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VOCATIONAL TRAINING

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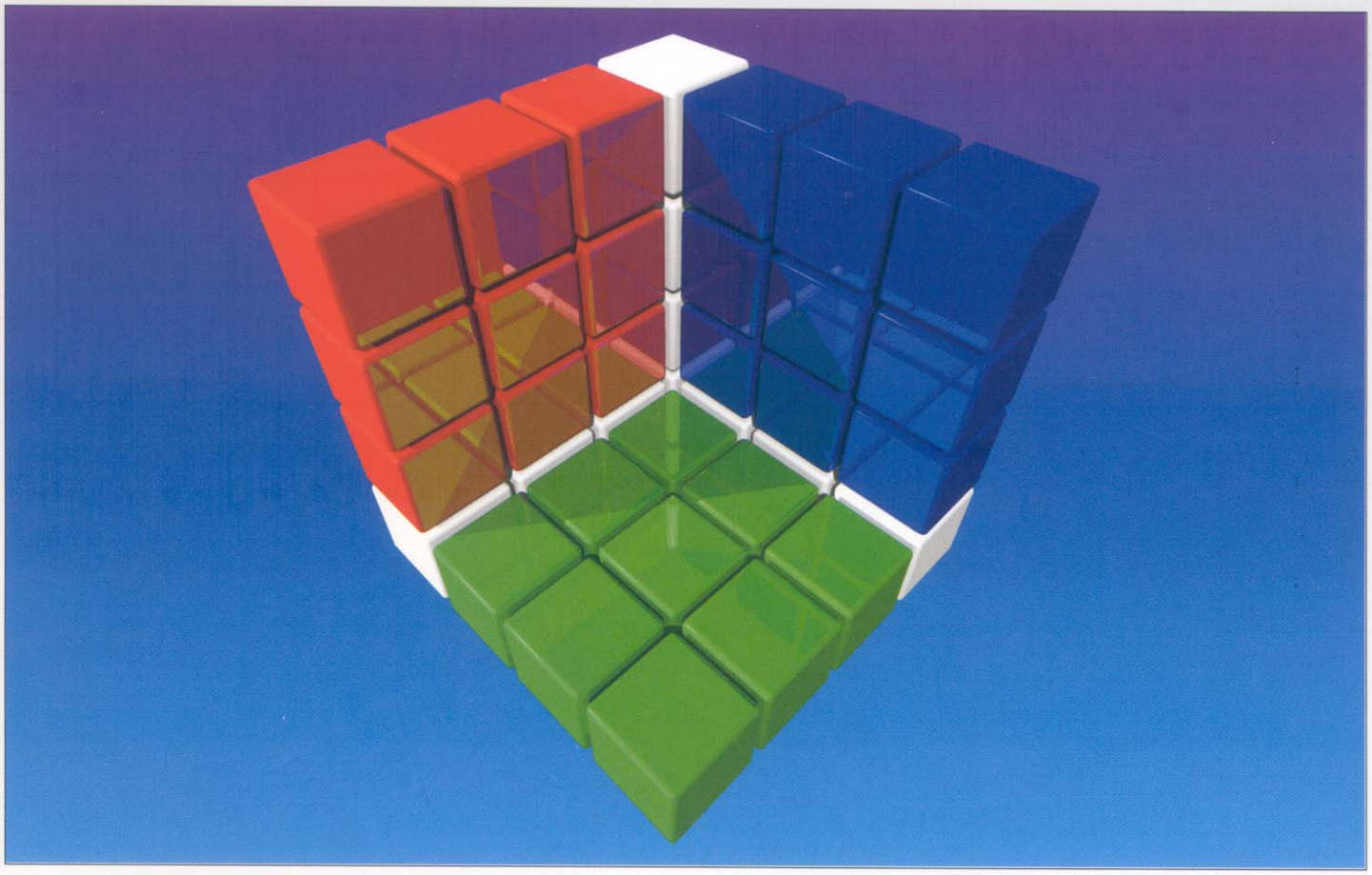
Pedagogic innovation



Pedagogic innovation

Trends in the function of training

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Reading

Continuing Vocational Training in the Countries of the European Union

- Diversity of Functions and Special Problems

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The following remarks are based on the European Report (1) which was compiled on the basis of national reports (2). The latter were commissioned as part of the Force programme that has since been replaced by the Leonardo programme. The national reports describe the current state of continuing vocational training in each of the Member States and discuss the measures taken to implement the common general guidelines (Art. 5 of the EC Council Decision of 29 May 1990) in each country.
In the following article an attempt will be made to reduce the (almost incredible) complexity and diversity of continuing vocational training in the countries of the European Union to a few areas and a few ways of approaching problems and solutions.

The pace of economic, social and technological change has gained momentum in every country of the European Union, making people more aware of the strategic importance of continuing vocational training. The main aim of the Force programme was "to have an impact on the quality and availability of continuing training throughout the EU: (it sought to encourage) increased investment in in-company continuing training and (to provide) more access to continuing training for employees". If we look at attendance rates and the amount spent, we see that growth rates in continuing vocational training are especially high in all countries. At the same time, we also see that continuing vocational training means very different things in different countries. It was not without reason that the Force programme took a very broad definition of continuing vocational training, describing it as "any vocational education or training measure that an employee participates in the course of their working life".

Definition of continuing vocational training

The limited space afforded by a journal article does not allow us to look in detail at the vast range of definitions that exist for continuing vocational training. Nevertheless, attention should be drawn to a few particular points. For example, in Spain continuing vocational training provides an opportunity to upgrade or adapt skills, knowledge and qualifications and is restricted to employees whose vocational training is fully or partially financed by employers. While this may be a narrow definition with regard to continuing training participants, it is relatively broad with regard to forms of continuing vocational training. It also takes in basic general education, which in other countries (e.g. Belgium and the Netherlands) is not covered by the term continuing vocational training. In Denmark, continuing training is a very broad concept, encompassing not only continuing vocational training but also general education.

The relationship between initial vocational training and continuing vocational training is likewise very different in the various countries of the EU. It greatly depends on the form and status of initial vocational training in the respective country. In Germany, Denmark and Luxembourg, there is a strict distinction between initial training and continuing training because in these countries initial vocational training comes into the category of youth training and the majority of young people by far receive some form of initial vocational training. This then results in e.g. continuing training taking place after completion of initial training and after entry into the work force in Germany. The situation in Portugal and Greece for example is quite different. Only relatively few young people in these countries enjoy the benefit of initial vocational training and for this reason initial vocational training for adults is considered part of the continuing vocational training system.

Just as interesting are the fluid dividing lines and the different relationships be-

In all countries, continuing training more or less fulfils the following functions:
- ❑ ***Updating***
- ❑ ***Innovation***
- ❑ ***Upgrading***
- ❑ ***Catching up***
- ❑ ***Curative***
- ❑ ***Preventive.***

tween continuing vocational training and general continuing training in the various countries. In Denmark, a country with a long tradition of adult education, general continuing training is a form of continuing vocational training, while in other countries (e.g. Luxembourg, Ireland, Portugal), continuing vocational training is restricted to vocational courses in the more narrow sense. Regardless of how "elastic" the term is or what the definition of continuing vocational training might be, the crucial factor is that whatever form continuing vocational training takes, it should provide the fastest, most pragmatic and systematic solution possible to employment and labour market problems.

Functions of continuing vocational training

Before outlining the various solutions and approaches to continuing training in Europe we should take a more systematic and detailed look at the functions continuing vocational training fulfils or is supposed to fulfil. These functions were mentioned more or less in all reports and included:

- ❑ Updating
- ❑ Innovation
- ❑ Upgrading
- ❑ Catching up
- ❑ Curative
- ❑ Preventive.

The best way to guarantee the preventive nature of continuing vocational training is to make sure that it includes core skills.

Among all these functions, updating is no doubt particularly important - in all countries and in all enterprises. With change taking place in society, economics and technology as fast as it is, updating training (as an expression of the updating function) shows the highest growth rate.

Upgrading is also mentioned in most of the national reports, although it is given very different names: "extension of qualifications" (Belgium and Luxembourg), "career improvement" (France), "additional continuing vocational training" (Denmark), "upgrading training" (Germany), "improvement training" (Ireland), "vocational improvement" (Portugal). Since social mobility and the upgrading processes that accompany it are typical features of a modern industrialized society, continuing training acts as a "stirrup" to a certain extent.

In contrast, the innovative role of continuing vocational training was mentioned relatively rarely in the national reports. So far the outlook of the general public has not been influenced by the fledgling relationships between organizational development and personnel management in enterprises. More and more frequently continuing vocational training - as a core component of personnel management - is assuming a pro-active relation to organizational development. It is no longer being used simply to update knowledge and skills in order to react effectively. In other words, continuing training is being incorporated innovatively to shape work organization and work processes.

Catching up on qualifications through continuing training, an important function for the labour market, and the equally significant curative function are the expression and result of a risky flaw in policy for the initial vocational training of young people. Catching up and curative functions in continuing vocational training are, consequently, particularly important in those countries (e.g. Greece, Italy, Portugal and also the United Kingdom) where only a relatively small proportion of young people enter the work force by way of formal initial vocational training.

The example of the "new" *Länder* in the Federal Republic of Germany where unification created a new demand for continuing training has shown that it is not easy to implement the preventive function in continuing vocational training. The best way to guarantee the preventive nature of continuing vocational training is to make sure that it includes core skills.

Internationalization of continuing vocational training

The European Union is an amalgamation of autonomous states with each their own culture and language; this gives rise to the possibility and the need for an internationalization in initial and continuing

training, among other things. The programmes of the Task Force Human Resources - Erasmus, Comett, Lingua, Tempus, Force, Petra and Eurotecnet - no doubt made an important contribution towards internationalizing training and prompting transnational learning processes. Nevertheless, there are relatively few continuing training projects with an international accent and a European bias. This applies especially to the large EU Member States, while in the smaller Member States (e.g. Denmark, Luxembourg and the Flemish community) international elements are much more common. Luxembourg is a particularly good example of a country whose geo-economic situation has been crucial in making the country more international. This is also apparent when it comes to continuing vocational training in Luxembourg: one third of continuing vocational training participants in Luxembourg are non-Luxembourgers. With a high percentage of the population multi-lingual (Luxembourgian, German, French and English) as a result of the emphasis given to language-learning in their education system, many Luxembourgers take advantage of continuing training offers from neighbouring countries and of distance learning courses from other countries in the European Union. For most countries, unfortunately, exchange and cooperation are hampered, at least partly, by language barriers.

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Surge in expenditure for continuing training

As mentioned above, more and more importance is being attached to continuing vocational training. Over the last decade, there has also been a marked increase in the amount spent on continuing training. For example, in Belgium (in the Flemish community), the employment authority VTAB has increased its expenditure on continuing training by 65% since 1987. From 1989 to 1990 Portugal doubled the amount it spent on continuing training, while in Greece the continuing training budget was estimated to have increased fourfold between 1988 and 1990. In this context it should be noted that the latter two countries in particular drastically need to catch up on vocational training. In other countries, too, however, there has been a marked increase in the amount spent on continuing training both by enterprises as well as by governments and other public channels. This was confirmed in the national reports of countries such as Germany, France and the Netherlands.

In most European countries, labour market-oriented continuing training for the unemployed is mainly state-financed or quasi state-financed (e.g. through contributions paid by employees and employers). In contrast, enterprises in all countries normally finance the continuing training of their employees themselves. This applies in any case to any updating training they instigate, and this certainly makes up the greater share of in-house continuing training. In some countries enterprises are encouraged by law to spend certain minimum amounts on the continuing training of their staff. For example, in France a law dating from 1971 stipulates that as of 1993 enterprises must spend 1.5% of their total payroll on continuing training (originally it was 0.8%). A similar regulation has existed in Greece since 1988, stipulating that a company must spend at least 0.2% of its total payroll on continuing training. A national collective agreement raised this sum to 0.4% in 1991, but the higher amount has not yet come into force.

Over the last decade, there has also been a marked increase in the amount spent on continuing training.

Role of enterprises and institutions of higher education

In spite of differences from country to country, enterprises play a major role as suppliers (and organizers) of continuing vocational training in (almost) every country of the European Union. This does not apply to quite the same degree in Denmark where a long tradition of adult education has contributed since 1960 to a relatively highly institutionalized system of continuing training including continuing vocational training with the state demonstrating more (financial) commitment than is the case in most other EU Member States. Consequently, in Denmark private suppliers of continuing vocational training play a less significant role than in the other Member States.

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If we are to examine the part that institutions of higher education play in continu-

With the unemployment rate as high as it is in the European Union, the reintegration of long-term unemployed into the work force has top priority in the vocational training policies of all countries.

ing vocational training, we should take a closer look at the United Kingdom and France in particular. The principle of the open university has sparked off a remarkable development in Great Britain. In 1990 there were more employed adults enrolled in open universities (237 000) than "normal" young students enrolled at institutions of higher education (232 000). In France, too, institutions of higher education are playing a more and more important role as suppliers of continuing vocational training. In 1991 more than 300 000 participants took part in continuing training events at French universities.

Special problems and attempts to solve them

With the unemployment rate as high as it is in the European Union (exceeding 19 million), the reintegration of long-term unemployed into the work force has top priority in the vocational training policies of all countries. In this context it is worth bearing in mind that poorly qualified and unskilled workers are more likely to be threatened by unemployment and have the hardest time finding a new job. Programmes in national vocational training and employment schemes (e.g. in Spain and Portugal) try to address this problem. Other programmes (e.g. in Belgium, Denmark, France, the Netherlands and Germany) focus not only on the lack of vocational qualifications, but also attempt to close the gaps in the target groups' basic education so as to ensure that participants will complete their continuing training successfully.

Especially in Germany, many pilot projects sponsored by the Federal Ministry of Education and Science (now called the Federal Ministry of Education, Science, Research and Technology) to teach vocational qualifications to adults who have never completed any vocational training have shown that support and accompanying measures have a major impact on the success rate of continuing training schemes. In some cases the consultancy and accompanying measures go as far as the application for a job process and reintegration into the work force (Belgium, Denmark). In France special attention is paid to helping unskilled and semi-skilled workers acquire diplomas and certificates. The GRETA (Groupements d'Etablissements) play an important role in this respect. They are an organization of continuing training institutions which specifically offer continuing training for public service employees and the unemployed. The Job Switching System in Denmark, a scheme that tries to kill two birds with one stone, also deserves a special mention: when a company sends a member of its staff to continuing training, it receives a certain amount of money if it employs someone who is unemployed to do the work of the staff member while he or she is away. Moreover, continuing training to prepare the unemployed person in question for the job can likewise be subsidized by the state as part of the so-called AMU system.

In addition to the unemployed, unskilled and semi-skilled workers, women are another prime target group for special vocational training schemes. In every country of the European Union women are under-represented not only in the work force but also in continuing training. The reasons for this are many and varied. Their double role as worker and mother is frequently the main obstacle to them participating in time-consuming and long-term continuing training schemes. In all Member States steps have been taken to improve the offer of continuing training for women on the one hand and to make it possible for them to attend such programmes on the other. The focus here has been on:

- ❏ creating educational facilities and continuing training offers specifically for women
- ❏ giving financial assistance to enterprises that train women in typical male trades, in other words for technical occupations
- ❏ giving financial assistance to suppliers to adapt continuing training programmes to the special circumstances and needs of women
- ❏ setting up special job and continuing training consultancy services for women
- ❏ conducting continuing vocational training support measures such as women-friendly timetables, child care, etc.

❑ conducting special measures for women wishing to re-enter the work force (vocational reactivation schemes).

Summary

The results of the study on a Force project outlined in this article indicate that continuing vocational training is an extremely dynamic and differentiated field of action within vocational training policy in the countries of the European Union. What continuing vocational training is available and how Europe's citizens make use of it are crucial factors for the population's careers and social development. For enterprises, continuing vocational training is the core element of their personnel development and thus the basic requirement for efficiency and competitiveness. As such it is also a vital factor in the economic development of Europe as a whole. Continuing vocational training is more rooted in national traditions and practices than other areas of education. Consequently we find a wide range of different approaches in the face of transnational problems and continuing training objectives.

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Good and bad use of open and flexible learning: findings of recent UK case studies

The paper draws on a study carried out by Ernst & Young management consultants on behalf of the UK Employment Department in 1994/95. The study involved a review of the experience of three representative Training and Enterprise Councils in introducing open and flexible learning (OFL) programmes as complements to their more conventional training programmes.

The study evaluated the relative cost-effectiveness of OFL for the TECs in terms of reduced unit costs, greater effectiveness in achieving jobs and qualifications, and improvements to the local learning infrastructure.

The study concluded that OFL had achieved 10-50% reductions in unit costs, significant improvements in outcomes and the widening and integration of the local provider network.

Introduction

The study on which this paper is based was carried out by Ernst & Young Management Consultants for the UK Employment Department in 1994/95. We reviewed financial and client information and interviewed relevant managers to prepare case studies on the use of OFL by three Training and Enterprise Councils (TECs) and the organisations which they used to provide training on their behalf. TECs are technically private companies working under contract from central government to provide, through a network of sub-contractors, the following broad services:

- ❏ training for young people and older unemployed clients to gain new qualifications and employment;
- ❏ support to new and existing small businesses to develop and compete successfully;
- ❏ promotion of links between education and business to improve the contribution they each make to the other.

In practice, TECs' activities are typically financed from central government, European Commission grants and their own retained surplus.

The learners involved in the three TECs' OFL programmes were broadly similar to the mix on their conventional programmes, except that they comprised around 5-10% more of the long-term unemployed and women returners.

Our study report included a guide for TECs in the use of OFL, which should also be of use to other organisations involved in learning. The report, entitled "The Cost-Effectiveness of Open and Flexible Learning for TECs" by Danny Beeton, was published as Employment Department Research Series No. 53, in June 1995[1].

We defined Open and Flexible Learning for the purposes of the study as follows:

- ❏ OFL can encompass *conventional* learning approaches, such as text-based programmes, and audio-visual materials, experiential learning or lecturing, to the extent that they can be provided in an open and flexible format, ie, allowing learners to dip into them when they choose, and *new* approaches such as the use of new technology, for example CD-ROM or interactive video. In practice the relative infexibility of lecturing and experiential learning make them less suitable for OFL;
- ❏ the mix of approaches is driven by the requirements, preferences and characteristics of the learner;
- ❏ learners work at their preferred place, in the chosen order and using the resources and methods which they find most helpful;
- ❏ learners "contract" with regard to learning objectives, content and delivery.

The major exclusion from OFL is the conventional, lock-stepped, classroom-based course.

In the remainder of this paper we discuss in turn and in more detail:

- ❏ the potential benefits of OFL;
- ❏ circumstances in which OFL is more likely to be a cost-effective alternative to conventional learning methods;
- ❏ circumstances where OFL is less likely to be cost-effective;
- ❏ what can be done to realise the potential of OFL even for clients and objectives for which it is not best suited;
- ❏ our conclusions in terms of how valuable OFL can be in the learning methods portfolio and how to get the most from it.

(1) available from:
Research Strategy Branch
Department for Education and Employment, Moorfoot
Sheffield S1 4PQ
Telephone (0)114 259 3932

The Potential Benefits of OFL

We found that organisations which introduced OFL programmes could gain benefits in terms of:

❑ lower costs;
❑ improved outcomes;
❑ improvements to the local learning infrastructure.

