graded final examination would act both as a 'stick' for the less conscientious student and a 'carrot' to reward the more able student. The lack of differentiation in the system was demotivating for more able students who, at the end of the day, were coming out with exactly the same qualifications as their 'less able' peers.

Case 2. Make the best of it

In contrast to the situation in case 1, an entirely different set of attitudes was evident in another study which looked at the integrated delivery of Communication modules in conjunction with 'carriers' such as Personal and Social Development (PSD) or Media Studies modules. Although the staff in this study were by no means indifferent to the problems associated with assessment, it was clear that their preoccupation was more with the opportunity to change the way that the subject was taught. By integrating the teaching of Communication with that of another module it was hoped to put the teaching into a context and thus increase its relevance to the students. The consensus among the staff interviewed was that they had succeeded in doing this.

The criterion-referenced assessment model had given the staff clearer goals to work towards, had given their subject a worthwhile context in which to operate and has increased the responsibility of the individual lecturer and student for their teaching and learning. One lecturer felt that it also required that students be assessed on the whole syllabus, thus providing a greater guarantee that they could actually do what their certificates said, than was possible with any exam which assessed only a limited sample of the course. The modular system had also increased the chances of a student achieving something for his/her efforts, whereas in the past many students would have had little hope.

The three main effects of the reform have been as follows:

- **it has given colleges, teachers and trainers ownership of the courses they offer. They can develop and organise their own courses. When offering nationally-designed courses they are still free to choose their teaching methods and planning the teaching and assessment. This is in strong contrast to the former externally-examined courses which were offered and examined just once a year.**

- **modules offer immediate assessment and feedback. This is much appreciated by teachers/trainers and students.**

- **employers have more choice and influence. They can join in training schemes which allow employees to participate in shorter or longer courses, part-time and apart from being able to choose from a large number of modules, they can actually help design industry-specific qualifications.**

It is difficult to say to what extent the enormous increase in participation has been caused by modularization, but there certainly has been an enormous increase with five times as many candidates taking National Certificates in 1995 than in 1985. The reform has triggered other developments, most notably the introduction of group awards and workplace-based qualifications such as SVQs (Scottish Vocational Qualifications). Successful modular vocational education has contributed to the proposals for a reorganization of all 16+ education into a common framework of academic and vocational modules and levels.

In addition, SCOTVEC has reviewed all its advanced vocational provisions and modularized them as well as its non-advanced National Certificates. This has facilitated the development of the SCOTCAT system with higher education, which describes the credit and transferability of units of higher vocational education within further and higher education, colleges and universities. A consultation on the new advanced provision in 1995-96 demonstrated that there is a widespread acceptance and appreciation of the new system.

The influence of employers has further increased. As the need for larger programmes became apparent, Scottish Group Awards and later SVQs were created. The SVQs have been built up from the modularized National Certificates and are related to occupations. In the validation of new qualifications, employers have to be involved to make sure the programme is meaningful and relevant to them. The existence of modules has contributed to the development of programmes to prepare unemployed 16-19 year-olds for work.

The introduction of modules has contributed to the responsiveness of colleges. Changes in legislation in 1992 made them more autonomous and accountable. Colleges developed new modules and programmes according to local needs. This eventually led to a total offer of about 3,000 modules.

The reform in vocational education and training highlighted differences with the academic system in assessment and teaching approaches. As these differences became more pronounced, another reform, this time to enable students to combine academic and vocational units, has become necessary. After long preparations, this is currently taking place under the name Higher Still. Its main characteristic is that it offers a common framework of modules at five levels which will enable candidates to acquire a broad and deep range of academic and vocational subjects over the last two years of secondary education.

As a result of the reforms, there are now many adults following education and training courses. Progression through the system is much improved and staying-on rates and participation, particularly in further and higher education, have increased sharply.

Because of the combination of the criterion-referenced approach with local development of modules, many lecturers have gained experience in writing modules together with external partners, and all have developed a more student-centred and responsible approach to teaching than when curriculum and teaching were centrally determined. As a result, many colleges are able to develop programmes for foreign students and to co-operate as consultants to educational organizations in other countries.

Key issues

The key issues which evolved in this case and could apply in other reforms were

- **The involvement of employers. It proved difficult to keep employers informed and to involve them in curriculum design. Only large companies could provide time and staff with the necessary expertise.**

- **Staff development. The focus on performance was changed from external to internal assessment. Teaching staff felt a very clear need for development to get fully acquainted with the technical aspects of assessment.**

- **Broad and transferable skills. The place of core skills in a curriculum, or more generally, the provision of broad and transferable skills in unitised learning has been an issue. Initially, most attention was put on the development of isolated modules and there was insufficient attention to the design of whole programmes of modules and for the presence of core skills. This was remedied later with the introduction of group awards.**

- **Flexible learning. The availability of place, time and resources for the increasing numbers of part-time and adult students was initially problematic, as the educational organizations were used to young full-time students. The enormous increase of adult part-time students has quickly forced the organizations to develop part-time courses with several start dates throughout the year, and also during the evening, and to discuss the composition of their programmes with students.**

In terms of policy formulation of the Scottish example shows that a long preparation time, with extensive consultation within a relatively small, coherent system can produce general consent and very fast results. The same strategy has been followed for the current reform, bringing academic and vocational education and training within one framework. Here too, there is strong general approval within the educational community because the problems are well-known and all options have been extensively discussed. It is easy, though, to underestimate the amount of time which is needed for implementation of the reform on the most concrete levels.

Acceptance of the reform has no doubt been facilitated by the activities of the Manpower Services Commission, which had piloted the development of new courses together with employers and provided ample funding for short training courses for 16-19 year-olds creating both a new training demand and a supply of students.

On the basis of experience with the initial, main reform of vocational qualifications into a modular system and taking later developments into account as well, the following major conclusions can be made :

- **In order to integrate vocational and academic provision, both should be reorganized together. The reorganization of the vocational system alone will not give it enough acceptance and status to be integrated into the academic system.**

- **Although it is easier to involve large employers in the design of vocational qualifications in order to achieve initial recognition, it is important to involve smaller employers as well, as they form a bigger group.**

- **It takes a very long time before new qualifications become known among the wider public. Early, large-scale and persistent promotion is necessary to make the public aware of the changes.**

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Annex A

-SQA- SCOTTISH QUALIFICATIONS AUTHORITY

NATIONAL CERTIFICATE MODULE: UNIT SPECIFICATION

GENERAL INFORMATION

-Module Number- **5110126** **-Session-1996-97**

-Superclass- **NK**

-Title- **TRAVEL AND TOURISM STUDY VISIT**

-DESCRIPTION-

GENERAL COMPETENCE FOR UNIT: Analysing the tourist qualities of a destination area in order to assess its appropriateness for a variety of client types and providing full and accurate information about the destination through desk research and the visit. Working as a member of a team, understanding and demonstrating the interpersonal and self-management skills required by an employee in the travel and tourism industry.

OUTCOMES

1. **provide information to the destination area through desk research;**
2. **evaluate a range of accommodation units in the resort/area from first hand experience during a visit of not less than three nights;**
3. **evaluate amenities and attractions of the resort/area from first hand experience during a visit of not less than three nights;**
4. **examine the operation of a travel/tourism organisation within the resort/area;**
5. **demonstrate the interpersonal and self-management skills required by an employee in the travel and tourism industry.**

CREDIT VALUE: **1 NC Credit**

ACCESS STATEMENT: Access to this unit is at the discretion of the centre. However, it is recommended that is undertaken as an integral component of a vocational programme designed for the candidate who is working, or intending to work, in the travel and tourism industry. It is recommended that candidates have a qualification in English and underpinning knowledge relating to travel and tourism and travel geography.

This may be evidenced by possession of the following:

(a) Standard Grade English (at band 3 or above) or NC module 7110045 Communication 3.

(b) NC modules 5110106 Introduction to the Travel Industry or 5110052 The Structure of the Tourist Industry; 5110006 Accommodation, Package Holidays and Related Products or 5240026 Introduction to the Scottish Tourism Product.

(c) NC modules 5110446 British Isles Travel Geography or 5110456 European and Mediterranean Area Travel Geography.

For further information contact: Committee and Administration Unit, SQA, Hanover House, 24 Douglas Street, Glasgow G2 7NQ.

Additional copies of this unit may be purchased from SQA (Sales and Despatch section). At the time of publication, the cost is £1.50 (minimum order £5.00).

NATIONAL CERTIFICATE MODULE: UNIT SPECIFICATION

STATEMENT OF STANDARDS

UNIT NUMBER: 5110126

UNIT TITLE: TRAVEL AND TOURISM STUDY VISIT

Acceptable performance in this unit will be the satisfactory achievement of the standards set out in this part of the specification. All sections of the statement of standards are mandatory and cannot be altered without reference to SQA.

OUTCOME

1. PROVIDE INFORMATION ON THE PROPOSED VISIT THROUGH DESK RESEARCH

PERFORMANCE CRITERIA

(a) Examples of suitable accommodation are identified accurately and fully.
(b) A variety of amenities and attractions are identified correctly.

(c) Excursions which are feasible within day are described concisely.
(d) Travel information to the destination resort/area is detailed accurately.
(e) Miscellaneous information regarding the destination area is accurate and complete.

RANGE STATEMENT

Accommodation: suitable to the requirements of the group should be selected from the range available in terms of: location; facilities including sports and entertainments; preferred room type and meal plan.

Travel information: method; duration of journey, features.

Miscellaneous information: Bank holidays; banking hours; special events; local craftwork/goods; local food/drink.

EVIDENCE REQUIREMENTS

Evidence of actual performance is required for each performance criterion and for each critical class in the range statement and should be gathered from direct observation of the candidate in the workplace or from realistic simulations which accurately reflect the conditions of the workplace.

The evidence will be based on the production of a pre-visit research folio to include for: performance criterion (a) at least two accommodation units; for performance criterion (b) five amenities/attractions; for performance criteria (c) two excursions; for performance criterion (e) five items of miscellaneous information.

OUTCOME

2. EVALUATE A RANGE OF ACCOMMODATION UNITS IN THE RESORT/AREA FROM FIRST HAND EXPERIENCE DURING A VISIT OF NOT LESS THAN THREE NIGHTS

PERFORMANCE CRITERIA

(a) Information provided on accommodation units visited is accurate.
(b) Location of each accommodation unit is indicated accurately on resort/area map.
(c) Suitability of each unit for various client types is assessed and justified.

RANGE STATEMENT

Accommodation units: hotel/other services accommodation; self-catering accommodation.

Information provided: official/other grading; first impressions; number of bedrooms and types; range of facilities; day and evening entertainment for adults and children; dining arrangements; proximity to: other entertainments; tourist shops; supermarkets; beach/swimming facilities.

Location of unit: accurately detailed map locating unit's position in resort/area in relation to: major landmarks; amenities; public transportation routed; taxi ranks; other accommodation units.

Client types: families with young children or with teenagers; young couples; groups; special interest; special needs; youth; elderly.

Suitability: access; range of appropriate facilities; location.

EVIDENCE REQUIREMENTS

Evidence of actual performance is required for each performance criterion and for each critical class in the range statements and should be gathered from direct observation of the candidate in the resort/area.

The evidence will be based on a portfolio of worksheets completed during accommodation visits or from questioning. At least five different accommodation units should be visited and assessed, covering at least two different grades.

OUTCOME

3. EVALUATE AMENITIES AND ATTRACTIONS OF THE RESORT/AREA FROM FIRST HAND EXPERIENCE DURING A VISIT OF NOT LESS THAN THREE NIGHTS

PERFORMANCE CRITERIA

- **(a) Amenities and attractions are located accurately on resort/area map.**
- **(b) Participated actively on visits to a selected range of amenities and attractions.**
- **(c) Accurate information is provided about amenities and attractions visited.**
- **(d) The appeal/suitability of each amenity/attraction for various client types is assessed and justified.**

RANGE STATEMENT

Information: accessibility; standards; cost of amenity/attraction; availability of information about the amenity/attraction.

EVIDENCE REQUIREMENTS

Evidence of actual performance is required for each performance criterion and for each critical class in the range statement and should be gathered from direct observation of the candidate in the resort/area.
The evidence will be based on a portfolio of worksheets completed during visits to amenities/attractions or from questioning. At least two different amenities/attractions should be visited and assessed.

OUTCOME

4. EXAMINE THE OPERATION OF A TRAVEL/TOURISM ORGANISATION WITHIN THE RESORT/AREA

PERFORMANCE CRITERIA

(a) Participated actively on a visit to the organisation or at a presentation by the organisation.
(b) The role and functions of the organisation is described concisely.
(c) A simple organisation chart is drawn accurately.
(d) The duties and responsibilities of a selected employee are clearly identified and their position on the organisation chart is highlighted correctly.

RANGE STATEMENT

The range for this outcome is fully expressed within the performance criteria.

EVIDENCE REQUIREMENTS

Evidence of actual performance is required for each performance criterion and should be gathered from direct observation of the candidate in the resort/area.

The evidence will be based on a worksheet and an organisation chart completed during the visit to the organisation/presentation by the organisation or from questioning. For performance criterion (b) the role and two functions must be described.

OUTCOME

5. DEMONSTRATE THE INTERPERSONAL AND SELF-MANAGEMENT SKILLS REQUIRED BY AN EMPLOYEE IN THE TRAVEL AND TOURISM INDUSTRY

PERFORMANCE CRITERIA

(a) Self management skills are demonstrated by an agreed code of conduct being followed satisfactorily.
(b) Good interpersonal skills are demonstrated.

RANGE STATEMENT

Code of conduct: punctuality; dress and presentation; behaviour; following instructions; completion of tasks.

Interpersonal skills: co-operation with group members and local personnel; consideration for others and acting responsibly at all times.

EVIDENCE REQUIREMENTS

Evidence of actual performance is required for each performance criterion and for each critical class in the range statement and should be gathered from direct observation of the candidate in the resort/area.

The evidence will be based on a personal profile completed during activities/visits in the resort/area.