OFL was found to reduce the *unit costs* of education and training. Examples identified in the study included:

❑ lower costs per client, even allowing for any additional burden on staff time. In the case studies, savings of £130 to £740 per client were achieved even during the first year when development costs were incurred. These savings represented between 12% and 51% of the conventional learning programme cost per client;

❑ lower costs per job (ie, learners moving into employed status, full-time or part-time. These learners could have been unemployed or returners to the labour market). For example, savings of £280 to £6,650 per job (6% to 80%) were achieved by using OFL rather then a conventional learning programme;

❑ lower costs per "positive outcome" generally (entry to employment, self employment or further education). One case study organisation achieved savings of £5,117 (60%) for each such outcome compared to conventional learning;

❑ lower costs of attaining qualifications. Case study organisations found that their OFL clients were obtaining vocational qualifications for between £500 and £3,000 less than the cost through conventional learning programmes;

❑ lower costs of repeatedly chasing the unemployed for assessment and guidance interviews, to the extent that OFL gave them a greater chance of moving out of unemployment.

We concluded that these savings would be likely to increase after the first year, after development costs had been invested and client numbers increased to spread the cost of OFL programme overheads.

Our study indicated that OFL can improve the *effectiveness* of education and training in the following ways:

❑ higher penetration of target groups, including the long term unemployed and women returners to the labour market. For example, one case study organisation reported that 47% of its OFL clients had been unemployed for more than twelve months, compared to 41% for its conventional training programme;

❑ lower drop out rates from courses. For example, one case study organisation achieved a drop out rate among its OFL clients of only 5.5%. Another achieved a drop out rate of 10% for OFL clients compared to 38.5% for its conventional learning clients. Drop out rates may have been lower because OFL clients were offered more flexibility to choose their subjects. This encouraged them to research the opportunities in advance and so become more involved and motivated;

❑ a higher percentage of clients gaining employment, becoming self-employed or entering further education. Thus 57% of one case study organisation's OFL clients gained employment compared to 20% of its conventional learning programme clients;

❑ a higher proportion of clients gaining qualifications.

We found that the introduction of OFL options for clients developed the local *learning infrastructure* in the following ways:

❑ helping organisations responsible for disbursing education and training budgets to influence local providers and employers in ways which could improve learning opportunities and outcomes in the longer term. This included encouraging them to share in the development of new learning materials and programmes, to reach new client groups, and to operate new funding arrangements. Influence over these bodies could be increased because OFL made them better disposed to the local funding/co-ordinating body: OFL allowed a substantial part of the administration attached to education and training to be passed from the provider to the learner, which was naturally attractive to the providers;

In summary our findings were that:

❑ OFL appeared to reduce costs per client by between 10% and 50% in the first year, despite the costs which had to be incurred in developing a local OFL infrastructure;

❑ effectiveness was improved to the extent that more learners gained qualifications and/or entered employment. Thus the cost per qualification (for the qualification typically pursued by the learners in question) was £500 to £3,000 lower; the cost per job was 5% to 30% lower than through conventional learning methods;

❑ OFL improved the local learning infrastructure by widening the network of training providers, encouraging providers to share in the work of developing new learning materials and programmes, reaching new groups, operating new funding arrangements, specialising in subjects in which they had a particular strength and sharing materials, guidance, support and advice.

❑ furthering higher level learning objectives, in particular those relating to the promotion of greater individual commitment to learning, and the provision of flexible access to learning;

❑ increasing local opportunities for learning, so helping to reduce local unemployment, raise local incomes and achieve national training and education targets;

❑ bringing providers together to share skills and materials, specialise in areas of strength and so offer a more cost-effective range of provision alternatives to local education and training funding bodies.

We found no evidence that the introduction of OFL programmes had made local conventional learning programmes uneconomic by draining learners away from them. This was to be expected in that OFL was particularly attractive to learners who would not have participated in a conventional programme in the first place.

Situations Most Suitable for Open and Flexible Learning

We concluded that OFL was most cost-effective for:

❑ learners whose characteristics were that they were unemployed, but would feel uncomfortable participating in a mass training programme, were employed, and wished to update their professional skills outside of normal working hours, or simply had no suitable local provider. The self-employed also like OFL to the extent that they do not have to forego earnings if they can learn outside normal working hours;

❑ learners whose learning objectives were to prepare quickly for a specific local employment opportunity, who only wished to study for units towards a full vocational qualification, or who wished to study for a middle or higher level qualification. Manual workers liked OFL to the extent that it offered faster access to training;

❑ situations in which there was an existing OFL infrastructure including, for example, an OFL provider and an open learning resource centre.

Situations in which Open and Flexible Learning is Less Appropriate

We concluded that the potential benefits of OFL were less likely to be achieved for:

❑ clients whose characteristics were that they were returners to learning or had learning difficulties, and as such might need the support normally provided by conventional learning programmes;

❑ clients whose learning objectives were to study for lower level qualifications, or who were unemployed but would need long periods of hands-on experience to gain a full qualification, or who wished to undertake intensive study for a career change;

❑ situations where there was no existing OFL infrastructure. We noted that the costs of developing OFL programmes in the absence of a local OFL infrastructure could be £18,000 in the first year (£120 per client). The TECs involved in the study said that these were comparable to start-up costs for conventional learning programmes and would diminish rapidly in subsequent years (the programmes studied were too new to follow through this pattern of costs over time).

There are particular problems in funding OFL programmes in certain ways. For example, where funding is tied to outcomes, some OFL programmes may fall down because the clients wish to study for units towards a full qualification rather than a whole qualification. Where funding is linked to number of training weeks it may be difficult for the training provider to prove to the funding body that clients have studied for a minimum number of hours per week.

There are two main mechanisms for delivering OFL programmes - direct delivery by an appointed provider, or “credits” with which clients can choose their own provider. We found that both approaches were effective.

Making Open and Flexible Learning Work

Our case studies led us to conclude that in considering how to obtain the most

value from OFL, organisations should consider the following points:

❑ OFL should combine the three broad elements of (i) a package of materials, (ii) practical experience and (iii) tutor support. The mix should be determined by the nature of the course envisaged. For example, a simple open learning pack may be appropriate for professional study, whereas heavy goods vehicle training would largely centre around practical experience (to the extent that this can be made available in a flexible manner);

❑ while assessment and guidance should feature in any OFL programme, it is not necessary to offer travel, subsistence or childcare assistance because by definition OFL allows clients to study at convenient locations and times;

❑ for cost reasons, the practical element of OFL programmes cannot be completely flexible. Completely "open and flexible" learning may therefore by unrealistic;

❑ in order to improve effectiveness and take-up, OFL should be offered as part of a service or package involving conventional learning elements;

❑ the effectiveness of OFL programmes is raised considerably when an active programme manager is nominated to raise local employer interest and to raise clients' confidence and increase their interest in learning;

❑ further education colleges are more likely to succeed with OFL when they have an undedicated open learning centre which clients can use. Because many OFL clients may need some face-to-face tuition, distance learning will generally not be an appropriate method;

❑ it should not be necessary to advertise or otherwise promote OFL programmes - the case studies indicated that more than sufficient clients would be attracted anyway.

Conclusions

We concluded that OFL is often a cost-effective approach to learning which could be widely adopted by organisations involved in education and training. Our UK case studies indicated that many (but not all) clients could be provided for at lower cost and achieve improved outcomes through OFL, and that developing OFL programmes could also improve the local education and training infrastructure in more far-reaching ways.

OFL is best viewed as an option to offer alongside conventional programmes, supported by additional assessment and guidance for clients and targeted at most suitable types of learner. Active programme managers can do much to raise the interest of clients and the support of local employers and investment in a local open learning resource centre appears to make a major impact on the success of OFL generally. In general, the level of support to learners from such managers is more important to the success of the OFL programme than the quality or nature of the package of materials or equipment such as computers made available to clients.

"In general, the level of support to learners from such managers (active programme managers) is more important to the success of the OFL programme than the quality or nature of the package of materials or equipment (...)"

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Does More Technology Mean More Choice for the Learner?
Experiences from the TeleScopia Project

The TeleScopia Project involved the application of a flexible delivery platform for trans-European tele-learning. This paper briefly describes the six courses delivered in the framework of the project, how their designers adapted the courses when given access to a range of technologies, and some key results relating to pedagogical innovation emerging from the project. In particular, with more technology available, the assumption often is that more choices will be available to the learner. In TeleScopia, the courses themselves became more innovative because of the broader range of technologies available, but relatively little choice was made available to the learner within the courses themselves. In the framework of the TeleScopia experience, a number of considerations with respect to "flexible" learning in trans-European course delivery are discussed.

Note: This paper is based on the final research report of the TeleScopia Project, *"Issues Relating to Trans-European Course Delivery and Implementation Strategies"*, (Köhler & Collis, Eds., 1995). All TeleScopia Deliverables referenced in this article are available from: Ms. I. Dremeau, Deutsche Telekom AG, Generaldirektion, Friedrich-Ebert-Allee 140, 53113 Bonn, Germany. The author was leader of the research component of the project.

The TeleScopia Project

The TeleScopia Project ("TeleScopia" is a short form of "TransEuropean Learning System for Crossborder Open and Interactive Applications") was a one-year project (December 1994-December 1995) supported by DG XII, DG XIII, and DG XXII of the Commission of the European Communities. The Project was led by Deutsche Telekom, and had as its general goal: "To provide a major step toward the creation of a common training market in Europe involving Telekom operators, course providers, universities and private training agencies". An important part of this step was to offer a "flexible technical platform" to a group of course providers and study the experiences of those course providers, from adaptation of existing courses for delivery via selected components from the flexible technical platform, through delivery of the courses to professional learners throughout Europe. This technical platform allowed course providers to select various combinations of delivery technologies from:

- ❏ Television sessions, broadcast via satellite from studios in France and Germany, and made interactive by ISDN connections to remote sites for audio-video feedback
- ❏ ISDN-based video conferencing, both for lectures in specially equipped centres and for application sharing via desktop conferencing for personal tutoring
- ❏ Data communication tools for e-mail, computer conferencing, and access to the World Wide Web via the Internet

In addition, course providers could make use of familiar technologies such as video-recorders and video-players, computers, fax, and telephone.

The project was organized around the contributions of three component groups: the technical infrastructure providers (Deutsche Telekom, Francom/SNE, and TechNet Finland); six course providers (Berlitz and IWB in Germany, UETP-Macedonia in Greece, UETP-EEE in Finland, and LaSept/Arte and ENIC in France); and a five-partner research team (University of Twente, The Netherlands; CTA, Germany; UETP-EEE and TechNet Finland in Finland; and Consortio Nettuno, Italy). Each research partner worked with one or two course providers in a case-study relationship throughout the project, and in addition each research partner was responsible for one or two research questions that used all the case studies as input. The University of Twente was responsible for overall coordination and project management of the research aspects of the project. Table 1 shows the pairing of research partners and course providers during the project and the particular research focuses of the different research partners (Table 1).

"Flexibility" as a key research focus

What is an effective research focus within a trans-national project whose purpose is to demonstrate some aspects of telecommunications-supported distance education, or tele-learning? By its nature, such tele-learning demonstrator projects frequently involve technologies new to many of the participants as well as many organizational complexities given the number of partners - course providers,

Table 1
TeleScopia, Research Partners, Course Providers and Research Focuses

TeleScopia Research Partner	Research Focuses, Across All Courses	TeleScopia Course Studied as a Case by the Research Partner	TeleScopia Course Provider
University of Twente, The Netherlands	- Flexibility in Learning and Course Delivery Options - Costs	English for Business I, English for Business II, Basic Technical English, Technical English for the Telecommunications Industry	Berlitz, Germany
TechNet Finland	- Organizational Issues	Introduction to Networks	ENIC, France
CTA, Germany	- Learner Co-operation	Financial Controlling	IWB, Germany
Consortio Nettuno, Italy	- The "Many-Languages" Problem - Instructional Methods/ Technology	(a) Innovation Management; (b) Learning Greek as a Foreign Language	(a) LaSept/Arte, France (b) UETP- Macedonia, Greece
UETP-EEE, Finland	- Tutoring	Environment Management	UETP-EEE, Finland

educational institutions in different countries, telecommunications providers, and educational specialists - involved. From the beginning of the Project, the partners agreed that the TeleScopia courses and course providers would not be evaluated themselves, but instead be studied as cases that could provide input for broadscale questions that are important to those who design and deliver training across Europe. Thus, the research methodology chosen for the Project was not one of evaluation but instead one of "co-operative reflection" among all those involved in the Project (Collis & Vingerhoets, 1995).

But reflection needs a focus. The TeleScopia participants decided to use the opportunity of the Project to study more closely a familiar assumption, that technology can enable training to become more flexible, offering a broader range of choices to learners with regard to when, where, what and how they learn. Does this actually happen in practice? If course providers have access to a range of modern technologies, will they in turn offer a broader range of choices to their learners than they can offer using their traditional technologies and delivery methods? (Collis, Vingerhoets, & Moonen, 1995). What options do course providers consider or not consider? Which options will be difficult to offer no matter what technologies are available?

To explore the relationship between more technology and more flexible learning, the TeleScopia Project researchers decided to focus directly on this flexibility issue. What does it really mean and entail to offer "more flexible courses"? How is technology involved in facilitating the more-flexible delivery of courses? If course providers have access to a wide range of delivery technologies, will they consequently offer more flexible courses to their potential clients? In particular, what about "pedagogical flexibility"? Might a powerful technical platform well supported in a project framework stimulate some innovative examples of pedagogical design? And finally, what about costs? Are all these ideas about flexibility and pedagogical innovation going to be too costly to really put them in application outside a project framework? From this focus on flexibility, a set of three key research questions emerged:

1. What dimensions are most important with regard to the *fixed ->flexible transition* for European training?

"How is technology involved in facilitating the more flexible delivery of courses? (...) what about costs?"

"(...) the TeleScopia courses remained "courses". There was no real attempt to move (...) toward the provision of learning modules appropriate to "just-in-time" workplace learning (...)"

2. What factors related to tutors, course-providing agencies, learners, learners' employers, technologies, instructional design, learning materials, costs, culture, social and legal issues most critically constrain or stimulate the movement from *fixed -> flexible* on these key dimensions?

3. How can the different contributions of telematics, particularly through the metaphors of "the virtual classroom", "extended contacts", and "the collaborative learning group" most powerfully contribute to the movement from *fixed -> flexible* learning?

Getting data

To address this set of three key research questions, the researchers worked closely with the course providers throughout the project, obtaining their ideas and opinions not only through questionnaires and other instruments but also through interviews and informal discussions. Contact was made on a number of occasions with the learners in the TeleScopia courses via questionnaires. In addition, interviews and other forms of data gathering were used to capture the opinions of local tutors involved in the support of the distance-delivered courses. Materials produced by the learners, and transcripts of their electronic discussions were studied. In sum, a wide range of data was obtained (see the case studies in the reports edited by Collis, 1995, and Köhler, 1995) . The final report of the research component of the project (Köhler & Collis, 1995), contains the full analysis of the data.

"(...) it does not seem that the courses offered their clients instructional flexibility within the courses themselves."

How can we summarize the insights that emerged from all this interaction? Some of the key conclusions are given here. The following represent ideas relating to the three research questions that converged during the Project, as the many sources of data in the Project were synthesized.

What dimensions are most important with regard to the *fixed ->flexible transition* for European training?

First, what happened in the TeleScopia courses once a variety of technologies were made available to the course providers? Did pedagogical variety follow? If we think of the course experience in terms of how much time the learner proportionately spends on each of seven categories of learning activities, we can see a (generalized) profile of the pedagogical changes in the TeleScopia courses in Table 2.

Despite the changes that were made, the TeleScopia courses remained "courses". There was no real attempt to move away from the course as a well-defined unit of learning, and toward the provision of learning modules appropriate to "just-in-time" workplace learning which is receiving more and more advocacy as an approach to life-long learning (see, for example, Barker, 1995, for a special issue of a training journal focused on employee performance support systems – EPSSs – as environments for on-the-job learning support). The TeleScopia courses remained courses, shaped by their course providers and experienced as courses by their learners. The relationship of the courses to "traditional" face-to-face courses was probably closest in the ENIC and LaSept/Arte cases; and to "traditional distance education courses" was probably closest in the Berlitz and UETP-Macedonia courses and in the IWB course (with the addition of one-to-one tutoring experiences). The UETP-EEE course was the most innovative in terms of course structure. Within the changes that were built into the courses, the learners had little choice. If the change was there, all learners were meant to follow it.

Thus while the stimulus of a range of technologies, and of the Project itself, resulted in a number of new instructional features in the TeleScopia courses, it does not seem that the courses offered their clients instructional flexibility within the courses themselves.

But the learners, and course providers and tutors, still felt flexibility to be important. Based on our interview and questionnaire data, and reflecting on the many dimensions of flexibility identified theoretically as important to more-flexible training (an analysis of 26 of them based on the literature is given in Collis, Vingerhoets, & Moonen, 1995), we concluded that seven dimensions seem most important to learners in terms of having a more-flexible approach to course participation. We

Table 2

Changes in course profiles, TeleScopia Courses, based on an estimation of learner time spent on each of seven instructional activities, and the technologies involved in the changes

Instructional activity, and degree of change related to technology	Berlitz	ENIC	IWB	LaSept/ Arte	UETP-Macedonia	UETP-EEE
1. Instructor presentation of lesson material via a lecture or lesson	No change; (No instructor presentation)	Change; (Not only face-to-face but also two-way video via ISDN)	No change (No instructor presentation)	No change	No change (No instructor presentation)	No change (No instructor presentation)
2. One-to-one learner/instructor contact (beyond feedback on assignments)	Change: Continual, via e-mail	Change: Continual, via e-mail and telephone	Change: Intense, during application sharing (via ISDN and desktop conferencing)	No change	No change	Possible change, via e-mail messages through WWW site
3. Group discussions among learners	Change; Exploited in varying degrees by some learners, via computer conferencing	Possible change; Perhaps occurred during face-to-face group sessions with local tutors?	No change	Change; Became focus of two-way video (interactive television) sessions	No change	Change; Ongoing, via the newsgroup functionalities in the WWW site, and also, less extensively, during the two-way video-sessions
4. Learner self-study via reading or interacting with learning materials	Some change; Seems to be integrated with learner exercises (see below)	No change; Prepared text materials, video tapes of lesson presentations available for further study	No change; Text materials	Changes; Translation of text materials and videotapes	Changes; Translation of text materials; use of broadcast programming (also available on videotape)	Changes; Text materials available via the WWW, including materials not determined by the instructor but available through other, external WWW sites
5. Individual work on exercises or essays	Extensive change, exercises delivered and feedback given via computer conferencing environment	No change, exercises in printed materials	Extensive change, many exercises carried out within a software environment	No change	Some change, exercises delivered via fax	No change
6. Group work (on project or task)	None	None	None	Change; Extensive group work in preparation for the two-way video events	None	Change; Extensive, developed via the two-way video events
7. Examinations or assessment event (other than completion of assignments)	None	?	None	?	None	None

Table 3

Dimensions of course participation in which offering the learner a choice of options would be particularly desirable

CURRENT SITUATION (FIXED): Course provider decides in advance how the dimension will be offered in the course	FUTURE, DESIRED SITUATION (MORE FLEXIBLE): Recommended Options to Offer the Learner
1. Course provider determines the approach to the social organization of the course, either class or group oriented ("remote classroom"), or individually oriented ("correspondence type distance education")	1. Offer a choice: (a) Does the learner prefer being part of a group, participating together in the course? Or (b) Does he prefer working individually, without a sense of having "classmates"?
2. Course provider determines the selection of content, content sequencing, and learning activities	2. Offer a choice: (a) Does the learner wish the course provider to specify the content, content sequencing, and learning activities? Or (b) Would he prefer making his own choices as to content, content sequencing and learning activities?
3. Course provider determines the set of learning materials provided for the course	3. Offer a choice: Options include educational software, distributed resources via the World Wide Web, video-library resources, multi-media databases
4. Course provider determines the major way or ways in which learner interactivity is to occur in a course	4. Offer a choice: (a) Does the learner prefer real-time, realistic human-to-human interaction? (b) Does the learner prefer written human-to-human interaction, asynchronously, so that time is available to reflect on one's comment and to answer when one wants? (c) Does the learner prefer to interact cognitively with an appropriately designed computer program or other learning materials instead of via communication with a person?
5. Course provider decides on the technical platform for the course	5. Offer the learner a choice among three major platform variations (or their combination): (a) A "home" platform, with television, telephone, video recorder and player, and perhaps a stand-alone computer; (b) A computer-network platform, with access to e-mail, perhaps computer conferencing, and perhaps the World Wide Web via the Internet; (c) An interactive video platform, perhaps via ISDN or ATM, allowing two-way audio-video, perhaps also allowing application sharing
6. Course provider decides on the language(s) to be used in the course	6. Offer the learner a choice on the language to be used in (a) lesson materials, (b) asynchronous communication, (c) real-time two-way video or audio interaction, and (d) face-to-face contacts
7. Course provider decides if course is to be experienced entirely at a distance, or as a mix of distance and face-to-face	7. Offer the learner a choice: (a) Does he wish to experience the entire course "at a distance", or (b) Does he want to combine distance and self-study aspects with some face-to-face sessions?