ASSESSMENT

In order to achieve this unit, candidates are required to present sufficient evidence that they have met all the performance criteria for each outcome within the range specified. Details of these requirements are given for each outcome. The assessment instruments used should follow the general guidance offered by the SQA assessment model and an integrative approach to assessment is encouraged. (See references at the end of support notes).

Accurate records should be made of the assessment instruments used showing how evidence is generated for each outcome and giving marking schemes and/or checklists, etc. Records of candidates' achievements should be kept. These records will be available for external verification.

SPECIAL NEEDS

In certain cases, modified outcomes and range statements can be proposed for certification. See references at end of support notes.

NATIONAL CERTIFICATE MODULE: UNIT SPECIFICATION

SUPPORT NOTES

UNIT NUMBER: **5110126**

UNIT TITLE: **TRAVEL AND TOURISM STUDY VISIT**

SUPPORT NOTES: This part of the unit specification is offered as guidance. None of the sections of the support notes is mandatory.

NOTIONAL DESIGN LENGTH: SQA allocates a notional design length to a unit on the basis of time estimated for achievement of the stated standards by a candidate whose starting point is as described in the access statement. The notional design length for this unit is 40 hours. The use of notional design length for programme design and timetabling is advisory only.

PURPOSE This unit is designed for candidates employed or intending to seek employment in the travel and tourism industry. It provides the candidate with the opportunity to experience first hand, the travel and tourism product, in order to enhance the candidate's product knowledge and interpersonal skills; both of which are considered vital qualities for employment

in this sector. It is strongly recommended that this unit is only taken by candidates undertaking a cohesive programme of units covering specialist travel and tourism courses.

SQA publishes summaries of NC units for easy reference, publicity purposes, centre handbooks, etc. The summary statement for this unit is as follows:

This unit will enable you to analyse the tourist qualities of a destination area in order to assess its appropriateness for a variety of client types and providing full and accurate information about the destination through desk research and the visit. Working as a member of a team, understanding and demonstrating the inter-personal and self-management skills required to be an employee in the travel and tourism industry.

CONTENT/CONTEXT

Corresponding to outcomes 1-4:

1. **Accommodation: range; different types and grades; location; facilities - including sports and entertainment; room types; meal plans.**

Excursions: day and evening excursions available in and around the resort/area; type, appeal, approximate cost.

Travel information: methods, duration of journey, features.

Miscellaneous information: Bank holidays; banking hours; special events; local craftwork/goods; local food/drink

2. **Accommodation units: hotels/other services accommodation; self-catering accommodation. Information provided: official/other grading; first impressions; number of bedrooms and types; range of facilities; day and evening entertainment for adults and children; dining arrangements; proximity to: other entertainment's; tourist shops; supermarkets; beach/swimming facilities. Location of unit: accurately detailed map; locating unit's position in resort/area in relation to: major landmarks; amenities; public transportation routes; taxi ranks; other accommodation units.**

Suitability: for a variety of clients types including: families with young children or with teenagers; young; groups; special interest, special needs, youth, elderly - consider: access; range of appropriate facilities; location.

3. **Amenities and attractions: areas of natural beauty; historical sites/buildings; sports facilities; theme parks; entertainment facilities; tourist information offices; shopping facilities; cultural attractions.**

Information required type of amenity/attraction; location; entrance charge (if appropriate); child/group/senior./citizen's reduction; availability of information about the amenity/attraction; signage/interpretation: clear? various languages?, catering arrangements (if appropriate).

Accessibility: proximity to candidate's accommodation unit and ease of access by public transport and taxi.

Suitability: ease of access in and around amenity/attraction; range of facilities; language/interpretation; cost; interest value; for a variety of client types including families with young children or with teenagers, young couples; groups; special interest, special needs, youth, elderly.

4. The organisation: one of the following: tour operator; tourist information centre; ground handling operator; theme park; major car rental company; hotel group; car ferry company; large leisure complex; large visitor attraction.

The operation; at least two functions of the organisation should be directly observed. Duties and responsibilities: a comprehensive list is compiled.

APPROACHES TO GENERATING EVIDENCE An activity based, candidate - centred approach is recommended. Work in small groups is highly appropriate.

ASSESSMENT PROCEDURES Centres may use the instruments of assessment which are considered by tutors/trainers to be most appropriate. Examples of instruments of assessment which could be used are as follows:

Outcome 1

The candidate could produce a folio of pre-visit research to cover all the performance criteria. Satisfactory achievement of this outcome is as stated in the evidence requirements section and should be supported by a checklist.

Outcome 2

The candidate could produce a folio of worksheets designed to cover all the performance criteria. Satisfactory achievement of this outcome is as stated in the evidence requirements section.

Outcome 3

The candidate could produce a folio of worksheets designed to cover all the performance criteria. A group presentation would enhance the evidence for this outcome. Satisfactory achievement of this outcome is as stated in the evidence requirements section.

Outcome 4

The candidate could produce a worksheet and an organisation chart designed to cover all the performance criteria. Satisfactory achievement of this outcome is as stated in the evidence requirements section.

Outcome 5

The performance criteria could be assessed against a student profile designed to cover all the performance criteria. Completion of the profile should be negotiated with the student. Satisfactory achievement of this outcome is as stated in the evidence requirements sections.

The assessors should monitor and control the assessment process to ensure its reliability and validity.

RECOGNITION Many SQA NC units are recognised for entry/recruitment purposes. For up-to-date information see the SQA guide 'Recognised Groupings of National Certificate Modules'.

REFERENCES

1. **Guide to unit writing. (A018).**
2. **For a fuller discussion on assessment issues, please refer to SQA's Guide to Assessment. (B005).**
3. **Procedures for special needs statements are set out in SQA's guide 'Candidates with Special Needs'. (B006).**
4. **Information for centres on SQA's operating procedures is contained in SQA's Guide to Procedures. (F009).**
5. **For details of other SQA publications, please consult SQA's publications list. (X037).**

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QUICK START
Company Specific/Job Specific Training Programmes in the United States

by
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Introduction

Quick Start is a short-term training or retraining programme for a new or expanding company or one which must retrain its workforce because of changing technology or production processes used by the company. It is specially designed by a training provider in close collaboration with employers, labour offices and other governmental agencies concerned. It has a proven impact on the economic development of a region and on the competitiveness of an industry.

This paper enumerates the characteristics of a Quick Start programme and focuses on tailoring project management elements to industry-specific training. The preliminary phase of project management involves contact with the company and careful assessment of training needs. In the developmental phase, job analysis, training plan design and selection of trainers are addressed. In the implementation phase, trainees are selected, the training is delivered and results are evaluated. Evaluation at both the course and programme level is recommended to determine whether the project has developed the desired job skills in a cost-effective and efficient manner.

Quick Start programmes enable companies to hire employees who have been thoroughly screened for necessary academic skills and positive attitudes, who have been trained in basic skills, and who have an understanding of the company history and benefits. Companies that use Quick Start programmes find that they save time and money during the crucial start-up period. The programmes contribute also to higher productivity and lower labour turnover rates.

1. The history of Quick Start programmes

The increase in technological development and automation in the United States in the late 1950s - early 1960s rendered many companies' production equipment and methods obsolete. Some of them simply closed their operation and looked for a new location to build a modernized plant which would result in more and better products and higher profit. Companies which were located in the northeastern part of the country sought locations which offered a warmer climate and a better labour supply. With this movement of companies, many States began to see the advantages of attracting these companies to their localities. Advantages such as more and higher wages for their people, the collection of more taxes and therefore more services to the people, higher standards of living and diversification of the economy were recognized as extremely important to the States. Many States and localities began to offer incentives to new companies, such as postponing taxes for several years, free or low cost land, loans for construction and equipment, etc.

In 1958, North Carolina, a largely rural State highly dependent on agriculture for its economy, entered into a massive programme of economic development and an aggressive effort to attract new companies and to encourage the modernization and expansion of existing companies. The governor contacted textile mills in the northeast, urging them to relocate to his State to provide replacement jobs. Some of the mills were interested, but were afraid the largely agrarian labour force would not be ready for industrial work. To ease these concerns, North Carolina promised no-cost training for any firm that would bring new jobs to the State. Customized training for new employees in new jobs was the result.

During the 1960s and 1970s, State economic development programmes, including customized training programmes, were directed mainly at business attraction and expansion. As Stevens (1986) and Ganzglass and Heidkamp (1986) noted, the earliest State-financed, customized training programme started in North Carolina in 1958, and a similar programme started in South Carolina shortly thereafter. In the late 1960s and early 1970s, other southern States such as Alabama, Arkansas, Florida, Georgia, Louisiana, Maryland, Tennessee, Texas, Virginia, and West Virginia added their own programmes. Similar programmes started later in the industrial Midwest and Northeast. They were designed to address manufacturing job losses and compete with other States in attracting and expanding manufacturing investment. Some of them focussed on promoting greater capital investment, with some training funds given for retraining existing employees in companies that were expanding and/or investing heavily in new equipment and machinery.

Some States began to create customized training programmes in part to encourage public educational institutions to work more closely with businesses and to better meet business training needs. One example was the creation of skill corporations, such as Massachusetts's Bay State Skills Corporation (1981), Florida's Sunshine State Skills Programme (1985), Kentucky's Bluegrass Skills Corporation (1984), and Minnesota's Job Skills Partnership (1983). These skill corporations, as well as other State customized training programmes such as Minnesota's Extension and Customized Training Services Unit of the Technical College system and New York's Contract Course Fund, were created with dual missions: to encourage business growth and expansion, as well as improve public vocational education and build stronger relationships between businesses and public educational institutions.

Growing concerns over manufacturing jobs losses in the 1970s and the recession in the early 1980s led other States to create customized training programmes to encourage business expansion and compete with other States for business investment. Such programmes emerged in at least eleven more States. Some States responded to the problems of recession with a special focus on using customized training programmes to retain existing businesses and prevent labour force displacement and unemployment by retraining employed workers. California's Employment Training Panel (1982), Illinois' Prairie State 2000 Authority (1986) and Michigan's Job Opportunity Bank (1985) were some of the earlier State programmes that invested a large share of their training funds in retention and retraining projects.

In the late 1980s, other States created new programmes or redirected existing programmes for business retention and retraining. As the economy improved and in-State businesses demanded more training assistance, many State economic development efforts shifted to business retention and retraining projects. The purpose of these projects was to retain jobs and prevent unemployment by using training funds to assist businesses in restructuring internal operations and in improving company performance and competitive position. New

State initiatives in Alaska, Hawaii, Maine, New York, Oregon and Rhode Island created programmes that addressed both business expansion and retention with training funds used to train newly hired employees, as well as retrain those in employment.

2. Present status

A survey of a representative sample of the nation's businesses by the Bureau of the Census for the National Center on the Educational Quality of the Workforce at the University of Pennsylvania (1995) supports the need for customized retraining programmes. The Pennsylvania study is one of the most comprehensive assessments of actual employer practices in organizing work and in hiring and training employees. The study concerned employer practices, not State programmes, but the findings show State customized training comes a lot closer to meeting employers' demands than traditional school-based training. Among the findings:

State training programmes that aim to help employers retrain existing workers to improve productivity and save jobs are on the right track. Some 57 per cent of employers told the researchers the skills required of front-line workers to perform at an acceptable level had increased in the preceding three years.

Despite much attention to Total Quality Management (TQM), teamwork approach, shop floor management, worker empowerment and other elements of what is known as the 'high performance workplace', employers have a long way to go in practice, and States that provide incentives for the adoption of such practices should continue their efforts. For example, the study found that only 37 per cent of firms reported they had adopted a TQM programme; only 12 per cent of front-line workers participate in self-managed teams.

Employers report one out of five employees is not fully proficient in his or her current job. This finding points clearly to a need for training for existing employees, a growing focus of the States.

Employers prefer a variety of sources for outside training, which is consistent with the policy of most States.

Although the economic role and objectives of State customized training programmes and the historical reasons for their creation vary substantially, all programmes now face increasing demand for upgrading and retraining employed workers. This shift is a result of changing economic development initiatives in States and increasing demands from in-State employers. Increasing programme expenditures for business retention and employee retraining is the most common trend. A vast majority of programmes now contain a mixture of new-hire training and employee retraining.

In recent years, customized training programmes put a strong emphasis on business attraction and expansion. The Pennsylvania study shows that in most States over 35 per cent of funding was used for training in businesses that were new to the State and those that were expanding employment. Some States reported spending as much as 70 per cent or more of their funds on business attraction and expanding employment.

State customized training programmes are very flexible in the types of training that they fund. Almost all State programmes fund basic skills and vocational skills training, including specialized areas such as quality control, teamwork, and safety training. Despite the broad range of eligible training areas, customized training programmes concentrate most of their training expenditures on vocational skills training involving the operation of machines and tools in factory or office settings. Generally 70 per cent or more of funds are spent on vocational skills training.

Most State-financed customized training programmes fund training projects that combine structured on-site training, laboratory training, and classroom training. On-site training refers to training that occurs during the production of saleable goods and services. Laboratory training includes training with tools, equipment and simulated work procedures outside the actual work unit operations. The most common form of training is classroom training in basic and/or vocational skills.

3. Characteristics of Quick Start programmes

The following are the major characteristics of Quick Start programmes:

- **responding to exact industry needs**
- **organizing short-term, intensive training**
- **providing guaranteed employment for participants**
- **conducting job and task analysis for each job**
- **basing instructional content on the job analysis**
- **providing company-specific training (company orientation).**

Most Quick Start programmes provide similar services, although the amount and delivery of these services are determined by specific industry needs. These services are as follows:

Training plan and curriculum: Developing a detailed training plan tailored to the specific needs of the company based on a thorough needs assessment, job and task analysis, development of curriculum and instructional materials and assessment practices focused on preparing individuals for specific jobs.

Training facilities: Providing or arranging for the necessary training equipment and facilities required to implement the training plan. This may involve the use of public, private or industry-based facilities and equipment.

Shared training costs: Developing cooperative arrangements between the company, training agency and governmental organizations to reimburse salaries of company personnel that assist in the development of training materials, instructor salaries and wages for training participants.

Economic training: Training for industry personnel on the enterprise system and the impact of worker productivity on the ability of the company to compete in the marketplace.