"(...) by more flexible, we mean offering the learner prior to or during participation in a course, his or her choice of options relative to a dimension."

emphasize that by ***more flexible***, we mean offering the learner prior to or during participation in a course, his or her choice of options relative to a dimension. Table 3 shows the seven dimensions felt by TeleScopia participants to be especially important to a future realization of more-flexible training, and the choice of options which would offer the most meaningful possibilities to the learner (Table 3).

It is interesting that with only a few exceptions, in the TeleScopia courses the learner was never offered these choices. Each TeleScopia course was fixed in terms of these dimensions by the course provider. The possibility did exist for a learner to simply not participate in some of the aspects of a course, such as the real-time video sessions, but this choice was not built into the design of the course itself. Presumably missing a session meant missing something expected to be part of the course.

It was noted that there were some exceptions. Some options were specifically offered to the learners in the TeleScopia courses. Among these are:

- ❏ In IWB, learners in negotiation with the tutors, could steer their choice of learning activities
- ❏ In UETP-Macedonia, learners had their choice of communication channel – fax, telephone or computer conferencing, and their choice of method of receiving the video broadcasts created for the course – by satellite download or by receiving videotapes in the mail
- ❏ In UETP-EEE, learners had their choice of additional learning materials, through links in the WWW site, and also had some choice in sequence of topics seeing as all were available via the WWW site at any time
- ❏ In LaSept/Arte and UETP-Macedonia, learners had their choice of three languages for printed lesson materials, and (in LaSept/Arte) for video materials
- ❏ In UETP-EEE learners could work in their mother tongue when working with their local tutors

The aspect of flexibility that was made available to most of the learners in TeleScopia was that of flexibility of time (during the day or week) for making a communicative response. In most of the courses, learners had their choice of the time when they submitted an asynchronous response or question via e-mail, computer conferencing, newsgroup functionalities, or fax. This occurred when Platform Variation 2, Computer Networks,

was available. (It also occurred via fax in one course). The time flexibility was constrained however, within the pacing and sequencing decisions set by the course provider.

Also, from the start of TeleScopia, all courses offered some aspects of flexibility of location to the learner, ranging from the high degree of flexibility available to the UETP-Macedonia course, to the site-specific location options for ENIC and LaSept/Arte. Courses that included a two-way video component limited the flexibility of location for their learners, at least during the time of the video activities. Learners had to come to the place where the two-way video (and application sharing) could be technically supported; this occurred in the Berlitz courses, in ENIC, in UETP-EEE, in LaSept/Arte, and in IWB. However, the two-way video and application sharing events varied in the extent to which they were major components of the course experience, ranging from little substantial integration in Berlitz to a central form of lesson delivery in ENIC.

That the course offer in TeleScopia involved relatively little flexibility for the learner in terms of making choices as to his preference for course participation options is not to be taken as a criticism of the TeleScopia course providers. Participation in TeleScopia meant that the course providers had to respond very quickly once the one-year project started, and little time was possible to re-engineer a course so that fundamental options could be presented, up-front, to the learner. Only the UETP-EEE course was a "new" course for TeleScopia, and it, too, was based on previous experience with its core course materials and a decision, prior to TeleScopia, to move to a WWW delivery platform. A major benefit of the WWW as a delivery platform is its inherent provision for flexibility in what the learner chooses to read and to interact with through its hyperlinked nature.

It appears that without a technical platform such as the WWW, and design of a course from the start to anticipate learner choice, that offering this choice later is extremely difficult. The answer to the question, "Does more technology lead to more-flexible learning?" seems to be: Only in some cases, and only in a limited number of ways. We explore some major reasons behind this conclusion in the next section.

Table 4
Factors Constraining Offering Options to the Learner

Key Constraints on Learner Flexibility	Key Actors Related to the Constraints
Learner flexibility is unmanageable....	- Tutors (instructors): Cannot handle what can amount to individualized instruction because of time and also cognitive constraints, if the number of learners increases - Course providers do not have the time or resources to anticipate the permutations of options that a learner may choose and have a cohesive, good-quality course available to reflect those options
Learner flexibility is not acceptable...	The legitimitizing agency related to a course cannot handle a wide variety of course permutations in terms of recognition for the course - The culture of which the learner is a part is not oriented toward the idea of learner choice, but instead expects the course provider to be responsible for prespecified decisions about the course offering
Learner flexibility is not affordable....	Each combination of options may require some "re-engineering" of the course; economy of scale is not likely to occur. Personnel and technical implications of many learner choices are much more costly than any course provider could support
Learner flexibility is not realistic...	Learner flexibility may require an imaginative and creative approach to course re-design that is outside the scope of many course providers (relatively few persons are innovators) - Some combinations of options are not compatible with each other by their very nature (if a learner prefers to work at an individual pace, choosing his own content and sequence of content, he cannot expect to also be having real-time interactivity via video-conferencing with "class mates"; if a learner chooses to work in his own language and it is a language that others in his course do not speak, he cannot insist on an emphasis on human-human interactivity, either real-time or asynchronous)

What factors related to tutors, course-providing agencies, learners, learners' employers, technologies, instructional design, learning materials, costs, culture, social and legal issues most critically constrain or stimulate the movement from *fixed -> flexible* on these key dimensions?

Time constraints were a major barrier to re-design of courses in TeleScopia in order to offer learners more options, particularly on the seven dimensions indicated in Table 3. In many cases, a choice of options cannot be simply extended to the learner, cafeteria-style, but instead the course itself may have to be re-designed and even reconceptualized in order to

Table 5
Relationship of Technical Platform Options and Selected Instructional Options

Technical Platform	Offering more opportunities for feeling part of a group/ class	Offering more opportunities for having personal contact with the instructor/tutor	Offering more options to participate in collaborative learning activities	Offering more options for innovative course content and experiences
"Home" Platform: Television, video recorder & player, telephone	*P ?	P?	P -	P+
Computer Network Platform: Access to CMC and WWW	P?	P+	P?	P+
Two-Way Video Platform:	P+	P ?	P -	P?

***Legend:** By "P +" is meant good potential, with already a solid core of experiences from practice (both within the TeleScopia Project and without) of good results. A "P ?" means that the potential is present, but that substantial barriers confront its realization in practice. These barriers, as noted earlier, are related mainly to cost and to human limitations. A "P -" indicates a weak potential for the technology platform/instructional focus combination: it will simply be too difficult and too expensive to realize the cell in practice.

"(...) each type of technology platform can be seen as particularly helpful for some types of flexibilities and not helpful for other types of flexibilities (...)"

anticipate these different options. For example, a course designed around the decision to expect the learners to meet both face-to-face and also in video-conferencing facilities, such as the ENIC course, cannot be "simply" repackaged to be offered to the learner who demands an individual approach, with his own choice of content and sequencing, in his own (non-French) language, with only access to a "home" technological platform.

What factors do constrain offering the learner options in terms of course participation even when a range of modern technologies are possible within a course? From the TeleScopia experience, as well as experiences more generally, we can identify costs and human limitations as core constraints. Costs and human limitations that emerged as particularly important in the TeleScopia courses are shown in Table 4.

Thus the desire to provide learners with more flexibility in course content is confronted with formidable constraints, even when a range of modern technologies are available. These constraints are not new; but what must be resisted is the new "feeling" that a "flexible technical platform" will reduce the majority of these human and organizational constraints on flexibility.

However, a flexible technical platform can make some options more feasible for the learner. In the next section we focus on this potential.

How can the different contributions of telematics, particularly through the metaphors of "the virtual classroom", "extended contacts", and "the collaborative learning group" most powerfully contribute to the movement from *fixed -> flexible* learning?

While it may be asking the impossible to offer the learner, simultaneously, a broad range of options with respect to the way in which he can experience a course, the TeleScopia analysis does show some promising possibilities for at least some additional flexibility in course offer. If a course provider cannot make an extensive range of options available, at least he can consider a few. And the course provider can speak more cautiously when he offers "flexible" learning, instead indicating more specifically what aspects of learning will be more flexible in a course, given various technologies. In Table 5 we condense many observations within the TeleScopia Project to indicate a possible relationship between types of technologies available, and certain types of course flexibility. Based on the opinions of course provideers, learners, tutors, and the researchers in the TeleScopia Project, each type of technology platform can be seen as particularly helpful for some types of flexibilities and not helpful for other types of flexibilities (Table 5).

Further insights

After a year of intense involvement in the TeleScopia Project, its researchers have amassed many impressions and observations not only from their own analysis but also from the collaboration of others in TeleScopia, course providers, tutors, and learners. Some of these conclusions show up in the specific data of the Project, in its questionnaires and its summary reports. However, many of these insights are more diffuse, emerging through the synthesis

of partner interaction, and personal and inter-partner reflection. We conclude this discussion with nine of these insights here. There is not space in this article to expand upon them here, but each is discussed further in the final TeleScopia report (Köhler & Collis, 1995):

1. Solutions must be learner driven, not driven by what the course provider wants to offer or by "technology push".

2. It appears easier to conceptualize using networks and two-way video technical platforms as ways to add human-human communication to a course than as ways to add access to multi-media resources and other learning materials.

3. Interactivity should not be automatically associated with "talking"

4. The "many languages" problem is critical to trans-European tele-learning

5. Keep cost issues realistically in mind; costs per learner/contact hour are generally similar regardless of technical platform

6. More (i.e., more technology, more interactivity, more communication, etc.) is not necessarily better

7. Technical solutions must be reliable and well supported, and learners must be comfortable and competent with their use

8. Avoid experimentation with real learners

9. Better ways to measure and demonstrate effectiveness must be found.

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Some remarks on modular training in the Federal Republic of Germany

In recent months there has been a growing discussion of training modules and modular concepts in vocational training in the Federal Republic of Germany. But, very often, it is not quite clear what is actually meant by these terms. In a paper prepared in December 1995, the leading confederations in the German Industry and Trade Advisory Board for Vocational Education (Kuratorium der Deutschen Wirtschaft für Berufsbildung) explained that the concept of modules can be applied in different contexts, such as in didactic methodology, in continuing training, in vocational training, for the acquisition of additional qualifications and for specific target groups. In this discussion on modular training in the Federal Republic of Germany, a distinction may be made between two key areas: one is the utilization of modules in vocational training practice, the other is the policy discussion on modules in vocational education and training.

The use of modules

1. Modules in continuing vocational training: modular concepts have been used for many years in continuing vocational training. In this context they are self-contained qualification components which can be tested and certified individually. For instance, the Federal REFA Association has presented a modular concept for continuing training. In this case the module is a self-contained teaching unit on a specific subject. The modules all have a uniform structure and their access requirements, learning objectives and teaching programmes are clearly defined. The main idea underlying this modular concept is a flexible use of course modules and thus a flexible form of training for companies and individual workers. The Chamber of Crafts in Trier has, on the other hand, used a different structure for the modular conception of its foreign language training. Here, a 16-hour modular course in French is conducted for male and female supervisors (Meister).

2. Modules as structural components: modules can be used as didactic/methodological design components or as instruments to break down complex education and training concepts. For instance, in 1995, training specialists in Mannesmann AG developed a didactic modular qualification system for process technology. In this case the process model for the simulation of entire production processes was conceptualized as a modular component.

In this context there are also plans in the printing industry to extend and enhance the present vocational training system through a building block system. The trainee has a choice between different modules. After completing a minimum number of specific modules, the final certificate is acquired by passing an examination organized by the Chamber.

3. Modules as additional qualifications: certain module courses, e.g. foreign languages, are offered as an extension of initial and continuing training concepts. For instance, trainees in commercial occupations can present proof of their foreign language proficiency to individual Chambers of Industry and Commerce and then acquire the "additional qualification of foreign language for trainees in commercial occupations". Some Chambers of Industry and Commerce have also developed continuing training examinations in foreign languages for persons in employment.

4. Modules for the qualification of specific target groups: the post-school qualification of young adults with no vocational training is undertaken in the form of job-accompanying modules. Recently, modularization has also been seen as a possibility of providing vocational education and training for young persons who are poor learners. Some vocational educationalists suggest that these alternatives should be explored.

The utilization of modules described above is practice-oriented. There is no controversy on the use of modules in didactic/methodological approaches or for the development of continuing training concepts or for additional qualifications or as components in the provision of training for specific target groups. But the situation is quite different when it comes to the assessment of the role of modules in vocational education and training.

The impact of the modular system in the United Kingdom on educational policy considerations

The educational policy debate on the use of modules in vocational education and training has been stimulated by the vocational education programmes of the European Union and educational systems in other countries, in particular the NVQ model with its different levels in the United Kingdom. In the United Kingdom a modular qualification system consisting of National Vocational Qualifications (NVQs) was developed in the last few years. In this modular system a number of learning units form one level which corresponds to the qualifications required for a closely defined area of activity, e.g. the installation of programmable controls. This is how the NVQ system is described in Germany. However, educational experts in Britain point out that a distinction must be made between theory and practice in this system. Very often, the NVQ model is viewed as a system where the trainee can choose between different modules. In reality however, the trainee has no choice between different blocks. On the contrary, the NVQ system has a pre-determined legal definition and the contents of the courses are firmly prescribed.

The module is no substitute for the concept of the profession

In the Federal Republic of Germany a modular structure of vocational education and training was interpreted as the breaking down of occupational competence into separate skills which can then taught through training. But regulatory considerations reject the sub-division of a comprehensive professional competence. It should be noted that vocational education experts from the employers' associations, the trade unions and the Federal Government all agree that modular qualification below the level of complete and compact vocational education is to be rejected. The associations and the Government have different motives for this rejection. Industry rejects modularization of vocational education and training because this means that the occupation as a whole gets dissipated and all that remains is an indiscriminate bundle of individual qualifications.

The leading organizations of industry have presented their views on "Modules in vocational education and training" in the following statement: "One of the essential foundations of the training system is the concept of the profession which cannot rationally be replaced by a modular concept. The concept of the profession ensures that training is something more than the mere juxtaposition of individual qualifications. On the basis of nation-wide, universally applicable and uniform training regulations drawn up with the participation of the companies, the young person acquires a comprehensive professional qualification which ensures professional proficiency and flexibility between different occupations and mobility between different companies and sectors".

Further development

Industry rejects modularization of vocational education and training, but at the same time it advocates a stronger exploitation of the advantages of modular concepts in vocational education and training. The advantage of a modular system is that it can react more flexibly to changing professional requirements and individual needs and can give more consideration to the needs and the resources of the companies than is now being done in the case of complex skilled occupations. That is why the confederations in the German Industry and Trade Advisory Board for Vocational Education are suggesting that more modules for additional qualifications should be developed. More use should also be made of modules as approaches for post-education qualification and re-training. In this context, modular concepts are also considered to be a useful method for handicapped youth with learning disabilities so that they can improve their chances of professional integration.

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Modular Initial and Continuing Education and Training

A Comparative Survey of the Education System in the United Kingdom and Germany

An education system which is based on entitlement develops the integral system of education. An education system which gives priority to self-development initiatives develops the modular system. In other words, *modular education and training* and *integral education and training* are the outcome of fundamental value conceptions in society. Both conceptions can, however, become mutually enriching, at least in the field of post-secondary education (university studies, higher vocational education, general and vocational further education) and in the recognition of non-remunerated work, if all young persons and young adults are given the possibility of access to professional activities (social obligation to reduce youth unemployment in all Member States of the European Union).

At a time when societies in Europe - thinking in terms of the *responsible citizen* of the future - are de-hierarchizing their structures and also developing new organizational structures for production and services - terms and concepts such as Just in Time, TQM, networking strategy, deregulation and new quality control approaches, chaos management, risk society, global division-of-labour approaches, etc. are evidence of this -, the interest of the *new individual* in soft forms of teaching and learning seems to have been aroused.

The teaching and learning form practised to date is that of integral education. It enables the student - via a number of subjects - to bring about an individual and subjective linking of different subject contents offered in various teaching forms and to obtain additional synergy effects by focusing on different fields. Under these conditions the integral system of education has a high level of complexity.

The transition from integral education and an integral final certificate to the complexity-reducing system of modular education is facilitated if

- a few subjects are offered or have to be completed;
- the subjects can be examined individually (in this case the integral certificate consists of the total of individual certificates);
- each subject is further sub-divided into time segments or levels (the aggregate of all levels and segments leads to the certificate for the individual subject, the aggregate of all individual certificates leads to the integral certificate);
- each subject-level or subject-segment is sub-divided once again into many small individual elements (modules) which do not necessarily have to be acquired in a specific sequence but can be assembled by the individual person in any order and then linked to form the subject-level or the subject-segment. The aggregate of subject-levels or subject-segments then makes up the individual subject certificate, the aggregate of all subject certificates then forms the integral certificate. At this point, at the latest, the conventional didactic or teaching method fails. It has to shift to individual teaching and learning forms such as the didactics of programmed learning.

As this type of configuration shows, different answers can be given to the question *What is a module*? I define the module as the smallest (self-) educational or (self-) learning component which can be offered to each student in a different form and size, i.e. also subject-oriented or topic-oriented. This definition of a module can easily fulfil the criteria of softer teaching and learning forms. Furthermore, it opens up new design alternatives (and risks) for the individual because: on the one hand, the dynamics of designing and implementing individual educational strategies and objectives and acquiring certificates on modular sequences may have a certain similarity to computer games; in other words, success and failure, fun and frustration in the recognition of the achievement of smaller sub-objectives

(modules) - within the framework of a pre-set, sometimes freely selectable, modular, practical training sequence, even without written documents - may lie very close to one another, and a success can take place immediately after a failure, if one works hard enough at it. Thus, performance is worth the effort.

On the other hand, if there is less motivation and targeted planning, it can lead to deeds such as those of "Lucky Jack" (in Grimm's fairytale). In other words, the individual gives away an asset with exchange value in return for an asset with a use value which appears to be more compelling at that moment.

This is where the question arises of the social commitment to youth to overcome dialectical notions and to shift to more individual security. The individual may - or rather, must - claim what he is entitled to. This will not be free of cost for society.

Both approaches are to be found in European societies, whereby the educational system of the United Kingdom (called the English system in the following) has a stronger leaning towards individualization strategies (a good performance pays - all I need is the will), while the German system puts the accent on the litigable nature of acquired qualifications. This means the individual has certain claims in a legalized network of relationships, and society has the task of developing differentiated ways of enabling each individual to secure these claims.

Where and how does the adoption of modular approaches give an impetus to new ideas for the German system of education? To answer this question I would like to compare some typical aspects of the English and the German systems of education. The material for this was acquired in the course of a European Union exchange programme and collected from extensive sources of literature and contacts.