Instructor training: Providing Train-the-Trainer workshops for company personnel or private providers with reference to the teaching and classroom management techniques necessary to successfully implement the training plan and ensure participant success in acquiring the necessary skills.

Supervisory training: Providing training for first-line supervisors within an industry in such management techniques as communications, interpersonal skills, teamwork, employee evaluation, production and time management, etc.

Employee screening: Working with the company, training provider, labour office or others in defining the entry requirements for new employees and initiating recruitment, screening and testing of applicants based upon the established criteria for entry into the Quick Start training programme.

Company orientation: Training employees with reference to the company history, culture, organizational structure, products and services, market and customer service philosophy, so that they understand their individual role(s) in ensuring the competitiveness of the company.

Production training: Training production workers at the semi-skilled and technical levels with reference to the special skills and standards required to successfully perform their jobs, based on a thorough job/task analysis.

Quick Start training programmes for new and expanding industries are usually supported fully or in part by government funds. In many cases, funding is shared by more than one government agency and also by the company involved. Elected officials are more apt to provide funding under one of the following two circumstances: the potential cutback or closure of an existing enterprise employing a large number of the region's residents; and the potential for a substantial increase in employment of the region's residents by a foreign company or a domestic enterprise that is considering relocation.

4. Development of the capacity to introduce Quick Start programmes

The main driving force behind Quick Start training is the need and desire for economic development and job creation in a country or region. Business organizations, chambers of commerce and labour offices usually participate in carrying out these development efforts. The need is generally recognized by the Government and a unit is organized to carry out the function. The main tasks of the unit are as follows:

- **Maintaining communication with the regional and local labour offices where applicable.**
- **Visiting and communicating with businesses and industries of significant size.**
- **Assisting these enterprises in identifying training needs.**
- **Mobilizing resources from the national, regional, local, and industry levels to address identified needs.**
- **Referring non-training needs of the business and industrial sector to appropriate agencies throughout national, regional or local government for action.**
- **Structuring and delivering quality education and training services designed to meet the specific, identified needs of the business and industrial sector.**

- **Maintaining effective linkages and service delivery mechanisms designed to be productive in assisting the business and industrial community with current and future training needs.**

Establishing and maintaining ongoing communications and service links with business and industrial sectors including regional and local labour offices, is essential to quality Quick Start training. Such efforts exemplify a partnership between national, regional and local educational agencies and the private sector, through which public and private training services can be effectively directed toward the needs of the region's business and industrial community.

The ultimate goals of the government/business and industry linkage are the ability to respond quickly to the training needs of industry, the improvement of the economic status of the region's business and industrial sector, increased economic development, reduced unemployment and a better life for the citizenry.

Training professionals, personnel trained and experienced in performing the training function in companies are best suited for leadership in the Quick Start effort. However, they might lack the understanding of and commitment to the economic development process of which Quick Start is a part. They may also lack the skills of job and task analysis , instructional or curriculum planning and instructor training in relation to Quick Start programmes. It is essential to train those who will provide expertise in planning, developing, and conducting Quick Start training. These persons must have a thorough understanding of the Quick Start programme and the process. They must also have the skills to perform needs assessment and job analysis, plan curriculum, and implement the training. Specific training for these persons can be provided by the Department of Labour or private training organizations experienced in company-specific, job-specific training.

Companies must be made aware of the availability of Quick Start training and that it can contribute to the success of the company through an appropriate and effective training programme for workers and new employees. To enhance the marketing of Quick Start programmes the training provider should develop a reputation for fulfilling promises, involve, when approaching new projects, satisfied customers and persons who have owned businesses or previously worked in the industry, document productivity improvements and decreased turnover rates that result from Quick Start training programmes and pay attention to such things as speaking the industry's language, listening well and avoiding government or academic jargon.

5. Introduction of Quick Start programmes

The process of introduction of Quick Start programmes involves three phases: Preliminary (the company is provided with an understanding of the Quick Start programme and the overall and customized training needs of the company are assessed; Developmental (job analysis, curriculum design, instructional materials development and trainer selection are accomplished); and Implementation (trainees are selected, training is delivered and results are evaluated).

5.1 Preliminary phase

The preliminary phase includes establishing contacts with the company, conducting a training needs assessment and preparing a training proposal.

Before the company is contacted, some "homework" is required in order to learn about the business - its operations, its customers, its products and services, and its competition. Possible sources of such information include annual reports, credit reports and other company publications. The initial contact with the company may include a telephone call, an office meeting, or a meeting at the company. The purpose is to provide a thorough understanding of the Quick Start programme including how it will operate, what government agencies will provide and do, what the company must provide and do, the expected outcome and its value to the company. In particular, the developmental and implementation phases should be described in detail to the company.

The importance of this initial contact to the outcome of the overall programme cannot be overemphasized. This step also involves learning about the customer's needs and problems, by allowing the company representative to describe them, and determining what the company wants to accomplish through training. A tour of the company's operation will enhance understanding.

The management of the company must be committed to this process and demonstrate their feeling of the importance of the training and the responsibilities of those participating in the planning, development and implementation of the project. It is understandable that any company is primarily interested in obtaining an output of products and services of good quality to meet the requirements of its customers and expects the training programme to provide the appropriately trained workforce to accomplish this. Management will accept the proposal if training is sufficiently flexible and adaptable to allow its principles and methodologies to be applied across the wide range of training requirements that will have to be done in the enterprise.

The training programme must also take account of the aspirations of employees who are the subject of training. They are interested in a training that provides recognition of their skill attainment, either within the enterprise or in relation to the accomplishment of some nationally recognized standard of competency; progressive attainment of higher skill levels in accordance with the individual's capability and desires; flexibility of occupational choice; and an incentive towards self-improvement (increase in remuneration, position, job satisfaction, career potential).

It is essential, during this initial contacts, to identify responsible persons for each phase of the project and to secure the necessary financial support.

Training needs assessment

Managers of industrial enterprises are often hard to convince that they should provide resources for training within their enterprises. They have to be convinced that training can

be an effective tool in improving the product/service output of the enterprise. It follows therefore, that an investment in training must be demonstrated as providing the solution, in whole or in part, to problems that affect the output of the enterprise. The need for training within an enterprise can be defined in these terms:

> ***a training need exists when problems are identified within an enterprise as being solvable, in whole or in part, by the application of systematic training.***

The training and/or recruitment of personnel by an industrial enterprise is only undertaken when it is seen as contributing to the solution of problems that the organization faces in efficiently and effectively delivering its products and/or services to the marketplace. Training needs are identified at three levels: departmental/sectional, occupational and individual. Some of the common symptoms of problems that may suggest training needs in an enterprise can be as follows: low production output; low standards of work performance (work must be redone, failure to meet deadlines, frequent errors); poor utilization of machines and equipment (damaged equipment, high accident rate); waste of material (high level of scrap).

Training proposal

A formal written training proposal is developed, based on the needs assessment, which translates the identified company's training needs into a plan for achieving the desired results. It is the initial document wherein a settlement is reached in terms of the overall blueprint for training. The proposal includes the identification of the jobs to be addressed through training, the number of workers to be trained, how the training will be implemented, proposed time frames and a detailed budget for completing the work.

After the proposal has been accepted or an oral agreement has been reached, it should be committed to an agreement signed by the officials representing the three parties. The agreement is a way of defining the limits of what each partner will be expected to do. It will stipulate clearly the roles and responsibilities for everyone involved. The agreement specifies such items as: objectives of the programme, who will be trained and the number of trainees, timing and place of training, designation of instructors, responsibilities of the partners (training provider, company and labour office) costs involved and payment methods.

5.2 Developmental phase

The developmental phase includes the following elements:

Designation of project staff.
Conducting job/task analysis.
Developing a training plan.
Developing or selecting training materials.
Selecting trainers.

The company's close cooperation with the training provider at this stage is essential. By

designating a person who will serve as contact and advisor throughout the developmental and implementation phases the company demonstrates its commitment to the project. Specific staff are identified to work on the project, including representatives of the labour office (if applicable), training provider and company personnel. Responsibilities of each party are clearly defined and agreed.

Job/task analysis

The traditional approach to specifying training content involved general course outlines. Of the problems inherent in such an approach, irrelevance to actual job requirements was of prime concern. For this reason, training developers have increasingly moved towards more specific training descriptions using job/task analysis to provide a sound basis for designing training. A thorough job analysis is the first step towards determining training content in the Quick Start programmes. Its major purpose is to ensure that the training programme addresses skills, behaviours, and knowledge requirements which are essential for job performance.

The job/task analysis data should be assembled into a manual or reference guide to be presented to the company and left with it for future use. Three major assumptions should guide the job/task analysis process:

- **Any job can be described in terms of the tasks performed.**
- **Each task, in order to be performed correctly, requires certain skills, knowledge and behaviours.**
- **Expert workers and supervisors can define and describe their jobs more accurately than anyone else.**

The terminology used when conducting the job/task analysis is as follows:

Job: a collection of tasks performed to produce a product or service.

Duty: a cluster of related tasks which describe an area of work. A duty is a segment of the total job.

Task: a unit of work having a definite beginning and ending, containing two or more performance steps, which when properly performed results in the completion of a product or a process. A task has a performance standard that can be defined, described, and verified.

Performance Steps: the sequential actions required to complete a task.

Performance Standards: the criteria used to determine if a task has been performed successfully or unsuccessfully.

The following steps involved in the job/task analysis provide a detailed explanation of the process.

Step 1 - Collect Data

A number of techniques are available for gathering information. They vary in their complexity and ability to analyse a wide range of jobs. Some of the most often used techniques are:

Observation. **This technique is effective for jobs involving repeated manual tasks over a short time cycle or sequence such as production work or skilled trades. The end results of tasks are readily apparent.**

Interviewing. **The employee and the supervisor provide job information. The interviews are structured to ask open-ended questions 'who', 'what', 'when', 'how' and 'why'. Usually, several employees are interviewed to increase the reliability of the information.**

> ***Note:*** **When interviewing employees, the interviewer should ask questions which require the worker to describe or demonstrate the tasks, tools, equipment and work aids used. Questions should be open-ended to encourage the worker to respond in detail and in the order that the tasks are performed on the job. The interviewer should avoid unnecessary or repetitious questions and should clarify questions that are not readily or easily understood.**

Supervisory conferences. **This technique is used when a company is just starting up or changing its operation or when employees are not able to provide meaningful information. The manager or supervisor is asked questions about the work to be performed. Engineering documentation or specifications for the process or product can be useful in preparing for these interviews.**

Questionnaires. **Employees respond to written questions by providing narrative descriptions. The questionnaire must cover all the data categories to be collected. The employees decide what and how much detail they will provide.**

Checklists. **This technique has advantages over a questionnaire because the employee is guided through a complete listing of job information. The disadvantage is the advance preparation required to ensure a thorough listing. The employees simply check off the information that applies to their jobs.**

Branching. **Jobs that include troubleshooting procedures may require branching to adequately define tasks and performance steps. Branching involves breaking down general task statements into all the various solutions to problems or alternative procedures available until the problem is identified and solved.**

Whatever technique is used to collect information, the following data are required and should be collected in this order:

1. **Step-by-step tasks performed from start to finish.**
2. **Tools and equipment used.**
3. **Work aids used (written instructions, guides, rules, etc.).**

4. Working conditions (physical effort required, work environment, safety hazards).
5. Knowledge, skills, and abilities needed to perform at a satisfactory level.
6. Behaviours and personal characteristics required for satisfactory job performance.
7. Frequency of task performance and its importance to overall job performance.
8. Degree of difficulty of the task performed.

Step 2 - Developing task and duty statements

After the data have been collected, the tasks are developed into task statements. A task statement reflects an independent unit of work. It should be written in such a way that it is clear, concise, comprehensive and complete. The following "rules" are usually guide the formulation of task statements:

- **to begin with a present-tense verb**
- **to write in job-relevant terminology without abbreviations**
- **not to use qualifying words or phrases such as 'when appropriate', 'as required', 'in accordance with prescribed directions', 'proper', etc.**

Task statements should be grouped and sequenced into logical units of work: duty statements. It is easier to develop training plans when tasks are sorted under their related duty. Examples of duty and task statements are in Box 1.

Step 3 - Selecting tasks for inclusion in training

Each task must be examined to determine which are the most worthwhile to be included in the training programme. All or part of the following factors may be used to determine which tasks are appropriate for further analysis:

- **The percentage of workers who perform the task.**
- **The percentage of total work time spent performing the task in relation to the total job.**
- **Probability of deficient performance (the likelihood that the task will be frequently performed unsuccessfully).**
- **Consequences of inadequate performance (the degree to which unsuccessful performance would**

Box 1: Examples of duty and task statements.

Job Title:	Industrial Mechanic
Duty:	Maintain and Repair Heating and Cooling Systems.
Tasks:	Calibrate and adjust thermostat Lubricate air compressor Disassemble/reassemble air compressor Install air compressor Install fan guards and mesh covers Replace mechanical roof ventilators Clean and lubricate fans/ventilators Calibrate and adjust airflow controls Calibrate and adjust humidistats Calibrate and adjust pneumatic controls Calibrate and adjust pressure controls Replace air filters
Duty:	Maintain Boilers
Tasks:	Replace/install pipe insulation Replace/install check valves on waterfeed systems Replace/install cleanout plugs Install strainer/water filter Install piping and fittings Install exterior tubing and fittings Install/replace steam traps

adversely impact personnel, equipment, or duty accomplishment).

- **Task learning difficulty (the amount of time required and the difficulty that workers have in learning to perform the task).**

Step 4 - Developing performance standards

Standards of performance must be identified for each task. The performance standard communicates to the trainee how well the task must be performed. The standards should be based on the level required for acceptable performance. The performance standard is stated in terms of quality and/or quantity and should describe what the product should look like/must not look like, key points in the process, the degree of accuracy required and time limits for completing the task. The time limit, however, should never be the only performance standard. It should be accompanied by quality requirements. If time is not a critical element, it is not be included in the standard. Examples of performance standards are shown in Box 2.