Entrance to the education system after the completion of elementary education (after age ten/eleven years) up to completion of basic schooling (first entrance certificate to vocational education, age 16 years) **in England: final school certificate GCSE** (General Certificate of Secondary Education) and **in Germany: secondary level 1 school certificates**

In both countries children and adolescents attend school till the age of 16 whereby in England compulsory schooling comes to an end when the young person leaves school at the age of 16 (with or without a final school certificate). In Germany compulsory schooling continues - generally in the form of vocational education - till the age of 18 with all the legal implications and obligations (here the principle is: you must get a school-leaving certificate). Only after this, i.e. after the age of 19, does the phase of further education begin in Germany, whereas in England it starts at 16 at the time of leaving school.

In addition to this, there are also considerable differences in school careers up to the end of basic schooling. In the English system there is early monitoring in the form of national assessments - according to the German understanding these are central examinations -, where each pupil is assessed at the age of seven, eleven and fourteen, and - apparently independent of the results of the tests -, *guided* to the final school examination (GCSE) through differentiated treatment in a mixed class. There are no regulations governing promotion or rules for repeating a class. In contrast, in the German system with the differentiated types of schools (lower secondary school, intermediate secondary school, upper secondary school, comprehensive school) the pupil - together with his class-mates - is *led* to a final examination which is the same for all children in the class. In the German system virtually everything is legally regulated or derived from the principles in the constitution and thus liable to be judicially controlled. This applies to access and transition to the different types of secondary schools in the field of basic schooling, to the assessment of performance, to the participation of children and parents, to the rules for repetition of a class, to the final school certificate, etc. Post-school institutions have also (practically) subordinated themselves to this principle of setting up a legal framework for the entire system. This is the outcome of the "entitlement" line of thought. In contrast, this way of thinking basically does not

"(...) the educational system of the United Kingdom has a stronger leaning towards individualization strategies (...) while the German system puts the accent on the litigable nature of acquired qualifications."

"In the German system virtually everything is legally regulated (...) or derived from the principles in the constitution and thus liable to be judicially controlled."

"Furthermore, (...) Germany (...) envisages a clear segregation of the school from industry and commerce, (...) in England it is not unusual to prepare young persons (...) who are tired of school for certain company-specific job requirements after consulting the local firms."

exist in the United Kingdom (for instance, no obligation to repeat a class).

Furthermore, in Germany the Humboldt conception of the general-education function of schools in the basic schooling phase up to the first entrance qualification for vocational education (age 16 years) envisages a clear segregation of the school from industry and commerce; this is only discontinued partially at the end of school through short periods of practical training in an enterprise in order to get some orientation for choice of an occupation. On the other hand, in England it is not unusual to prepare young persons above 14 who are tired of school for certain company-specific job requirements after consulting the local firms.

"In Germany (...) up to the end of secondary education, pupils are given broad instruction (...) but English schools teach nine (...) subjects in more depth up to the national (central) final school certificate (GCSE)"

Apart from this preparatory training for a specific job, both national systems also differ in terms of the quality and quantity of subjects or subject areas in the secondary level of schooling. In Germany in the last six years of schooling up to the end of secondary education, pupils are given broad instruction in nine subject areas via twelve subjects (with an additional maximum seven annual subjects), but English schools teach nine (plus one) subjects in more depth up to the national (central) final school certificate (GCSE); this only includes one foreign language with a maximum duration of two years, whereas in German schools at least one foreign language (in upper secondary schools up to three languages) is taught over six years up to the general secondary school certificate. In the English system, when the pupil sits for the national (central) final school certificate (GCSE) it is enough if he passes in at least one subject with the lowest grade G of seven grades. For entrance to academic studies (A Level) pass marks in five GCSE subjects are prescribed. In contrast, in the German system, the pupil must have achieved an average grade of *"satisfactory"* (the lowest of four grades), as assessed by the teachers, in all subjects in the last class of the school concerned.

"This (...) already shows that in England the school, the school career and the teachers guide pupils to a modular way of thinking (...), whereas in the German system all teachers in all schools lead the pupils collectively to a integral certificate (...)"

This simplified description already shows that in England the school, the school career and the teachers guide pupils to a modular way of thinking (acquisition of qualifications in individual subjects) at an early point in time, with all the consequences for the teaching function and teacher training (class room manager, pilot for the pupil, administrator of the learning process), whereas in the German system all teachers in all schools lead the pupils collectively to a integral certificate, the quality of which has legal consequences for entry into general and vocational secondary education - which again is constructed as integral education. That is why there are different teacher ethics and a different teacher training practice in Germany.

General and vocational secondary education and the transition from school to employment after completion of schooling

The English system does not have these concepts. After completing compulsory schooling at the age of 16, further education begins. Here, depending on the quality and quantity of the final school certificate (GCSE) the paths followed by the pupils are divided into (see Figure 1 - *National qualification framework of the NCVQ*):

❑ *Two-year academic education in the school*: here, more in-depth instruction is given in two to three subjects (about 18 to 24 hours a week) whereby according to the German interpretation, the subjects are also subject segments which - in some cases also modular per term - can lead to the A-Level certificate. This enables access to specific study courses in university or to higher vocational education.

❑ *General vocational education in the school (GNVQ - General National Vocational Qualification, Levels 1 to 3). The duration is one to two years*: here, a more intensive broad-based vocational education is given, whereby there are 14 different routes with a modular structure. The advanced GNVQ is equivalent to two A-Levels and also enables access to specific study courses in university or to higher vocational education.

❑ *In-company qualification as a worker (this includes unpaid or non-remunerated work) or full-time school-based instruction (NVQ - National Vocational Qualification, Levels 1 to 3)*: here, it is possible to collect part qualifications in modular form in the levels mentioned in any order at

the place of work or in the school. The acquisition of all possible modules in a level for a professional activity or a job leads to the acquisition of the final certificate. The number of certifiable jobs or activities is fundamentally open upwards. A certificate is not required in order to start working. Written tests are not required for each qualification; practice suffices. The possibility of access to university or to higher vocational education is acquired with the completion of NVQ Level 3.

The following applies to all three forms or routes:

❑ all final certificates are independent of age and may be repeated at discretion.

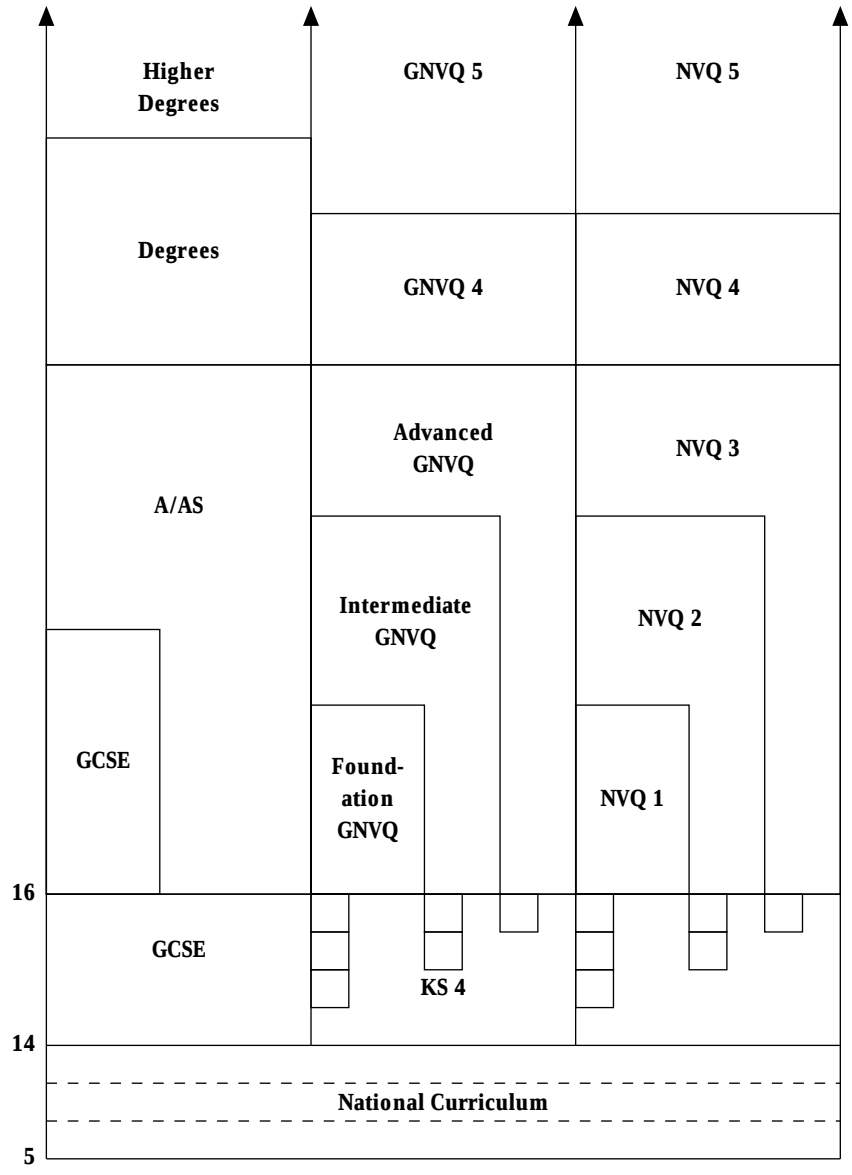
❑ Full and part certificates of A-Levels, GNVQ levels and NVQ levels may be combined to fulfil work requirements.

The English system is highly flexible but has no entitlement - not even to university entrance. The universities, like employers, decide autonomously whom they will admit, the individual seeks the most *suitable* employer or the most *suitable* university. Thus, all that is usual in Germany - the historically developed structure of sectoral associations and chambers, which have public law attributes, with all the resultant access and entry requirements, legal regulations, rights and duties, and the resultant separation between public law and private law areas - does not exist in England. This means that, for reasons of individual interest, a constant appeal has to be made for equal opportunities. In the course of this discussion on equal opportunities, the NCVQ (National Council of Vocational Qualifications) was asked in 1986 to compile, rank and hierarchize all final certificates offered by all providers on the basis of the same criteria. The hierarchization of these (vocational) qualifications has been undertaken in line with the structure of training levels in five ascending steps set out in Article 2, Para 2 of the EEC Decision 85/358/EEC, whereby each level consists of the aggregate of acquired modules based on prescribed criteria, without, however, any pre-determination of entry and access entitlement. This also explains why the Social Charter of the EC/EU (e.g. para 15: the right to vocational training) has not been accepted by the United Kingdom. A dual system of vocational training does exist in England, but only for disadvantaged youth.

In the German system, equal opportunity is viewed as an entitlement, that is, an individual right. This leads to the following routes in general and vocational secondary education and the transition from school to employment (for young persons who have reached 16), depending on the quality of the final certificate for secondary level I (completion of basic schooling):

"The English system is highly flexible but has no entitlement - not even to university entrance."

Figure 1:
NCVQ's national qualification framework



Source: GNVQ Information Note, NCVQ London 1993

In Germany "school certificates and vocational certificates are basically separated (...). The first steps towards a modular system are to be found in the field of languages (...) and in the routes to different vocational certificates and further education."

❏ *A two to three-year upper level of grammar school (Gymnasium) in different forms leading to general university entrance qualification (general and vocational)*: this level offers foundation education in six subjects and in-depth instruction in two subjects for *about* 31 to 35 hours a week. By adding the results of each term and the results of the final examination, the Abitur or university entrance qualification is acquired. These eight subjects include at least one to two foreign languages.

❏ *A one to three-year general vocational course with final certificates leading to entrance qualification for the Higher Technical College (Fachhochschulreife - FHR)*: this course offers different lines of general vocational education as full-time and part-time instruction with a group of *about* eight subjects (one of them a foreign language). (Full-time instruction *about* 33 hours per week).

❏ *The - generally three-year - dual system of vocational training*: this combines an in-school vocation-oriented instruction up to FHR with a group of *about* six subjects (with 12 hours of class room teaching per week - the introduction of a foreign language is being tested at present) with in-company vocational training. This training is given by State-recognized training enterprises in, at present, 370 skilled occupations with a theoretical and practical final examination held by the Chamber which has been commissioned to do so by the State.

As part of the legalization of general and vocational secondary education in Germany, all vocational certificates can also be acquired externally and with no age restrictions. School certificates and vocational certificates are basically separated and cannot therefore be combined in any way. The first steps towards a modular system are to be found in the field of languages (recognition of previous and later certificates for access to school-based channels of instruction and final certificates) and in the routes to different vocational certificates and further education. Some thought is also being given to a modular system as a single component or single-subject certificate for the external final examinations mentioned above. Furthermore, all the different forms referred to above contain vocational training aspects.

❏ The acquisition of final certificates in vocational secondary education in the different school-based forms gives a basic right to reduce the period of dual system vocational training by one year. This can also apply to young persons with the Abitur or university entrance qualification who start vocational training in the dual system.

❏ Certificates which permit access to university also permit access to higher vocational education.

❏ Not only the periods of vocational training but also the time required to acquire school certificates during this phase up to university entrance qualification are taken into account for calculating the individual's pension rights (training period) in the legal old-age pension system.

In addition to this, the *as-if rule* is applied to the young job-seekers with a vocational certificate, which means they receive unemployment benefits as if they have already worked in the skilled occupation for which they have been trained. The recognition of non-remunerated work is thus reduced to a few legal situations. However, some thought is being given to ways and means of improving this case. Independent of this, the external examination is also intended to cater to this situation.

In other words this means that, at the general and secondary education level, society in Germany assumes the obligation of doing everything in its power to see that a young person gets a training place and a job, i.e. is able to productively integrate himself in society.

Post-secondary education (university studies, higher vocational education, general and vocational further education)

In both countries it is possible to start post-secondary education at the age of 18 or 19. In England this takes the form of university education (leading to Bachelor, Master, etc.), higher general vocational training (leading to GNVQ Levels 4 and 5) or the higher levels of job qualifi-

cation (NVQ Levels 4 and 5). The modular structure of these levels plus individual access (equal opportunities) is being further developed. In addition to this, there are modular subject-oriented university-entrance courses (access courses) for adults; they have a short duration and stretch over a few hours a week.

In Germany, on the other hand, there are a number of possibilities for development, as the access of persons with job experience to university, higher vocational education and university education are all regulated by law. That is why recognition of equivalence as an individual right is possible - for foremen (*Meister*) and technicians also - only at university entrance level (Level 3 according to EEC 85/368, op.cit.). In my view, for internal reasons in England (recognition of Level 3 of the GNVQ/NVQ system as a substitute for A-Levels), the corresponding qualifications in the English system are assigned to Levels 3 and 4 (Annex D of EEC Directive 92/51). But too much value should not be attached to this.

What is necessary in Germany is a regulation of the State recognition of skilled occupations acquired through further education above and beyond the level of university entrance qualification.

Summarizing, it may be said:

The modular structure of an education system is the outcome of a deep-rooted liberalist order of society which assigns capacities to each individual; these can certainly be fulfilled by the majority of individuals without any necessity to discuss the entitlement. They are implicitly disregarded or re-located. Thus, seen with a proper understanding, the English system of modular education contains a tremendous European potential from which the system of general and vocational further education (post-secondary sector) and the non-remunerated sector in Germany could learn a great deal. The first steps towards this are to be found in the educational plans which are currently being discussed in Germany. However, the great difference in the comparative figures for youth unemployment in Britain and Germany shows that modular education does not as yet seem to be the solution for the transition from school to employment.

"(...) at the general and secondary education level, society in Germany assumes the obligation of doing everything in its power to see that a young person gets a training place and a job, i.e. can productively integrate himself in society."

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Modules in vocational training

Within the public debate on

❑ strategies to improve the appeal, efficiency and flexibility of vocational training,

❑ the development of a European dimension to vocational training,

❑ European support programmes and initiatives,

❑ the relationship between national education systems and European developments (Art. 127, Treaty of Maastricht),

modules, part-qualifications, training units or even the introduction of a modular approach to vocational training are being mooted as possible strategies to solve the problems in this field. This debate tends not to be very nuanced. In Germany there are concerns of the dual system being called into question by modules in the European context.The interactions between the national and European levels have not yet been given sufficient consideration. The indirect effects of an increasing orientation of European vocational training systems towards modular approaches remains largely unconsidered. It should be recalled that definitions have already been adopted at EU level - e.g. Council Decision 85/368/EEC of 16 July 1985 concerning the comparability of vocational training qualifications between the Member States of the European Community - which are a precedent in terms of a preliminary decision on future structures. The following postion is adopted against this background.

The European level

For a number of Member States, modules are a first important step towards the creation of a national vocational training system or a method used to develop an already existing system.

By modules, we mean short-term educational/training units or blocs which are complete in themselves and examinable as such.

Although the module concept is largely inspired by the British education/training system, there may be considerable differences between the modules to be found in the various Member States depending on the education/training system in question, whereby an important role is played by the relevant level of training - initial training, continuing training or both.

"For a number of Member States, modules are a first important step towards the creation of a national vocational training system or a method used to develop an already existing system."

Forms of modular systems throughout Europe

(a) System-wide modules
Examples: Portugal, Spain, developing modular systems in setting up their national vocational training systems (initial and continuing training).

(b) Course- or sector-specific modules
Special schemes for specific target-groups, e.g. jobless young people.

(c) Stand-alone modules
Example: modules which may exist independently of the relevant system, "system-free".
Example: transnational modules.

Viewed from the perspective of the German vocational training system, the general characteristics of modules are as follows:

❑ Their high number (an extreme example: 2 700 modules in 11 occupational fields in Scotland).

❑ High rate of review (e.g. up to 300 modules are subject to review in Scotland every year).

❑ Lack of transparency in terms of content and training standards.

❑ Low rate of quality control.

❑ Unsystematic structure in terms of overall qualifications.

❑ There is generally no determination of the suitability of the training establishment/personnel in question (in contrast to the provisions of the German Vocational Training Act) and

❑ Modules are not as a rule completed by final examinations; in some cases certificates are awarded on the basis of continuous assessment.

❑ Modules deliver part-qualifications, as opposed to a 'comprehensive competence for vocational activity', the term combined with the concept of an occupation in Germany.

It is to be welcomed that EU Member States are taking increasing steps towards the set-up and reinforcement of their vocational training systems. The introduction of modules is a possible step in this direction.

Such measures must be implemented in compliance with Art. 127 of the Treaty of Maastricht "while fully respecting the responsibility of the Member States". Joint modules established in the context of EU programmes or initiatives must remain unbinding for the Member States, and their consideration, and in particular recognition, must remain the responsibility of the competent national authorities, whereby the scope of the Commission must remain at subsidiary level.

The German level

Vocational training within the dual system leads to direct occupational ability and at the same time provides a basis for lifelong learning. This system is to remain the backbone of skilled worker training in the Federal Republic in the future.

An essential basis of the training system is the concept of an occupation. An occupation is more than merely the sum of various usable part-qualifications. The objective of training is to provide competence for vocational activity, which also includes the acquisition of the necessary job experience. The concept of an occupation shall retain its validity in the future. It guarantees that training amounts to more than just a string of part-qualifications so that young people receive comprehensive overall vocational training on the basis of transparent training regulations which are uniform nationwide and codesigned by the firms themselves, providing evidence of occupational deployability and flexibility.

It is decisive to note that the dual system, based on this concept, provides vocational training evidenced by a certificate on the basis of a clearly defined training occupation. The employer knows what minimal skills can be expected from a worker. This transparency cannot be created by a modular system. The result would be uncertainty within the undertakings as to the match between training provision and their skill needs.

Moreover, to replace the concept of the occupation as a basis for lifelong learning by a modular system would imply a considerable medium-term input from both firms and workers in view of the ensuing permanent pressure to adapt already acquired qualifications such a step would entail. The dual system of vocational training, in contrast, provides broadly-based basic skilling which helps to guarantee a high level of occupational mobility and deployability within the firm - and the job market.

The German Vocational Training Act stipulates that young people under 18 may only be trained in recognized training occupations. The introduction of modules as complete, examinable short-term training units or blocs would therefore be ruled out from the very outset for this group on purely legal grounds. However this does not mean that modules cannot continue to be used as a methodological and didactic vehicle to deliver training content in the framework of existing training occupations.

The dual system allows a far-reaching differentiation of training according to the performance and ability of both high achievers and low attainers. It offers scope for supplementary learning elements in the course of training (e.g. language courses pursuant to Art. 44 of the Vocational Training Act) which can be evidenced by a certificate and taken as voluntary options. Higher attainers can thus be specifically motivated and given additional performance incentives. This helps to promote the appeal of dual system vocational training. Moreover, these additional courses may also be an opportunity to match a firm's specific short-term skill needs.

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"An essential basis of the training system is the concept of an occupation. An occupation is more than merely the sum of various usable part-qualifications".

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"Modular approaches may offer a means of enhancing the vocational integration prospects of lower achievers or disabled youngsters unable to gain a certificate in a recognized training occupation".

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The development and application of modules in the field of adult vocational training are to be welcomed. A series of short-term certifiable courses are already delivered, especially in the field of upgrading training. Building on initial vocational training, these measures constitute an important training supply which must be further developed to match industry's future skill needs. The existing legal provisions provide a sufficient framework to this end.

Modularisation and Qualification Reform in the UK: Some Realities

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The nature and structure of post-16 qualifications in the UK has undergone radical change in the last decade. Many traditional three year undergraduate degrees have become modular and are offered in a semester rather than a term structure, and a completely new system of reformed vocational qualifications has emerged, with considerable government backing, offering alternative routes into work and into higher education. The potential for a flexible system of qualifications, responsive to the needs of young people and adults and providing support for those entering, or progressing in the labour market has never been better. This paper addresses some of the realities of the reforms.

Modularisation

The creation of undergraduate degree programmes based on modules or units coincided with a massive expansion in full time student numbers in higher education in the UK, and with the expansion of the university sector to include the former polytechnics. For many universities modularisation was perceived as a means of creating greater flexibility, allowing different subject combinations, and encouraging part time and mixed mode study for the newly expanded student body. 'Going modular' became one of the major preoccupations of the late 1980s and early 1990s and the literature and conferences of the time are testament to the extent of the change and the turbulence it gave rise to. But, what has been achieved? The opportunity to create degree programmes which met the needs of the expanded student body and prepared them for the turbulent labour market of the 1990s was offered, but was taken up by only a few.

The extent to which the goals of greater flexibility have been achieved in reality, and for the majority, are questionable. There remain many structures and regulations which discourage choice and which preserve the original degree content and structure in an unreformed state. Lip service is still paid to the development of employment related skills, for instance, business awareness, self promotion, networking. There is still a chronic lack of language and IT integration into the mainstream of all undergraduate programmes. These are all areas where modular reform could have produced an enlightened curriculum, but has not.

Vocational Qualifications

National Vocational Qualifications (NVQs) and their Scottish equivalents SVQs have been developed over the last 8 years, following the White Paper "A New Training Initiative" (Manpower Services Commission MSC 1981) and the Review of Vocational Qualifications (MSC/Department of Education and Science DES 1986). The principal thrust of these papers was that vocational education and training was out of touch with the realities of the work place and not providing for the needs of the new post industrial employment environment. Higher education was included in the criticism, and the general attitude is summed up by the newspaper headline (***Clever they may be, but can they work?*** "The Independent" Nov 1993).

The new vocational qualifications are radically different to their predecessors. There are two types.

The National Vocational Qualification (NVQ) is a work-based qualification built up of units, and developed from a strongly employment-driven base. NVQs describe the standards of achievement of work related activities, rather than setting out a teaching syllabus to be followed. Assessment is based at work and relies on materials produced at work and on the observation of candidates at work. The clear relationship with employment was established and is maintained through Lead Bodies, groups of employers representing different sectors responsible for providing and updating qualifications in each sector.

NVQs are intended for people at work, including young people in junior roles as well as adults in senior and management jobs. In effect it is, or it could aspire to be, a life long learning structure based on work.

The second type is **the General National Vocational Qualification** (GNVQ and GSVQ - the Scottish equivalent) first developed in 1992. GNVQs too are made

"The extent to which the goals of greater flexibility have been achieved in reality, and for the majority, are questionable."

"The National Vocational Qualification (NVQ) is a work based qualification built up of units, and developed from a strongly employment driven base."

up of units, and each title includes nationally prescribed mandatory units and core skills, as well as a choice of optional units. The structure is not unlike that of many modular degrees and diplomas. The GNVQ provides a broad based vocational education and has been designed for delivery in full time education, with limited access to the work place. The Advanced GNVQ is particularly relevant to higher education since it is designed to be of comparable standard to A levels. The possible development of GNVQs at higher levels has been the subject of consultation between NCVQ and higher education and is potentially an important area of future development.

The GNVQ is a highly significant addition to the NVQ framework of qualifications. It provides an initial qualification with strong vocational emphasis and with substantially greater potential for academic links than the purely work-based NVQ. The GNVQ has had a remarkable success in attracting candidates - current UCAS[1] figures suggest that 40% of those studying in post compulsory education are taking a GNVQ programme, and that a third of all higher education entrants will have a GNVQ within a few years.

"The GNVQ is a highly significant addition to the NVQ framework of qualifications. It provides an initial qualification with strong vocational emphasis and with substantially greater potential for academic links than the purely work based NVQ."

Assessment

The assessment of the new vocational qualifications is criterion referenced and designed simply to separate the competent candidate from the not yet competent candidate. Assessment is pass or fail and is not graded. The principles of assessing NVQs/SVQs are described in detail in the NVQ Guide (NCVQ 1995) and have been reviewed in the recent report of the Beaumont Committee (1995). Assessment has two important features:

- ❏ the candidate is required to provide evidence of performance which meets the standards set out in the units. S/he must therefore take an active role in assessment and must take responsibility for presenting evidence to an assessor. Assessment may include direct observation in the workplace or evidence from simulated activities (projects and assignments), as well as supplementary evidence of knowledge and understanding. This may take the form of oral questioning or of written material (essays and multiple choice tests).
- ❏ there must be sufficient evidence for the assessor to judge whether the candidate could continue to demonstrate the performance in the future. The candidate is required therefore to demonstrate competence in a range of settings and on more than one occasion.

The breadth and specificity of evidence required to demonstrate competence are important features of the standards required in assessment. There is indeed a simple pass/fail threshold but this applies across a considerable range of performance and requires the careful collection and documentation of evidence for each element. Depth of coverage, and therefore motivation to higher achievement may not be specifically encouraged by this approach but much could depend on the quality of teaching and learning support which accompany the completion of the qualification.

The Realities

The purposes of higher education and of Vocational Qualifications are quite different

NVQs, and GNVQs are described as being about creating a workforce which is "more versatile, readily adaptable, more highly motivated and productive" (A New Training Initiative 1981). They do not claim to have the wider educational and personal aspirations of higher education.

The aim of NCVQ for example is simply:
'to encourage the provision of more and better vocational education and training through NVQs which meet the real needs of employment and prepare individuals for changes in technology, markets and employment patterns, thus contributing towards improved national economic performance.' (Guide to National Vocational Qualifications NCVQ 1991)

The purposes of HE are more complex, Atkins et al (1993) suggest four:

- ❏ a general educational experience
- ❏ a preparation for knowledge creation
- ❏ a specific vocational preparation
- ❏ a preparation for general employment.

[1]University and College Admissions Service 1995.

Uptake and Progression in Vocational Qualifications

The development of the NVQ structure provides the possibility of a system of qualifications for people at work. These qualifications are fitted within a framework (The National Vocational Qualification Framework) which makes clear to learners and employers how the qualifications relate to each other, and what next steps are available. So, for instance the framework provides upwards progression for people specialising in a work role, or those becoming managers. It also provides the means of broadening, acquiring new areas of expertise, by moving across the units to include new areas of skill and development.

The reality of the system is that uptake has been patchy. Some sectors of employment - retailing for instance, have welcomed and used the structure. While others have remained suspicious of change and have continued to work with the more familiar older qualifications. There is evidence that greater confidence in NVQs is developing, but slowly.

Progression, how people move into and through the NVQ structure, poses different problems. The reality is that people do progress, but that a lot are hampered by the systems of assessment - for instance their employers are reluctant to collaborate with the assessment system, or the nature of their work is not quite the same as the qualification structure and this creates a barrier. One of the important messages about the NVQ at work is the support the candidate requires at all stages of the process. For example, there are now several hundred NVQs and each comprises different units and may be offered at several levels. There may be considerable choice and flexibility which can be puzzling to adults more used to a formal structured system of qualifications where there is less choice.

Assessment

In practice assessment has proved to be cumbersome and complicated. This has partly been a matter of inexperience among assessors and partly an overall suspicion about quality which has led assessors to be excessively cautious at the cost of making assessment extremely burdensome for the candidate. There has been continuing suspicion about standards of assessment and national comparability and it is possible that some form of standardised external assessment may be introduced to allay concern.

Many of the criticisms of the NVQ assessment approach reflect the different philosophies of the NVQ/SVQ systems and much of the rest of the UK education system. The former is concerned with creating a workforce which is appropriately qualified in a particular occupation, and its assessment systems are designed to provide confidence in the achievement of competence rather than in comparative graded success. Other education qualifications by contrast may have different objectives and may measure their achievement in different ways.

The cost of assessment is a recurring criticism of the NVQ system and has undoubtedly been a feature in reducing the uptake of the qualifications in some sectors of employment. It is evident for example that some employing organisations find the occupational standards on which the NVQs are based a useful set of criteria for their own training and development programmes but find the requirements and cost of assessment prohibitive.

The Lack of a Syllabus

Many qualifications rely on a syllabus which describes a course of study - this includes what will be taught, in what form, how long it should take, how it should be assessed and perhaps also what qualifications students should possess to begin with. NVQs start from a different concept, they are based on standards of achievement, not courses or programmes of study. They describe what a student must be able to do to achieve the qualification and leave the design of the teaching and learning process to the provider. They are deliberately intended to free up existing notions of taught courses and set teaching patterns, recognising that people learn in different ways and at different rates, and increasingly in different places. The existence of standards does not prevent providers from developing a syllabus to meet the needs of their clients/students, but does mean that differ-

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"There has been considerable concern expressed that in testing the ability to do, the NVQ may ignore the ability to understand, the critical cognitive abilities which underpin action (...) the inclusion and specific testing of the knowledge required is now clearly specified in all NVQs."

"One of the most striking features of the last decade has been the lack of collaboration, co-operation and understanding between the reforms in the higher education and the vocational sectors."

ent providers, serving different customers might have different models of teaching and learning and different syllabi.

Competence as an underlying philosophy of vocational qualifications

There has been considerable concern expressed that in testing the ability to do, the NVQ may ignore the ability to understand, the critical cognitive abilities which underpin action. Critics have suggested that competence-based systems pay insufficient attention to the assessment of knowledge and understanding. In practice this was a problem in the early qualifications, but the inclusion and specific testing of the knowledge required is now clearly specified in all NVQs. A further problem has arisen since the NVQs are based on standards of occupational competence developed by bodies comprising representatives of employers. There have been understandable fears in the education sector that NVQs will be focused narrowly on employer, rather than wider employment needs.

In practice the methodology for developing vocational qualifications has had considerable success in developing consensus on the specification of occupational roles across diverse and often conflicting factions in some occupational areas. In skilled hands it is a tool for development which appears to make it possible to build on the experience of large and often diverse groups who although sharing similar goals have often historically preferred to take different routes to achieving them. In practice the working arrangements set up to develop NVQs have provided an important new means of looking at qualifications and a remarkable level of consensus and support has been reached. Representatives of the education sector have played an increasingly active role in this and in developing teaching and learning structures to support people at work.

Collaboration

One of the most striking features of the last decade has been the lack of collaboration, co-operation and understanding between the reforms in the higher education and the vocational sectors. The opportunity to develop new curricula, to inform the increase in participation in post compulsory education has so far largely been avoided. Collaboration must be the watchword for the future. There is still time to grasp the opportunity to link a system of nationally agreed vocational standards with the learning structures developed in higher education, to enable more effective learning for everyone.

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Organization Design and On-the-job Learning:
their Relationship in the Software Industry

Dick Barton *is Independent Consultant in the Development of Managers and Organizations. He has worked in human resource development since 1990 and before that spent seven years in the software industry as a programmer, project leader and personnel manager.*

This paper examines the hypothesis that skills shortages in industry are sometimes created within industry itself by designing organizations in a way that limits opportunities for skill development. The example studied was the software industry, in which the required skills change fast and skills shortages are frequently reported. Six software projects were studied along with books and courses on project management and the labour market for software workers. Some projects were designed with very restricted opportunity for workers to develop new skills and skill development was not highly regarded by management. Others were designed differently, allowing workers to develop a wide range of skills. In conclusion, this crucial industry may be assisting its own skills shortage through ignorance about skill development and political control of skill acquisition.

This article is about the relationship between the way in which work is divided up in organizations and skill development on-the-job. A natural starting point would be a definition of skill but precisely what constitutes "skill" is a debate that has been going on for a long time. Although there is no agreed definition, it is possible to categorise the various perspectives of skill that people appear to take. It is proposed that there are, broadly, three perspectives of skill: the micro perspective, the macro perspective and the political perspective.

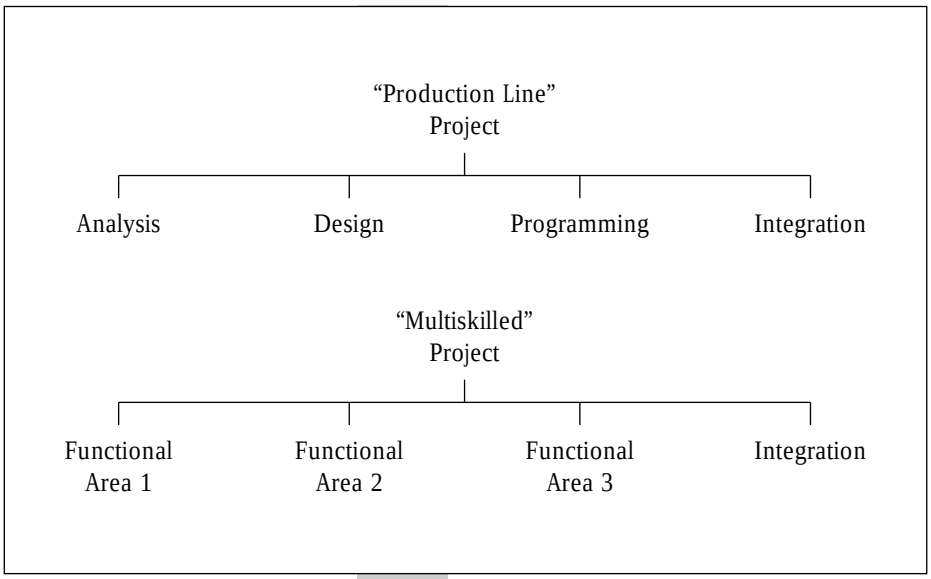
The micro perspective is based on the idea that skill can be analysed into individual actions or activities. This perspective is widely accepted in Britain and underpins ideas from time and motion study to competencies and National Vocational Qualifications[1]. The advantages of the micro perspective are that training can be targeted at the identified actions which can then be recognized and rewarded. The possible drawbacks are that the process can become unwieldy, making it bureaucratic and inflexible; there is sometimes more emphasis on skill assessment than skill development and it can blind people to the other comprehensions of skill that exist.

This article takes an alternative view of skill: the macro perspective. This perspective is not so concerned with the details of what a skilled person does but the more general question of how a person can develop skill in a broad sense. This is the category into which Britain's 'Investors in People' initiative can be placed. It is also the category for most corporate effort on appraisal, coaching, mentoring, leadership styles and general training - *but none of these are of much use unless the learner has a job which allows him or her to exercise the skills to be learnt. If the job is designed in such a way, coaching and so forth will help skill development. If the job is designed in a way that restricts skill usage, all the coaching, training courses, appraisals and so forth in the world will not make the learner competent in the restricted skills.*

This view is the starting point for this article. The political perspective of skill will be mentioned at the end. The question is: are jobs designed so people can develop a wide range of skills, keeping them interested in their jobs as well as more flexible and employable, or are they designed to limit opportunity for skill development, so creating inflexibility and contributing to skills shortages? It is a question which could be asked of any industry.

The software industry was chosen for examination because the author has experience of it. It is an industry that complains of skills shortages and, because technology is changing so fast, there is a limit to what can be expected from national education systems. In this research, six software projects were studied using personal experience and interviews with project managers and staff, identified through personal and professional contacts. The projects had between five and well over one hundred staff, covered various applications including defence and government and were spread across England. What was being sought was evidence that the work on these projects was split up between staff in a way that allowed them to develop a range of skills, and indeed whether this was an issue for the project manager concerned.

1) Editor's note:
National Vocational Qualifications (NVQs) set the seal on standards of performance established for specific occupations. Being work-based, NVQ's which are available at five levels within a comprehensive national framework, are designed to provide open access to assessment and facilitate life-long learning for people in employment.



"The question is: are jobs designed so people can develop a wide range of skills, (...) or are they designed to limit opportunity for skill development, so creating inflexibility and contributing to skills shortages?"

"(...) allowing people to work on all stages, using all the skills, does work."

Books and training courses for project managers were investigated to see whether these raised the issue of work design for staff development. Finally, a number of recruitment agencies were interviewed to discuss their views on skills profiles within the information technology labour market.

Two alternative project designs

There are many ways of organizing a software project. Two broad alternatives are shown in the figure above. The "Production Line" project is structured around the stages of the software development process: an analysis of the required system is done, the results of this work passed to designers, who pass their design to programmers who actually write the software. Later stages integrate the software and test it.

The alternative is the "Multiskilled" project, in which workers devote themselves to a functional part of the system, perform all the development stages for that part, and so develop the full range of software skills. This study attempted to identify which structure is found in practice.

Project one: Small Avionics System

This project took software developed by an Italian partner and converted it for the British customer. It seems inevitable that when work is passed from one group to another the inheritors will grumble about the work of the originators. This happened on this project but useful ideas came from the Italians: they did not organize their project around the stages of the development cycle. Rather than labelling their staff 'analysts' or 'designers' or 'programmers' they called them 'engineers,' and they worked on all aspects of the process, taking a piece of work right through to completion. The British team followed this lead and their engineers developed the full range of software development skills.

On small projects this is a common and expedient form of organization. There is not the scope for separate teams working on different stages of software development. This shows that allowing people to work on all stages, using all the skills, does work.

Project two: Medium Government System

In the early days of this project, analysts wrote an analysis of the required system. Designers then drew up a detailed system design but over time the understanding of what the system had to do changed so much that the design was largely ignored. The analysts and designers left the project and programmers spent their time writing programs from the specifications and testing. They worked on their own. Then they were filed away. Later, a new manager formed a new team which tried to put the programs together. But although the programs worked in isolation they did not work as a system. More time and money was spent fixing them, sometimes starting almost from scratch.

Because no one worked on any aspect of the system for more than one lifecycle stage, there was little 'ownership' of the system. Because the analysts and designers had departed they could not be asked questions about their work and, almost inevitably in a 'production line' project, were blamed in their absence for many of the problems. No one had much opportunity to learn more than a narrow set of software skills.

Project three: Medium Commercial System

The staff of forty to fifty people on this project were organized in a classic 'production line' structure based on control, with the technical work divided up in a way that limited the range of software development skills used. There was little job rotation either and the Project Manager was not sure what to say when asked how her staff develop skills.