Box 2: Examples of performance standards:

- The circuit board must operate within the tolerance of the circuit design.
- The estimate must be within 5 per cent plus or minus of the final amount.
- The installation must be complete and each conductor must be terminated according to the schematic drawing of the design.
- The belt must have a deflection of between 1/2 or 3/4 inch.

Step 5 - Defining performance steps

Performance steps are a series of operations required to complete a task. They are defined for each task to determine the knowledge, conditions, materials, tools, equipment, and safety considerations. Performance steps serve as outlines from which instructional materials and test items can be developed. Some of the guidelines for writing performance steps are as follows:

- **Use the worker's language and record the activities concisely.**
- **Locate the beginning and ending points for the execution of each step.**
- **Record the steps in the sequence most commonly followed on the job.**
- **Note if strict adherence to a specific sequence is critical.**
- **Avoid overly redundant explanations.**
- **Begin each step with an action verb.**
- **Do not record explanations of the expected results.**
- **Identify the tools, equipment, and work aids utilized.**
- **Note all personal safety precautions and environmental considerations involved in each step.**

Step 6 - Identifying tools, equipment and work aids

A list of the tools, equipment, and work aids required to carry out all tasks is developed at the time of defining performance steps. The following definitions should be used when preparing this list:

Tools: **hand-held implements used to change or move materials. Includes all common and special purpose hand tools as well as those activated by outside power sources such as electricity or compressed air. Examples are pneumatic hammers, cutting torches, electric**

screwdrivers, electric cutters, paint spray guns.

Equipment/machines: **devices that are combinations of mechanical parts designed to apply force to work or move materials, process data, generate power, communicate signals, or to have a specific effect upon material by applying light, heat, electricity, steam, chemicals or atmospheric pressure. Examples are printing presses, drill presses, casting machines, forging machines, conveyors, hoists, locomotives, automobiles, adding machines, typewriters, ovens, forges, cameras, generators, switchboards, radio transmitters, signal light systems.**

Work aids: **miscellaneous items and supplies that cannot be considered equipment or tools but are required to perform tasks. Examples include technical manuals, flow charts, blueprints, procedures. Expendable items such as office supplies are normally not listed unless they are absolutely critical to job performance.**

Step 7 - Identifying knowledge, skills, abilities, and attitudes

Each task and performance step must be analysed for the minimum knowledge, skills, abilities, and attitudes a trainee must possess to successfully complete the task. Because these types of requirements cannot be readily observed, the following examples of questions help to identify this information:

- **Is knowledge of terminology required?**
- **Is knowledge of the location or existence of parts or components required?**
- **Is knowledge of the operation of specific tools and equipment required?**
- **Is the interpretation of symbols or signals required?**
- **Which mathematical calculations are required?**
- **Are problem-solving, diagnostic or troubleshooting techniques required?**
- **Is the knowledge of cause and effect required?**
- **Is planning or anticipating events required?**
- **Is the selection of strategies required?**
- **Must the task be performed according to briefing instructions?**
- **Is knowledge of the reason for a procedure required?**
- **Is it necessary to communicate in certain ways?**

Step 8 - Identifying safety hazards and conditions

The conditions, circumstances and various situations in which the task is performed must be described while analysing tasks and performance steps to determine any safety hazards, physical efforts or environmental conditions that may cause injury to the worker or others, result in damage or destruction to tools, equipment, and materials and prevent successful completion of the task.

Training plan development

The training plan may now be designed based on the job/task analysis data. This process

yields a sequential method for delivering training. The training plan format is just one of many used in education and training programmes. The format chosen depends on the need. However, the plan must represent a thoughtful systematic approach that reflects the following components:

- **Sequencing of task statements in the most logical flow of instruction (from basic to complex).**
- **Identification of each training lesson in terms of tasks addressed.**
- **Identification of a performance standard that represents the final outcome of the instruction for each task.**
- **Listing of the tools, equipment, materials, and work aids required to perform each task.**
- **Listing of the performance steps that indicate the correct way to accomplish the task (for manipulative skills).**
- **Identification of the required knowledge to accomplish each task.**
- **Identification of appropriate instructional activities designed to impart the required knowledge.**
- **Instructional resources for each instructional activity.**

Developing or selecting training materials

When possible, training materials should be developed specific to the job for which training is to be provided. Job and task analysis data should be used to identify and construct such material, particularly handouts, job sheets, information sheets and assignment sheets.

Printed, published, or materials developed by others should be reviewed carefully to ensure that the content is directly related to the job or task. Care should be taken not to rely upon, or use general or extraneous published material which is not directly related to the task being taught.

Selecting instructors

Another key element of the Developmental Phase is the selection of instructors. Instructors should be selected with care. The most essential requirements for instructors are knowledge of the subject; ability to work with adult learners and practical work experience. Most Quick Start training programmes use company personnel as instructors, especially, for the practical skill part of the programme. There are certain advantages in using company instructors, as they already know the company's production process and technology. All company instructors should be given Train-the-Trainer sessions with the aim of teaching the selection and efficient use of the various instructional tools and techniques and developing leadership skills. Some suggested areas to be covered in this training are:

- **Understanding job/task analysis and using this information in teaching practical skills.**
- **Developing course agenda and lesson plans that can be used to guide the instructional process.**
- **Using teaching aids, such as audiovisual materials and equipment.**
- **Planning classroom teaching that is directly related to the skills and knowledge of the job.**

- **Presenting new material to adult learners and responding to their needs.**

All elements of the Developmental Phase are interrelated. For example, instructors can often be selected first and then given responsibility for the job/task analysis and assisting in training plan development.

5.3 Implementation phase

Trainee recruitment, screening and selection

The regional or local labour office is primarily responsible for recruiting potential trainees and for the initial screening of the applicants. In most cases, final selection of trainees is a joint effort of the labour office and the company. The recruitment of candidates is done through reviewing files of unemployed persons registered in the labour office, as well as by using radio, television and newspaper announcements, placing posters in places frequented by local people, etc.

On the basis of the job analysis, the company and the labour office agree upon the basic educational requirements, physical abilities, aptitudes, interests, and attitudes required for the job. The final selection is done through testing, interviews, analysis of previous work experience of the candidates. The company and the training provider assist the labour offices in the final selection of the trainees.

Training delivery

The model of actual training delivery selected depends upon a number of factors, including the nature of the training, the availability of public or private training facilities, availability or access to specialized tools and equipment used on the job, the desirability of using the actual work site for practical training, and/or the ability to simulate the work site at other locations.

Most Quick Start programmes include both theoretical and practical instruction as defined through the job/task analysis. As such, the theoretical component can be done at a remote site. However, the practical component is most often delivered at a specialized training facility or within the company itself. Whichever model is utilized, it is important that the trainees gain experience on the actual equipment and process used on-the-job.

When developing instructional activities, consideration must be given to the trainees' ability levels, education levels, varied learning styles, individual interests, and emotional needs. All instructional activities should be designed to provide trainees with experience in successful task performance. Methods of instruction include the commonly known means of teaching/learning: lecture, discussions, investigation, questioning, demonstration, practice (classroom and on-the-job), evaluation (written and performance). Attempts should be made to use modem technology such as television, computers and videotapes as much as possible. Instructional activities should also be adapted to large groups, small groups and individuals. Within the Quick Start approach, successful job instruction depends on the

efficient use of formal classroom (theory) teaching and, especially, on-the-job training portions of the programme.