The Project Manager chose this structure because it was the structure of previous projects she had worked on. No alternative had been considered. Career development seems possible only as projects finish and new ones start: one team leader on this project had been a programmer on the Project Manager's previous project.

Apart from the limited opportunity for skill development, this production line structure breaks most of the rules of good job design: little variety, little responsibility or autonomy, low task identity and task significance. The theory of job design would suggest that this type of project would have problems of morale and commitment. This was confirmed by a welfare manager at the site.

Project four: Large Government System

This is an immensely complex system because of its age and its application: lots of parts each with its rules, regulations, rates and laws to be catered for. Given this, it would seem sensible to organize the project around its different functional parts. However, the primary split in the project was between the systems group, which did analysis and design, the programming group, which did implementation, and the releases group, which put all the changes together and released them for use twice a year. A secondary split within systems and programming reflected the natural organization of the system.

So the production line structure is illustrated again. Opportunities for skill development were restricted. Instead, people became expert in handling one narrow aspect of one part of the system. This led to anxieties about employability and great problems with handovers as staff moved.

Project five: Large Avionics System

An early version of this system was developed using a production line project structure. Many difficulties at that time were reported to the author. When the more advanced version of the system was to be developed it was decided to produce it in phases. It was therefore organized around these deliverables.

When the project was studied, the first phase had been delivered to the client. The analysis of the system was done by a requirement specification team and passed to a 'high level' design team, who did an overall software design. The centralisation of these stages of work into single teams helped ensure the various phases of the system worked together.

The high level designs were passed to implementation teams that were working towards a particular phase of the system. They did the detailed design, implementation and primary testing which, while not the full set of lifecycle skills, is a significantly broader range than available on most of the projects studied.

Testing of the completed software was done by a separate team, as it was on the Small Avionics System, so the tests were designed independently from system development.

Another difference between this project and the previous three was the attitude of the project manager. He could readily see potential problems with skill development, blaming and motivation resulting from the 'production line' aspect of his structure. He said that skill development comes through job rotation and many permanent staff are developing the skills of leading a team of contractors, who do most of the actual implementation work.

Project six: Large Maritime System

This system was always planned to be delivered as a series of phases of increasing functionality but in its early days the project was organized as a production

"Apart from the limited opportunity for skill development, this production line structure breaks most of the rules of good job design (...)"

"Multiskilling is possible in the software industry."

line. One group did analysis of the system and passed their product on to teams of implementers who did the design and generated the software.

It may be no surprise to learn that a huge gulf opened between the analysts and the implementers. The project split and communication broke down.

Later, a new manager removed the structural causes of conflict within his project. He drew up a code of management practice and reorganized the project to give it a combination of control and ownership. The primary split in the structure was by the phased releases, which are the actual deliverables to the customer. Within each release team, the work was split by functional area, so staff could take ownership of their part of the system from analysis right through to initial testing.

The Large Maritime System is not without problems and there is some staff dissatisfaction. However, the phased releases are successfully being delivered to the client and used operationally, and staff on this project are able to develop a much broader set of skills than their colleagues on the other projects examined. Multiskilling is possible in the software industry.

"(...) even if software project managers do visit their institution's library or attend a training course it is most unlikely they will be called upon to consider the impact on skill development of the fundamental way in which they structure their organizations."

The Literature

The academic world has material on some of the relationships between skills shortages, organizational design, job design, motivation and skill development. None was found that was applied to an industry like software. The impact of the fundamental and practical choice between a structure with jobs of narrow skill range or jobs that span the process to give broader skills and identification with the product is not emphasised, despite its application to many types of work.

Busy managers cannot be expected to study the academic literature but some may seek written advice. The joint library of the British Computer Society and the Institution of Electrical Engineers was searched for project management books. Most were entirely technical in content and most of the rest had just a chapter or two on the human side of projects. These tended to assume a demarcation between analysts and programmers and saw skill development as meaning training courses. Examples were found of career path models which formalised the slow development of skills through a series of job titles, creating a time-served apprenticeship effect.

Out of the whole library, one book identified the alternatives of a production line structure and a multiskilled structure but without commenting on the effects on skill development. Only one book (Softky, 1983) advocated the use of on-the-job coaching to breed skills in staff.

Training courses in software project management

After some research, ten British organizations that provide training in project management for the software industry were identified. Of these, five provide nothing on developing skills in staff, organizational designs or job design. Two companies teach skill development techniques such as coaching, another examines options for organizational design and a fourth does both without making the link between them. Only one training provider, Learning Tree, examines the production line and multiskilling forms of project structure and their impact on skill development.

So even if software project managers do visit their institution's library or attend a training course it is most unlikely they will be called upon to consider the impact on skill development of the fundamental way in which they structure their organizations.

Recruitment agents' view of the labour market

Most recruitment of software workers is done through agencies so they seemed the best people to talk to about the labour market and whether it favours specialists or people with a broad range of skills. Six agents were suggested by people who recruit for the six projects studied. They gave a mixed picture of what is going on but a few general conclusions can be drawn. First, the labour market is

strongly influenced by the lifecycle stage specialist. Of those agents that talked about multiskilling, most simply meant programmers who could use several different computer languages. Second, the only commodity that matters in the software labour market is number of years of experience plus the degree class for young graduates. Third, many agents find their clients demand that candidates should already have all the skills their job will need - there is little will to provide training.

Conclusions

This study does not prove that the problems of the software industry are due to the way in which software projects are designed but it does suggest that skills shortages (plus staff dissatisfaction and conflict between groups) may well be related to the structures of the organizations in which software workers operate. The same effect could occur in any industry or company. There are some signs that things may be improving in places: the odd course, book or project that promotes a different structure, one that allows multiskilling.

The production line structure may have been appropriate in the early days of the software industry, when the applications of software were simple. Now, the multiskilled structure is more effective, bringing greater motivation, commitment to the final product and a more productive software industry in the future. The apparent cost of developing broadly skilled engineers will be offset by less frustration, less boredom and fewer project failures. So what causes a project manager to choose a production line structure rather than a multiskilled structure? A number of reasons occur.

First, simple ignorance. If projects have been traditionally organized as production lines, and if books and courses do not examine the problems this causes, the busy project manager may not think about alternatives.

Second, the production line structure, with its division of the work into small, visible stages, does seem easier to control. The multiskilled structure, with ownership of system functions delegated to engineers, looks risky. As part of what Hirschhorn (1988) sees as the tendency to retreat from the real risks associated with work, project managers may be more attracted to the stifling but controllable world of the production line.

My final reason for the continued use of the production line model brings me back to the final perspective of skill: at the start of this paper the micro and macro perspectives of skill were explained. That leaves the political perspective, in which skill is seen as a valuable commodity. People who have this valuable commodity want it to retain its value. It would lose its value if it became common. Therefore people who have a skill that brings reward, status or simply better work will do what they can to regulate the admission of others to their group. So one possibility is that projects are designed to allow only a limited set of skills in order to protect skills monopolies and so regulate the labour market for the benefit of those in higher status roles.

The truth is probably a combination of these reasons. Whatever the cause, this study suggests that skills shortages in the English software industry are due in part to its organizational designs. This could also be true for other industries and other countries - consider workplaces you know. Are the jobs designed to allow the development of a broad range of skills or are they designed in a way that allows only a limited set of skills to be developed? Is your industry helping to create its own skills shortage?

"(...) one possibility is that projects are designed to allow only a limited set of skills in order to protect skills monopolies and so regulate the labour market for the benefit of those in higher status roles."

"(...) skills shortages in the English software industry are due in part to its organizational designs."

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Programmed Exercises - A Measure of "Competence to Perform Occupational Activities"

"The purpose of the project was to develop ways of formulating examination exercises which shed light on various aspects of competence to perform occupational activities."

With the restructuring of many training occupations, "competence to perform occupational activities" has become a key concept in the field of vocational training. But new qualification requirements call for new approaches to examinations. Clearly, the question of how the new qualifications can be examined is one of the focal problems to be solved in implementing the new training regulations and skeleton curricula. IHK-Weiterbildungs-GmbH, a company formed by the Association of German Chambers of Industry and Commerce, undertook a research project to develop methods of measuring competence to perform activities in the examinations held by Chambers of Industry and Commerce. The project brought together the Institute of Education Research, trainers, teachers and specialists who set examination questions. Support was provided by an advisory board which included among its members representatives of the Federal Institute for Vocational Training, various ministries, chambers and trade unions. The project, which was launched in June 1993 and ran for one-and-a-half years, was funded by the Otto Wolff von Amerongen Foundation.

The purpose of the project was to develop ways of formulating examination exercises which shed light on various aspects of competence to perform occupational activities. The first part of the project, which sought to establish how far this can be achieved by programmed exercises, is now complete. The approach was to be so general that its applicability was limited neither to certain subject matter not to specific forms of examinations and exercises.

A concept for measuring competence to perform occupational activities

There is a broad and varied range of definitions and descriptions of what is understood by "competence to perform occupational activities". No agreement has yet been reached on a generally valid or recognized definition. Bearing in mind the goal of the project, it therefore seemed vital to sort and categorize the various definitions in order to provide a basis for establishing what is actually meant by competence to perform activities. Our research into the available literature revealed two distinct approaches to describing and measuring such competence:

- the "**activity-oriented approach**", and
- the "**analytical approach**".

The activity-oriented approach focuses on the action itself. It rests on a notion of **activity as a process**. A key element is the realization that acting is more than "simply doing". It takes "complete actions" as its point of departure, including the familiarization, planning, decision-making and review stages. This approach offers one means of measuring aspects of competence to perform occupational activities. In a practical examination, typical actions are performed as completely and realistically as possible, while in a written examination they are "simulated".

The analytical approach centres on the "competence" component. The emphasis is not on the actions themselves, but on

the **prerequisites for competent occupational activity**, namely specialist knowledge and skills, and core skills. This concept offers another means of measuring different aspects of competence to perform occupational activities. Examination exercises are formulated which permit the measurements to be targeted on specific job-related competences.

Each of the two approaches sheds light on the concept of competence to perform activities from a different viewpoint, and each offers its own ways of gauging occupational competence in examinations. The analytical approach - the separate measurement of specific qualifications - largely accords with traditional examining methods. However, it invariably fails to tell us whether examinees are capable of combining these qualifications when it comes to an actual work assignment.

The project looked mainly at the **activity-oriented approach.** The occupations of **commercial clerk** and **industrial mechanic** specialized in plant technology were chosen to implement this approach. Prototype exercises incorporating typical activities were drawn up for each occupation. The activity-oriented exercises were formulated to examine core skills considered instrumental to the occupations, such as an ability to draw inferences, plan, coordinate and solve problems.

How does an activity-oriented programmed examination exercise look in practice?

It begins by describing a concrete occupational situation involving a typical work assignment. An exercise for an industrial mechanic, for example, might begin as follows:

The turnery calls to say that the tail spindle on lathe 4 is very stiff. The crank handle cannot be turned by normal effort. Your job is to return the tailstock to normal working order.

You receive the following documents from the turnery:

a diagram of the complete lathe with a list of parts, a troubleshooting table, ... (the documents are attached).

Since the assignment involves a number of work steps, an activity-oriented exercise or a set of such exercises will always include several questions and will cover either parts or the whole of the activity or assignment. The answers may be in single or multiple choice form, or they may require the examinees to match different items, rearrange them or place them in sequence.

The exercise is formulated to reveal whether the examinee has:

- ❏ understood the assignment correctly, and is able to
- ❏ analyse the documents in the light of the goal,
- ❏ determine the work steps involved in the exercise,
- ❏ coordinate different requirements,
- ❏ evaluate alternative courses of action,
- ❏ where appropriate, perform selected work steps,
- ❏ review the results and pinpoint errors, and
- ❏ identify potential improvements and, possibly, preventive action.

This approach formed the basis for draft exercises which were developed at separate workshops devoted to each of the occupations. They cover a broad range of activities typically performed by commercial clerks and industrial mechanics: planning a business trip or a meeting, assistance with the selection of a new recruit, fitting a disk coupling, assessing damage to a gearing. This is only a small selection of the occupational activities covered in programmed exercises. The exercises were tested empirically on approx. 360 trainees from different parts of Germany.

The results are encouraging:

The trainees' reaction to the new examination exercises was surprisingly positive. They found them interesting and realistic, and many of the trainees enjoyed working on them, a verdict which is not necessarily the norm for examination ex-

"The project looked mainly at the activity-oriented approach."

An activity-oriented, programmed examination exercise "(...) starts by describing a concrete occupational situation involving a typical work assignment."

"This reflects the new type of exercise: a single description of a situation and assignment forming the basis for a number of questions for completing the assignment."

ercises. Contrary to initial fears and the views of those taking part in the trial, activity-oriented exercises focusing on the ability to plan, coordinate and solve problems proved no more difficult than exercises without these specific requirements.

The empirical data revealed that there was no basis for the fears of some examiners setting the tasks that the new exercises might be too time-consuming. The time required per question by the commercial clerks was only slightly above that for conventional questions, while the industrial mechanics actually took less time. This reflects the new type of exercise: a **single** description of a situation and assignment forming the basis for a number of questions for completing the assignment.

The exercises proved too difficult, especially for the commercial clerks. When considering this fact, however, it should be borne in mind that the candidates were confronted with a completely new type of exercise for which the vast majority had not been sufficiently prepared in their training.

An initial validation was made of the new exercises. There was, for example, a significant correlation between the degree of practical experience with specific activities and the success attained in performing activity-oriented exercises in the same sphere.

What are the potential applications of the new approach?

A **collection of activity-oriented sample exercises** has been produced for commercial clerks and industrial mechanics specialized in plant technology which incorporates important (if not yet representative) elements of work activities typically performed in these two occupations.

A **guideline** has been developed for the formulation of activity-oriented exercises appropriate to each of the occupations, providing a useful tool and numerous tips and ideas for those who draw up examination exercises.

It became increasingly clear in the course of the project that even examiners experienced in setting examination tasks require an active practice phase and repeated feedback if, employing the guideline, they are to use all the possibilities offered by the new approach. A **training strategy** including workshops to provide such practice was therefore developed on the strength of the experience gathered. A **foundation** was laid for measuring focal aspects of competence to perform occupational activities also through written examinations. Moreover, the approach is certainly not limited to programmed exercises. A follow-up project is now under way which centres on activity-oriented exercises in which the examinees are free to give their own answers (**conventional exercises**).

The approach is designed to be **suitable for any occupation.** It was developed and trials conducted with a commercial occupation and a technical occupation. But in principle it can be applied to any training occupation. (The first exercises have now been drafted for trainee electronics technicians specialized in plant technology in the energy sector.)

The approach provides new **criteria for classifying examination exercises**, which is important when it comes to producing pools of such exercises. Classifications based on formal criteria, degree of difficulty and the (estimated) degree of complexity can now be supplemented by "activity-oriented" criteria. A set of exercises, for example, might be examined to determine how far it incorporates the major elements of a complete activity.

The underlying idea - that of using questions systematically to address the different elements of an occupational activity - can also be applied to **tests during initial training** and to **examinations in continuing training**, provided the purpose of training is to foster competence to perform occupational activities.

Finally, it should be mentioned that the benefits of the research are not limited to the products developed but also include new findings on the application of a working method. This working method was borrowed from psychological diagnostics

and organizational psychology and adapted to vocational training and examination, where it was applied with success. A pivotal part was played by the **analysis of requirements**, which was used to identify and analyse typical occupational activities, to pinpoint core skills and "translate" them into observable behaviour.

What part should the new exercises play in the final examination?

At the present time, their use seems particularly appropriate in subjects with written examinations which readily permit integration of exercises focusing on work assignments and workflows. In the case of commercial clerks, these subjects are office management and accounting as well as economic and social studies. Job scheduling and technology are the most suitable choice for industrial mechanics. Here, too, it would certainly be a step forward to include activity-oriented exercises in economic and social studies examinations. Unlike conventional exercises, these focus not on the reproduction of facts but on an understanding of in-house workflows and the settlement of topical issues (e.g. those governed by labour law and collective bargaining regulations).

The shape of future examinations will also depend on what aspects of occupational competence can be measured best, i.e. most accurately, reliably and economically, by what forms of exercise. It is important in this context to arrive at a realistic evaluation of the advantages and drawbacks associated with each form of examination, and to weigh them against each other. For example, the major advantage of a practical examination - the fact that it offers examinees an opportunity to demonstrate their skills in the actual performance of their occupational duties - invariably entails a not inconsiderable drawback. The practical examination is comparatively time-consuming, material- and manpower-intensive, and for this reason has to be limited to a few actions. From the viewpoint of testing theory, this limitation has serious implications for the information value of the method as such. Given the broad spectrum of occupational activities, is it reasonable to draw inferences for competence to perform occupational activities **generally** on the strength of just two or three "work samples"?

Target: a binding list of typical occupational activities

A representative and binding list of typical occupational activities would provide a basis for matching occupational activities with the different ways of measuring their performance. A command of the activities which are essential to an occupation, e.g. repairs in the case of an industrial mechanic, could be demonstrated in an integrated practical examination. Other typical activities could be covered in a written examination. The choice between the programmed and the conventional form should depend mainly on what is being examined and, where appropriate, also on the organizational context. Last but not least, a written examination suggests itself for activities which cannot be reconstructed in a practical examination. These include such activities as those that extend over a prolonged period of time or rely on plant, machinery and equipment which is not available under examination conditions. Including these in a written examination would extend the range of activities in which competence can be measured, increasing the information value of the entire examination procedure.

"The approach provides new criteria for classifying examination exercises (...)."

"At the present time, their use seems particularly appropriate in subjects with written examinations which readily permit integration of exercises focusing on work assignments and workflows."

"Given the broad spectrum of occupational activities, is it reasonable to draw inferences for competence to perform occupational activities generally on the strength of just two or three 'work samples'?"

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Pedagogical skilling and promoting cooperation
- a continuation training model for vocational training personnel

The results of the evaluation of the so-called 'Qualification Pilot Project' (MVQ) show how a joint long-term continuation training course for trainers, teachers and social educators can enhance their pedagogical skills and improve cooperation between these players. The article presents the design, methods and experience of the pedagogical and psychological continuation training course for training personnel.

New requirements in many occupations in the wake of technical, economic or social change equally imply new demands on vocational training personnel, above all, enhanced social and key skills: the ability to work in a team, the willingness to cooperate, a sense of responsibility and independent action.

This article presents findings from a pilot project implementing a pedagogical and psychological continuation training course for training personnel working outside the firms, above all in schemes catering for the educationally disadvantaged, e.g the long-term unemployed or the less skilled. The training personnel involved in the pilot project either work for continuing training providers delivering further or retraining programmes for vulnerable groups or in the field of non-company-based initial vocational training for disadvantaged youngsters in training centres.

Background and design

A joint continuation training programme was organized for three occupational groups working in the field of vocational training: trainers imparting specialized practical skills, teachers dispensing theoretical instruction and social educators with the principal task of providing guidance to clients confronted with problems.

An in-service continuation training course was implemented in two stages in the period 1992 -1995. The first stage, consisting of 6 seminars, lasted 192 hours over 14 months and the second comprised 8 seminars over 168 hours. The specific - and at the same time innovative - features of the course design are as follows:

❑ The course involved three occupational groups whose cooperation is of particular importance for the success of vocational training. However these players frequently work in isolation, with no mutual coordination or support, and not in a team. The guiding principle of the programme is to learn together and from each other with a view to joint practical activity.

❑ The long-term course form was selected to allow for possible changes in attitude and behaviour and personality development.

❑ The choice of teaching or counselling projects by the participants themselves guaranteed direct transfer of learning experience and teamwork to everyday working routine.

This corresponded to the objectives of the project: to promote cooperation between training staff, to improve their pedagogical and professional skills and enhance the quality of training schemes delivered, especially for those unaccustomed to learning.