The training timetable is developed for the programme taking into account the following factors:

- **The urgency of the training as determined by the original training need.**
- **Number of trainees involved.**
- **Time required to train staff to develop the training programme.**
- **Time required to develop instructional activities sufficient to start the course and to allow enough lead-time for developing the remaining activities.**
- **Time required to prepare learning stations or schedule practice activities.**
- **Time(s) when any required production equipment can be made available to trainees.**
- **Times when instructors will be available.**
- **Time required to implement training for each task (theory and practice).**
- **Time required to implement the entire training programme (theory, practice and on-the-job).**

Company orientation programme

Training materials should be developed and included in the training programme to inform the trainee about the company, its history, organizational structure, policies, rules, benefits and management. Information regarding the company's products or services, and how the job the person will do contributes to the company's products or services, to its success and satisfaction of the customers should also be part of the company orientation programme. Providing information of this type helps the employee have an understanding of his or her role in the company, how each employee is important to the company, and helps create a sense of loyalty and belonging on the part of the employee. The company will need to provide this information and company management personnel is usually used to present it to the trainees.

6. Evaluation process

Quick Start training should be continually evaluated and revised, particularly when new equipment and technology changes occur. Evaluation is done at two levels: course evaluation and programme evaluation.

Course evaluation includes instructor and trainee assessment as well as evaluation of the course by the trainees to determine how well the training content is being received. Evaluation of instructors should measure such items as communication and teaching skills, knowledge of the subject, and organization of the training. Evaluation of trainee skills and knowledge acquired from the course is one of the most critical steps in the training process. Trainee mastery of the skills, knowledge and abilities outlined in the job/task analysis and the performance standards must be assessed adequately. Consideration should be given to constructing testing situations that assess the three domains of learning: manipulative skills, knowledge and work behaviour.

Evaluating manipulative skills

A useful method for determining the level of a trainee's skills is a performance test. A skill or task is specified and the trainee performs the task using certain required materials and equipment. The evaluator is concerned with measuring process, product, or both. Two types of instruments are most commonly used:

A checklist - to evaluate process (procedure or steps used to complete a task). It contains a detailed list of steps that must be followed in order to accomplish a task properly. The evaluator simply checks designations such as 'yes/no', 'adequate/inadequate', or 'accomplished/not accomplished'.

A rating scale - to evaluate product (the end result or completed project). A rating scale evaluates the quality of the completed product by the following terms: 'unsatisfactory', 'satisfactory', 'good', or 'excellent'.

Evaluating knowledge

Knowledge includes such items as facts, data and related information necessary to perform a task. Tests that measure knowledge contain items that can be classified into two basic categories: recognition and constructed response. Types of recognition tests are 'multiple choice', 'true/false', 'matching' and 'completion'. Types of constructed response tests include 'essay' and 'short answer'. If recognized certifications based on established qualifications and standards exist for the jobs being addressed through Quick Start, these standards and content must be addressed in the job/task analysis process. The trainee evaluations should also adhere to the established certification procedures for the job.

Evaluating work behaviour

Beliefs, feelings, and values affect work behaviour. In customized training programmes, trainers must include concepts, which will help trainees develop a set of attitudes and work values to become competent workers. It is difficult to identify bits and pieces of desirable behaviour for every learning unit and often harder to teach them. Therefore, trainees must be judged on such behaviours as how well they clean up their work area, whether they show up for work on time, or whether they must be told several times to do something. Evaluation devices to assess trainee work behaviours may include such tools as observation checklists, rating scales, interviews, problem solving or case studies, panel discussions questionnaires and inventories.

Programme evaluation

The Quick Start training may develop the right skills and competencies yet administrative or financial problems could keep the overall programme from being a success. The principal suggested items for the programme evaluation may include average cost per trainee and per hire, rate of training participation, effectiveness of liaison between the cooperating parties, quality of the programme plan, training organization and management. Some indirect impacts of the programme can also be evaluated, such as the increase in jobs for the

population as a whole, for unemployed and underemployed groups, estimated return from wages paid to residents increased tax revenues higher demand for various service industries. Although it is impossible to pinpoint exactly the impact of customized training programmes on economic development but estimated figures should provide an idea of how well the programme is working.

Because the programme development process is cyclical, results of both course and programme evaluation can be used for programme improvement. The results should be made available to the persons involved for decisions about future courses and for further development of the total programme.

Conclusions

Industry-specific or customized training programmes are continuing to receive the enthusiastic support of national, State and local governments as they attempt to promote high-quality employment opportunities for their citizens. An important by-product of customized training programmes has been the recognition of training as a critical part of economic development policy, especially for job retention. Many countries now have industry-specific training programmes. Increasing economic pressure will cause them to expand their programmes to attract new business and industry, expand existing industries and retain existing companies and jobs. More vocational and technical education institutions will develop programmes tailored to business and industry needs. Quality in the workplace is once again of high priority and must be reflected in the specificity, depth, and effectiveness of customized training programmes. Funding for Quick Start training programmes should be regarded an investment. Not only will it contribute to the improvement of the quality of life for people but also the cost will be recovered to a great extent in the form of increased wages, an improved economy and additional taxes from both industry and its employees. Quick Start approach, as defined in this paper and as implemented in the United States has proved to be effective and defensible in designing quality training. The main advantages of this type of training are:

> **The training programme is a cooperative venture between the company, governmental body and training provider. It is designed to be the most effective means of training employees to perform specific jobs, or new entrants for the newly established or developing companies. It can be organized at a short notice with intensive short-term training and a substantial degree of flexibility in implementation.**
>
> **Training is based on real needs, explicitly defined in terms of what is required to correct deficiencies in employee performance on the job. Skills and competencies acquired by trainees are derived from actual job roles and explicit analysis of those jobs.**

The major issues confronted in the design and delivery of Quick Start programmes are listed below.

1. **To demonstrate effectiveness of the programme in a new setting external funding is important which should be followed by an agreement on some "mix" of funding support from the company, government and participating agency.**
2. **The labour policy-making body within a government must demonstrate commitment to the effort and take responsibility for coordinating the various elements of the Quick Start programme.**
3. **Incentives should be defined in terms of convincing companies to participate in the initial programme. Once the initial programme is completed, the results will "sell" the programme.**
4. **A major focus of the Quick Start programme is local capacity building. Participation of the labour agency staff, company representatives, along with the training provider, in the development of the programme at the company level, including the actual conduct of the job/task analysis and training plan development, ensures the capacity to continue after the initial funding and assistance is gone.**
5. **The roles of all economic development and associated agencies need to be clearly defined in terms of their involvement and participation in the programme.**
6. **Government "red tape" needs to be minimized to allow the programme to function in an effective and timely manner, to respond to training needs as they arise.**
7. **Continuity of leadership in the process is important to achieve sustainability of the programme.**
8. **Agreement must be reached early in the programme's development in terms of requirements for participating companies to hire qualified programme completers.**

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