The implementing body is the Stiftung Berufliche Bildung (Foundation for Vocational Training), a non-profit-making public-sector continuing training provider sponsored by Hamburg city government. A total of 48 persons took part in the two stages, including staff from 5, and 6 other training institutions respectively, each

delegating a team of staff, mainly comprised of the three occupational groups. The work was assisted by critical stimuli from a scientific advisory board.

The Bundesinstitut für Berufsbildung (BIBB) provided scientific guidance for the pilot project. The BIBB team conducted initial interviews and a final survey among all the participants, interviewed their managers and participated in the seminars as observers where they also provided feed-back on important research results.

Specific characteristics of the occupational groups and their relationship

The pilot project had to account for the specific characteristics of the three occupational groups. The different backgrounds, working methods and orientations of the participants from the three groups became evident in the initial interviews and during the course itself. A common denominator was that they were generally not prepared for either the special clientele of the 'educationally disadvantaged' or for cooperation with other players.

On account of their training, the teachers were generally geared towards teaching at schools dispensing general or vocational education - and therefore children and youngsters. Not all of them had completed teacher training. In contrast, in view of their vocational certificates, the trainers and master craftsmen/women were oriented towards the training of 'normal' youngsters. Those working in the continuing training generally lacked specific knowledge of adult education. And since the social educators had as a rule been trained to provide guidance to individuals faced with social problems, work in vocational training schemes implied the acquisition of supplementary skills.

The work of the representatives of the three groups participating in the project can be clearly differentiated according to their main focus of responsibility: teaching, instruction and pastoral care. Different requirements concerning the content and objectives of their work and a lack of exchange between the various groups on these matters initially he groups' perception of each other. The result was in some cases narrow, stereotyped attitudes and prejudices: Teachers were criticized by the others - "they never stop talking" - and the working perspective of social education was not always fully acknowledged as being on a par with the others. Different salary levels - teachers the highest, trainers the lowest earners - and different rules on compulsory attendance - caused dissatisfaction. When these issues were discussed within and between the occupational groups, the differences were cleared up, the groups began to judge each other more realisitically and gradually grew closer.

"The pilot project had to account for the specific characteristics of the three occupational groups (trainers, teachers and social educators). A common denominator was that they were generally not prepared for either the special clientele of the 'educationally disadvantaged' or for cooperation with other players."

Design elements and their implementation

The continuation training course design comprised various elements, applied in slightly different form in the two stages.

❑ **Theme-oriented work**
This included e.g. themes such as 'key skills, learning counselling or group leadership', covered both within the whole group (plenary) and in alternating working group sessions attended by participants from each of the occupational groups.

❑ **Project-oriented work**
Here the task was to plan, implement and evaluate a freely chosen learning or counselling project along with one's peers (from the same institution) - i.e. in the form of teamwork.

❑ **Occupational group work**
In the first stage, the three occupational groups covered the general themes from the specific angle of their own activity, whereas in the second the emphasis lay on matters relating to their own occupational identity and their relationship with the other groups.

❑ **Practical guidance**
This supervisory support function was offered in the form of case history discussion serving to examine topical problems of working practice and extend the relevant scope of action.

The continuing training concept consisted of several elements:
theme-oriented work,
project-oriented work,
occupational group work
and practical guidance

"In their daily working routine, the participants often lack the time to consider the possibility of joint pedagogical action."

"(...) various structures and didactic decisions (...) served to promote acceptance, communication and cooperation between the occupational groups (...)"

"(...) the participants developed a greater degree of understanding for each other, clarified educational positions, learned from each other and drew benefit from the competences of others."

Evaluation of the first stage provided important findings, in particular on the importance and structure of the course elements. It was decided that all the elements should be given set times and places within the seminars - including project work and case history discussion, originally envisaged in addition to the seminars. Moreover, additional weight was to be given to project work, characterized by intensive team cooperation and direct transfer into practice. This was taken into account in the three-pillar seminar structure in the second stage (cf. Fig. 1).

Promoting cooperation - helpful structures and processes

One of the chief objectives of the pilot project was to promote cooperation between the three occupational groups. In their daily working routine, the participants often lack the time to consider the possibility of joint pedagogical action. This opportunity was offered by the pilot project.

In the first stage, various structures and didactic decisions specifically served to promote acceptance, communication and cooperation between the occupational groups: sufficient time and opportunity were provided for exercises and games to promote communication and develop confidence in one another, the different abilities of the various occupational groups came to the fore in intergroup project work and the partly open seminar design offered scope for conflict management.

Over and above this, communication exercises, moderated large-team discussion and role play were added in the second stage. Additional seminar units covered 'factors disturbing teamwork' and 'roles and tasks in a team'. The groups' own self-perception and relationship with the other groups were examined within the occupational groups.

The focus and 'touchstone' of cooperation was the planning, implementation and evaluation of a teaching or counselling project within a team from the same institution, under the guidance of the course management. Although not free from disturbance and conflict, the experience of the project work was largely positive: the participants developed a greater degree of understanding for each other, clarified educational positions, learned from each other and drew benefit from the competences of others. The principal sources of difficulty were differences in working style, communication behaviour and the implementing conditions of the various institutions.

Aspects promoting and obstructing cooperation were identified by a survey and can be classified into three spheres of influence (cf. Fig. 2).

Almost all the participants in the second stage were in favour of project work in the future. However the positive experience of cooperation during the course can only to a limited extent be transferred to daily working routine: there are usually time constraints and players from different 'institutional teams' do not operate in the same organizational units or do not always work together. However there is

Figura 1

Pillars of the MVQ continuation training course

(2nd stage)

Theme-oriented work	Project-oriented work	Occupational group work
All occupational groups In the plenary and alternating working groups	All occupational groups In a team from the same institution	In the occupational groups

a greater willingness to cooperate among many particpants - even with members of other occupational groups.

Enhancing pedagogical skills

The pedgogical skills of training personnel must be enhanced given, among others, the changing role of the teaching/training function: as well as dispensing knowledge, guiding and counselling the learning process are becoming increasingly important - and in the case of clients unaccustomed to learning, motivation, encouraging learning and care are part and parcel of training personnel's tasks.

The main areas covered in this field are reflected in the subjects examined, e.g. 'entry and exit situations, solving problems and conflicts, key qualifications, learning counselling and learning difficulties, group leadership and group process analysis'. The following two areas were rated by the participants at the end of both stages as the most important:
1. group aspects, group dynamics, group roles and
2. cooperation with colleagues, teamwork, conflict management.

The course was designed according to the 'pedagogical doubledecker' model: course participants experienced a broad spectrum of methods and working and social forms, most of which can be transferred to their own working routine. Methods used were e.g. metaplan, role play, case history discussion, feedback, painting or collages, communication, cooperation, movement and relaxation exercises. Each seminar used many different and frequently alternating working forms, including the plenary, work within the three occupational groups, teamwork with peers from the same institution or in working groups with different compositions, work in pairs and working alone.

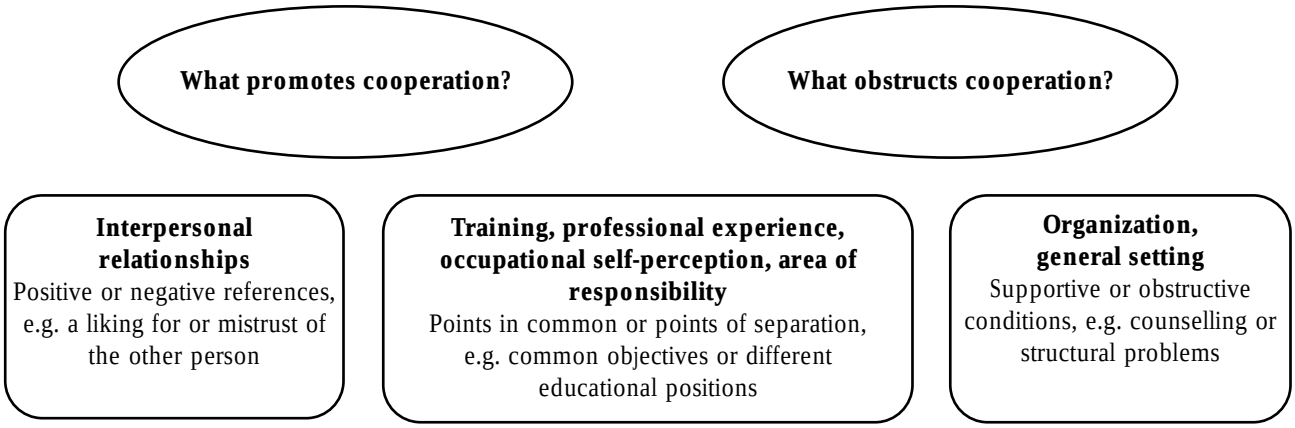
The participants' response to this broad spectrum of methods was very positive; in particular the case history discussions were very popular in both stages. The work forms received a different evaluation in the final assessment: whereas the participants from all occupational groups preferred occupational group work in the first stage, only the social educators were really satisfied with this form in the second. The teachers found theme-oriented work more important and the trainers came out clearly in favour of project work.

The yardsticks for the evaluation/assessment of the methods and work forms used during the course were acceptance and repercussions for the continuation training course, on the one hand, and transfer to participants' own working routine, on

"However the positive experience of coooperation during the course can only to a limited extent be transferred to daily working routine: there are usually time constraints and players from different 'institutional teams' do not operate in the same organizational units or do not always work together."

Fig. 2

Cooperation: questions and spheres of influence



"In the light of the transfer of many different stimuli into participants' own working routine and the higher degree of integration between workshop instruction, theoretical tuition and pastoral care, the course has also had a positive impact on training quality".

the other. Examples of the latter are in particular the metaplan method, feedback and the morning and farewell rounds. By the end of the course, most of the participants had already used several of the methods themselves. Several of the work and social forms experienced were also generally transferred to the participants' own working context, in particular group work or working with a partner. This is a gratifying result - considering the predominance of trainer/teacher-centered methods in the vocational training field.

In the light of the transfer of many different stimuli into participants' own working routine and the higher degree of integration between workshop instruction, theoretical tuition and pastoral care, the course has also had a positive impact on training quality.

Perspectives

Various transfer materials have been prepared for institutions and those wishing to draw on the experience of the pilot project for the purposes of continuation training and personnel development. These resources are not tied to the organizational form of our course, but can be used flexibly and allow for less favourable situations as far as financial and staffing resources for further training staff are concerned. Alongside the final report, course design models and printed material are in the pipeline, e.g. a compilation of typical problem cases in the form of further training material. We are also planning a media-assisted form of team-oriented continuation training to facilitate use of this approach by other institutions.

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Pedagogical innovation in Danish vocational education and training

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This article aims to present the framework of and methods applied in the pedagogical innovation process in Danish VET. The focus is on pedagogical innovative capacity, particularly the infrastructure created to support a renewed dynamism. The logic of presentation is as follows: firstly a broad introduction is given to the specific Nordic tradition of pedagogical research and development work. Secondly some basic structures and functions in the Danish VET system are described and put into perspective by contrasting the Danish system with the German dual VET system and the Swedish school-based VET system. And thirdly a critical assessment of Danish innovation strategy as a tool for developing the VET system is undertaken. Some of the critical remarks expressed in the OECD examiners' report of 1994 are considered at the end of the article.

This article aims to present the framework of and methods applied in the pedagogical innovation process in Danish VET. The focus is on the pedagogical innovative capacity of the VET system, particularly the infrastructure created to support a renewed dynamism. This limitation means that specific examples of innovative projects will not be examined in the context of this article.

The logic of presentation is as follows: firstly a broad introduction is given to the specific Nordic tradition of pedagogical research and development work. Secondly some basic structures and functions in the Danish VET system are described, and finally a critical assessment is made of how and to what extent the Danish model of pedagogical innovation affects innovation in and the development of training schemes. Some broader assessments of how the Danish VET system works will be included along the way.

Formulation of VET methods in the Nordic region

The concept of pedagogical study in vocational education and training in the Nordic context encompasses both broader vocational education and training problems and pedagogical problems and teacher training courses. It is thus a very broad concept.

Pedagogical R&D work plays a very major role in the Nordic tradition for the development of vocational education and training. But what is understood by "R&D"? The term R&D can have two meanings: 1) "research, experiment and development" and 2) "experiment and development". This distinction between research and R&D - and in general between scientific research, applied research and R&D - is important, not least in comparisons between European and Nordic countries. This must without doubt be seen in connection with the fact that VET research in other western European countries represents an independent and major area of research with its own university institutes, chairs, doctorates and Ph.D. students.

This is not the case in the Nordic countries, where semi-academic VET institutes have largely had the field to themselves, and where the demarcation between research and experimental and development work has not played such a great role. However, the distinction is certainly not devoid of problems, and overall there is a marked need for actual VET research in all the Nordic countries. There are also occasional conflicts and problems with the demarcation between "the line of research"/university researchers and "the line of development"/vocational trainer teachers in connection with major knowledge-based development and evaluation projects.

However, it must again be emphasised that it is a characteristic feature particularly of Danish tradition that pedagogical innovation to a large extent proceeds through R&D work locally in the institutions, in contrast to other European countries, where scientific approaches weigh far more heavily.[1,2]

The Danish vocational education and training (VET) system can be described as a cultural bridgehead between the European dual apprentice systems and the school-based models of the Nordic countries. The system is a further development of the apprenticeship principle, and there is more theoretical teaching (more time spent in school) in the Danish VET system than in German VET schemes, and conversely far more practical in-company

1) For an overview of the Nordic R&D field, including the key institutions in this area, see Nielsen, Søren P., *Kortlægning af nordiske yrkespædagogiske FoU-miljøer (Survey of Nordic R&D groups in vocational education and training)*, TemaNord 1994: 659, Nordic Council of Ministers. The "line of development" dominates in this survey.

2) An equivalent survey based on requirements for scientific rigour in the research of the institutions has been undertaken by Kämäräinen, Pekka, *Identification of Cooperation Potentials in Vocational Education and Training Research in the Nordic Countries*, CEDEFOP, 1995.

"The concept of vocational education and training methods in the Nordic context covers both broader vocational education and training problems and teaching method problems and teacher training courses. It is thus a very broad concept."

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"The Danish vocational education and training (VET) system can be described as a cultural bridgehead between the European dual apprentice systems and the school-based models of the Nordic countries."

"The interaction between school and firm, learning on the job and the role of the labour-market parties in vocational training courses are (...) major task areas in Denmark for the pedagogical innovation effort in VET

3) But this not a solely Danish experience, cf. Mallet, L.: Vocational Education and Training. Research Structures and Community Orientation. CEDEFOP, 1994.

training than in the Swedish system, for example. Practical training in Sweden has been increased with the new upper secondary-school reform, but "workplace-located education" in Sweden is not practical work as the firms here take on an educational task controlled by the school's syllabus and subject to educational logic; Swedish firms thus have to make trained instructors available at the workplace.

The workplace-located part of VET is considerably smaller in Sweden than in other countries, including the Nordic countries - 15% of teaching time compared with between 60 and 75% in Denmark. A large part of the training in apprenticeship schemes which take place in many countries is given at a single workplace. The trainees/apprentices in dual systems of this kind receive the whole of their vocational education and training at the same workplace, which means that they take part in production, subject to production logic, and gain in-depth knowledge of and aptitude in mastering the skills currently needed in the social environment of this particular firm but little other insight into the future development of the sector.

The school part in Danish alternance-based training courses seeks to iron out this problem. Although there are great structural differences between the Nordic VET systems, there are also many areas where the content is identical. Lennart Nilsson, a lecturer in vocational teaching methods at Akershus College in Oslo, has argued that there is a genuine Nordic model for vocational instruction, which is common to the five Nordic countries. The model comprises three parts: a) a practical part: working techniques, b) a vocational theory part: specialist theory, and c) a general educational part: general subjects. The three parts have equal status in the overall occupational profile which is the qualification goal of the instruction. However, the difficulties consist in developing the pedagogical approach so that the elements can be learnt as a whole. The greatest progress according to Nilsson has been achieved in Denmark, in real experiments in carrying out totality-oriented vocational instruction which from the point of view of the learners allows for close content-based integration between the practical part, the specialist-theory part and the general educational part of the Nordic model.

The VET system has been greatly decentralised in Denmark since 1991. The basic vocational training schemes are organised as alternance-based courses with alternating school and in-company periods. The labour-market parties play a dominant role in the development of technical training courses through what is known as technical self-management.

The field of R&D thus becomes broader than pedagogical, school-related projects. The interaction between school and firm, learning on the job and the role of the labour-market parties in vocational training courses are therefore major task areas in Denmark for the pedagogical innovation effort in VET. There is only one training institution for vocational school teachers, Danmarks Erhvervspædagogiske Læreruddennelse (DEL). DEL is not organised as a higher educational institute with the right to conduct its own research, and has instead set up its own research department, which undertakes contract research. DEL's many R&D activities in vocational pedagogical studies are also supported, however, by public funds through an annual grant under the Finance Act.

It is felt in Denmark that the broad field of research encompassed by vocational and labour-market training courses cannot be covered by one institution. DEL has therefore set up a network of other higher education institutions whose focus lies in different areas, and where major tasks are tackled and solved jointly.[3]

The vocational education and training system in Denmark

There are two main types of vocational training courses in Denmark, based on legislation from the Ministry of Education and the Ministry of Labour. The Ministry of Education is responsible for the ordinary vocational training system for young people (and since 1992 for adults as well); this system is organised as a dual apprentice training system. The vocational training courses are offered by 58 technical

schools and 50 commercial schools, which also offer vocational upper-secondary school training courses lasting three years. The continuing training courses are mainly offered under the Open Education Act of 1993.

It is also striking that Denmark differs from the other Nordic countries with regard to the position of the VET courses in the total configuration of youth training schemes. Whilst the other Nordic countries, to a quite high degree organisationally, have put into practice 12-year schooling for all - the "videregående skole" in Norway, "gymnasieskolan" in Sweden, combination studies in Finland, with increasing individualisation and flexibilisation within existing, familiar educational structures - it is notable that the differentiation of education and training has increasingly been systematised in Denmark: as a result of a number of new legislative initiatives to increase flexibility in the nineties ("Bridge building", "Education for all" etc.), students can choose between a number of different forms of school and traditions which they can combine in a multitude of ways, and they can vary quite substantially the time a training programme is to take.

To sum up, the Danish youth education and training system can be characterised as still showing the marks of two main traditions: the Latin school, in the form of a modern three-year optional upper secondary school (gymnasium), and apprenticeship in the form of a vocational training system based on the principle of the dual system. There is also a plethora of "free schools" which also offer vocationally oriented instruction. There is a tradition in Denmark of great diversity in the system of education and training, based on a Grundtvigian free-school tradition, which means that the users are assured of free choices and that the market mechanism regulates the allocation of public resources, depending on how the students "vote with their feet".

For historical reasons, training schemes for semi-skilled workers and the continuing training of skilled workers and technicians come under the Ministry of Labour (the labour-market training or AMU system). The purpose of the AMU courses is to maintain, develop and improve the qualifications of the workforce by offering courses which meet the current needs of firms, individuals and society. A large number of short, specialised and modular-structured courses are offered by the 24 AMU centres, the activities of which are controlled by the Labour Market Board (AMS).

It is characteristic that the labour-market parties play an extremely large role in the control and development of both systems. The structure of the VET system is chiefly illustrated below.[4]

The dynamics of innovation in vocational education and training

The 1991 reform of vocational education and training gave fresh impetus to the potential for innovation in structural, content-related and pedagogical development. This is borne by three elements of the VET reform in particular: decentralisation and increased market control, control by the labour-market parties and the upgrading of the priority given to pedagogical R&D effort in the interaction between the decentralised units (the vocational schools) and the central level.

Management by objectives and frameworks was introduced in 1991 in connection with the major reforms in the area of vocational schools in both the educational and economic/administrative areas, which has meant noticeable changes in the distribution of responsibility and authority between the players in the system. The principle of management by objectives and frameworks signifies that flexible adaptation of and innovation in training courses in relation to specialised and local needs are combined locally with optimisation of the commitment of resources at the individual school.

Central regulation is restricted to objectives and other content-related frameworks in decisive, general areas. The objective among other things has been to give free rein to creativity and dynamism at the local level with a view to ensuring more rapid innovation in training courses, better opportunities for adaptation to the students and high productivity. Renewal

"There is a tradition in Denmark for marked diversity in the system of education and training, based on a Grundtvigian free-school tradition, which means that the users are assured of free choices and that the market mechanism regulates the allocation of public resources, depending on how the students 'vote with their feet'."

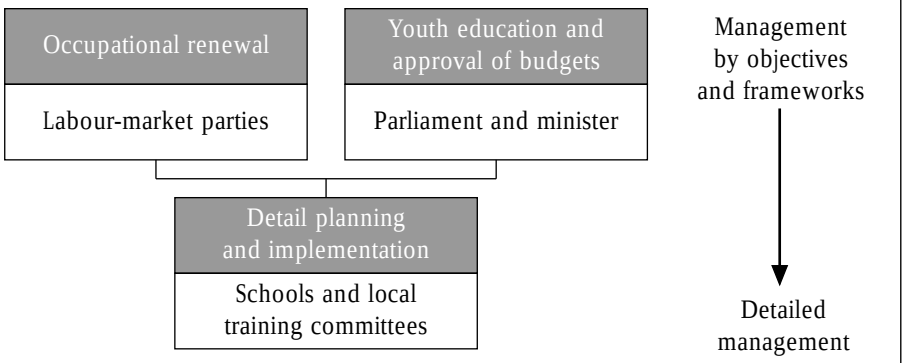
"The 1991 reform of vocational education and training gave fresh impetus to the potential for innovation in the development of structure, content and teaching methods."

"Management by objectives and frameworks was introduced in 1991 in connection with the major reforms in the area of vocational schools in both the both educational and economic/ administrative areas (...)."

"The objective among other things has been to give free rein to creativity and dynamism at the local level with a view to ensuring more rapid innovation in training courses, better opportunities for adaptation to the students and high productivity."

4) For a detailed presentation of the complete vocational and labour-market training systems in Denmark, see: Nielsen, Søren P., *Erhvervsuddannelsessystemet i Danmark (The vocational education and training system in Denmark)*, CEDEFOP monograph, 1995, and Nielsen, Søren P., *Erhvervsrettet efteruddannelse i Danmark (Vocationally oriented continuing training in Denmark)*, FORCE Art. 11.2 report, ACIU, 1995.

Figure 1.
Vocational education and training management system



"The local pedagogical development work thus becomes a requirement for the schools - the schools are forced to be responsible for the pedagogical innovation themselves (...)."

"The joint (...) trade committees are the transmission link between the identification of needs for new qualifications and the response of education and training to these needs."

"The principal task of the local education and training committees is to assist the schools in their work of planning and renewing instruction and assisting towards managing the contract between the school and the local labour market."

and pedagogical innovation are thus an integral part of the objectives in the VET system, and it is therefore of decisive importance that the scope for creativity and dynamism locally is not limited by new central requirements imposed on the schools.

Another major structural element to ensure innovation in training courses is the increasing role which the **labour-market parties** have acquired at all levels of the system. The bodies setting objectives and frameworks at the central level are the labour-market parties, which have responsibility for technical innovation, the practical parts of the training courses and also considerably increased influence on the school parts of the training courses.

The new system of management means that the centrally established, overriding frameworks for day-to-day instruction at the individual school have to be continuously "translated" and implemented at the individual school. The local pedagogical development work thus becomes a requirement for the schools - the schools are forced to be responsible for the pedagogical innovation themselves; firstly the schools themselves are responsible for the curriculum "translation work" from training order to syllabus, and secondly schools, because of the market competition situation, wish to attain a profile for themselves in relation to others in order to get customers into the shop. The decentralisation of responsibility for pedagogical innovation has also been supported by changes in occupational self-management.

The **trade committees** have responsibility at national level for renewal in the individual training courses, and it is relatively straightforward today to have new training courses set up or have changes made to existing ones. The trade committees are the transmission link between the identification of needs for new qualifications and the response of education and training to these needs. The procedure is highly pragmatic, and it is still not usual in Denmark to base the planning of education and training on the qualification analyses of industrial sociology. However, most trade committees (and continuing training committees) will claim that they do in fact conduct qualification analyses - in practice. When a need for change has been identified, the normal procedure is to set up a TF (technical trade) group, which is tasked with formulating the occupational profile the training course is to cover. TF project groups of this kind will normally involve management and employee representatives from spearheading companies. External experts are often brought in. Firms and teachers from the schools play a major role in this process. The next phase is the formulation of what are known as TP projects (technical pedagogical projects), where the job profile description on the basis of ministerial guidelines is transformed and forged in educational terms. The Ministry then codifies the training course by sending out an education and training order based on management by objectives and frameworks to the schools.

Detailed planning and execution take place at school level, and here the advisory local training committees have acquired influence over the closer organisation of the instruction. The trade committees are the transmission link between the identification of needs for new qualifications and the response of education and training to these needs. The principal task of the local education and training committees is to assist the schools in their work of planning and renewing instruction and assisting towards managing the contacts between the school and the local labour market. One or more local training committees is appointed for each school, which together are to cover the

training courses the school offers. The majority in each committee is to be made up of representatives of the organisations which have a seat on the trade committees concerned.

It is accordingly characteristic of the area of AMU training that the control of the content and provision of AMU courses is entirely dealt with by the labour-market parties - which is quite uncommon in the European context. This takes place in an expanded system of councils and committees which all have joint representation of the two parties: a top-level training council, a large number of continuing training committees for the various sectors - and at the individual AMU centres boards and local training committees. As in the VET system, very close contact with firms is thus built into the structure, allowing adaptation to the needs and requirements of the firms.

The ability of the Danish system to make effective provision for newly developed job functions in trade and industry and to convert the needs for change noted into practical instruction - in terms of content and teaching methods - has been greatly improved with the transition to management by objectives and frameworks.

However, this is also systematically supported by the **large quantity of pedagogical research and development work** which for several years has contributed towards changing the pedagogical approach from being managed in detail and dominated by skills training to making a commitment to the development of new forms of instruction which are geared towards teaching the participants problem-solving, work organisation, checking their own work etc.

The systematic R&D effort is controlled centrally by two means in particular. It was ensured through the insertion of **Section 67** into the **Vocational Education and Training Act (1991)** that a sum is set aside annually under the Finance Act to cover **"analysis and forecasting work and research and development work relating to education and training courses covered by the Act".** The schools (and the trade committees) can seek funds centrally for pedagogical development work, which many schools are increasingly availing themselves of. The Vocational Schools Department (ESA) annually sends out to schools a list of areas of effort, indicating procedures and criteria. The transfer value of projects is accorded great importance; local planning of instruction, on the other hand, typically has to be financed by the schools themselves.

It is possible to apply for subsidies for projects which serve to

- ❏ clarify the needs for changes in the structure and content of training courses through analysis and forecasting work etc.,
- ❏ development of instruction in the vocational schools,
- ❏ planning, evaluation and reporting of experiments, including experiments pursuant to the provisions on experimentation in legislation.[5]

The R&D programme had a budget of DKK 50 million in 1995. A very great commitment is made to the quality and usefulness of the approved projects - the content has to be capable of being utilised, provide inspiration and move the vocational training courses in practical terms. The control and procedures for publication of the programme are supported through guidance material and bibliographies from the ESA.[6] The programme is very large: around 200 projects are carried out annually.

The second means is the **Experimental programme** which is based on **Section 68** of the **Vocational Education and Training Act (1991)**, which allows experiments involving deviations from the current VET Act, and which indicates the frameworks for experiments with educational activities. DKK 30 million was available for local experimental activities in 1995, and the ESA has sent out a programme showing particular areas in which efforts are to be made. Pedagogical experiments are to be concerned with the actual instruction of students. This programme has two main areas:

- ❏ development of entry routes to the vocational training system;

"The systematic R&D effort is controlled centrally by two means in particular (...)
"analysis and forecasting work and research and development work relating to education and training courses covered by the (Vocational Education and Training) Act" (and) the experimental programme (...)"

"Local development projects as an element in a strategy for pedagogical renewal are decisively important in the Nordic countries - and not least in Denmark."

5) Ministry of Education. Vocational Schools Department. *FoU-programmet 1995 (R&D programme 1995)*. December 1994.

6) *Vejledning for projektgrupper (Guidance for project groups)*. Vocational Schools Department. *Vejledning om rapporter og publicering i FoU-programmet (Guidance on reports and publication in the R&D programme)*. 2nd expanded edition. Vocational Schools Department 1995.

"Two main models can be adopted when trying to understand how the process takes place - a mediation model and a learning model."

"The Danish model for pedagogical innovation in VET, (...) is well on the way towards being dedicated to a learning model of this kind for pedagogical development - or to be accurate is perhaps closer to finding its way back to its roots in the historical tradition."

"Denmark is characterised by having relatively high general unemployment for the population as a whole, but youth unemployment is not far above the general level."

- development of the vocational training courses - structure and the individual training courses.

The two programmes make possible a conscious and systematic effort on pedagogical innovation through experimental and development work in a decentralised, school-based interaction with the central level.

Experimental and development work as a driving force behind pedagogical innovation?

Local development projects as an element in a strategy for pedagogical renewal are of decisive importance in the Nordic countries - and not least in Denmark. The idea that responsibility for content-related and pedagogical development to a very great extent must be based on giving schools and teachers as free a hand as possible and backing them up with state funds without rigid control has a long tradition in Denmark. Regardless of the fact that vocational training courses in an institutionalised form are older than the Grundtvigian tradition, there is no doubt that vocational training courses to date have also been affected by "the living word" and the tradition of folk high schools; it should be noted that some technical schools over the years have been known as craftsmen's high schools.

There is a great deal to suggest that R&D as a strategy for change will acquire a strengthened role in the development of vocational training courses in Denmark. There are both opportunities and some problems related to this model. It is necessary to differentiate between the actual development projects and the subsequent phase of mediation. How can we ensure that the results of the projects are made known, so that others can learn from them?

Disseminating experience from development projects is a far more complex process than is immediately assumed. It does not take place automatically and does not proceed in a straight line, but is rather indirect.

An interesting example of this is the theoretical and experimental work of the Norwegian Ivar Bjørgen on responsibility learning, which has had a great impact in Denmark but has made less of a mark in Norway.[7,8] However, on the basis of the favourable experience of responsibility learning in vocational training courses in Denmark, a joint Nordic R&D project is now to be conducted under the Nordic Council of Ministers - with the particularly eager participation of Norwegian specialists in vocational teaching methods!

Two main models can be adopted when trying to understand how the process takes place - a mediation model and a learning model.

The mediation model assumes that there is a given message centrally, which is tested through controlled experiments and finished models, the results being implemented after the experimental period. An example of this is perhaps the principle of "Modellversuche" known from Germany, accompanied by "Begleitforschung". The problem here is that this form of experimentation does not provide particularly good opportunities for local adaptation, and that reform processes of this kind take a relatively long time. Opposition is often also encountered from the participants.

The learning model is based on the fact that the primary aim of the development projects is to acquire experience with new solutions and forms of work. There obviously has to be agreement on the need for changes, but there is openness here towards different solutions within some overall frameworks. The learning will often be concerned more with the procedure followed than the practical solution, and it will often be selective. It will be possible for an effective spread to be ensured between establishment of contact networks between the experiments and other potentially interested groupings. Networks of this kind must provide scope for the exchange of experience between the local and central level, but what is most important is the direct contact between local groupings at the local level.

It is characteristic of the development requirements for the vocational training

7) Christensen, A.A. et al., *Eleverne som medarbejdere på egne læreprocesser (Trainees as contributors to their own learning processes)*. Ministry of Education, ESA, 1994.

8) For a broad introduction to responsibility learning and new learning processes in vocational education and training courses in the nineties, in theory and practice, and based among others on the Norwegian AFEL project and the Australian PEEL project, see also: *Læreprocesser i 90'erne - Ansvar for egen læring? (Learning processes in the nineties - Responsibility for your own learning?)* Conference report, SEL, June 1995.

courses that we are confronted to a greater extent with problems to which no-one really has clear answers. The dissemination of ready-made standard solutions may prove unfortunate with regard to problems of this type, because it takes time and the solutions easily become outdated. A strategy based on a learning model will probably be most effective to ensure continuous renewal and the development of new, locally adapted solutions to problems to which no-one really knows the answer today.

The Danish model for pedagogical innovation in VET, described in structural terms above, is well on the way towards being dedicated to a learning model of this kind for pedagogical development - or to be accurate is perhaps closer to finding its way back to its roots in the historical tradition.

The vocational education and training system and the labour market

The quality of a vocational education and training system stands and falls with its ability to qualify young people - and to an increasing extent adults - to find relevant employment, obtain further training for themselves or enter a lifetime continuum of learning at work and in education.

An assessment of the quality of the Danish VET system on the effect side will obviously differ depending on the purpose, but youth unemployment in particular can be taken as the best indicator of the quality of the education and training system looked at generally. Denmark is characterised by having relatively high general unemployment for the population as a whole, but youth unemployment is not far above the general level. In most other EU countries, youth unemployment is substantially higher than general unemployment.

The explanation most often given for the relatively strong position of young people in Denmark, Germany and Austria is the form of vocational education and training which exists in these countries, with apprenticeship schemes and a high degree of workplace-linked learning processes. This is considered to improve the position of young people in the labour market in several ways:

- ❏ the close link between school and work gives young people a more realistic idea of the requirements the world of work makes;
- ❏ proximity to practice and the interaction of school and firm increase the motivation of young people to learn the theoretical and general subjects in VET courses as well;
- ❏ as a result of the apprentice relationship, young people and employers acquire contact with each other, which assists future recruitment.
- ❏ learning partly at school and partly in a firm means that young people learn about the new world of work directly; they gain access to the operation of new machines and new technology and acquire practical knowledge of new production concepts.

The OECD analysed and evaluated youth education and training in Denmark in 1994, and the examiners' report, *"Review of Youth Education Policy in Denmark"*, dated 28 Feb. 1994, states that:

"Danish Youth Education is well organised and well provided for. It leads very many young people to marketable qualifications and fulfilling education. It is well differentiated to cater for many and varied needs, it seeks comprehensive provision and coverage, and it offers wide ranging opportunities to many people."

While the OECD examination in general commends Danish vocational education and training highly, there are some reservations regarding the overall principles of control in the system. The Ministry of Education is divided into two many departments, and there is no single authority which has full control over any part of the youth education system. The freedom which the vocational education and training schemes should have as a result of management by objectives and frameworks is not real.

Despite the decisions to establish a decentralised system:

- ❏ where central management should limit itself to fixing objectives and frameworks,

- where a direct link was created between the number of trainees, the number of school weeks and financing through the "taxi fare" system,

- where direct competition was created between the institutions,

- and where free choice was created for the "users",

experience shows that the schools have not acquired sufficient autonomy to determine freely for themselves the expenditure priorities and to organise teaching. Both the Ministry of Finance and the Ministry of Education have found it difficult to comply with the requirements ensuing from deregulation.

The Ministry of Education in particular has found it difficult to abstain from the traditional detailed control on the input side linked to old procedures and practical forms. The reason is probably that the Ministry has not developed new forms of control by which it is possible to use result and effect objectives as quality parameters in assessing the capability of the system.

An overall quality action plan was formulated in the Ministry of Education in the summer of 1995, in which a number of criteria and indicators of quality are formulated, linked to both processes and results. It will be interesting to monitor the consequences of this quality project with regard to further decentralisation of the system.

New trends in vocational training

Two examples of innovation from Portugal

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Vocational training is central to present economic and social development strategy, particularly at European level. However, the effort and investment demanded in this connection of all the Member States of the European Union and of all the social partners presupposes increasing innovation in all areas of vocational training, as also the readjustment of concepts, aims and practice in the light of the new relationships between training and employment, education and training, qualifications and skills, and information and learning. In this article we describe the current innovatory trends in the field of vocational training and of training in the broader sense, as well as the problems that arise, and discuss innovatory practices with reference to two current projects in Portugal.

A new European context

Every country involved in the worldwide network of economic and technological relations is currently experiencing radical changes in its economic, social and cultural organisation. These changes oblige us to rethink our policies and modes of action in many fields of human activity, but especially in education and vocational training.

Employment is a major concern in all European countries. Industry is constrained to modernise if it is to cope with new challenges in terms of competitiveness and growth resulting from economic globalisation and the information society and the emergence of a new civilisation heavily focused on advances in science and technology.

Because of the need to lend impetus to strategies designed to encourage scientific and economic progress and to organisational modernisation, training, whether for those already in work or for young people preparing for their first job, is far more important today than it was ten or twenty years ago. Moreover, the need to restore a degree of equilibrium between employment structures and policies and the adjustments to new kinds of social cohesion that unemployment demands makes it increasingly urgent to devise new programmes and policy orientations for training for specific social groups.

At the same time, vocational training can now be seen as relevant to each and every person throughout his or her life. Today the training systems that exist with a greater or lesser level of development and quality in the various countries - basic training at school or on the job, continuing training, training targeted at certain groups and in-company training - have to be set against a new yardstick, that of training for everyone throughout his or her working life. In other words, training is no longer regarded simply as a stage, or several successive stages, in the acquisition of knowledge, technical ability and the skills needed to perform certain tasks, but has acquired a new dimension - that of enabling a person to cope with the various situations arising in the course of his working life in a society in a constant state of change.

The response to these new challenges and demands deriving from the aims of growth, competitiveness and employment supported by the European Union is thus not simply a question of more training nor of better training to meet criteria defined for objectives set in another, earlier socio-economic and cultural environment.

A large number of experiments breaking new ground in the training field have been conducted in every country of Europe in recent years with special emphasis on those supported by Community initiatives, whether at the level of special programmes[1] or by bodies such as CEDEFOP. Others have resulted from reforms of school education and training systems and changes in employment and training policy that have been forced on national governments in order to match their efforts and investment in these sectors to the demand for vocational skills in their particular country. Comparative analyses of policies, systems organisation and training quality[2] undertaken at European level show some countries to be suffering from instability due to changes in policy direction and in long-established structures. And the development of continuing training which directs it more to adult workers shows up faults, errors and inconsistencies in the training models, as also a

1) Community projects such as Comett, Force, Petra and Lingua are a noteworthy effort, now being continued by the Leonardo project, to encourage innovation and to create networks to assist its dissemination throughout the vocational training field.

2) Studies which CEDEFOP has been undertaking and publishing in recent years and which are an indispensable source of information on vocational training in Europe. I refer particularly to the projects at European level which were completed in 1995 with work on the training of trainers, the quality of vocational training and a comparative guide to training systems, in which we were involved.

The fact that situations differ from one sector, region and country to another and the turmoil on the employment front mean that proposals of a global nature and standard models are no longer adequate.

lack of adjustment in that they assume a form of work organisation that is already outmoded or actually disappearing.

Critical reflection on these innovative experiments is becoming extremely urgent and calls for considerable effort on the part of all concerned. The enormous investment of material assets, intelligence and will to succeed that is required will only yield the desired economic, social or personal fruits if the objectives set are clearly formulated, flexible and consistent with the pace of development and the relevant strategies in the different countries, regions, sectors of industry and firms, whatever their size.

New objectives and trends

Dynamic convergence between supply and demand for qualifications and skills

Training now goes beyond what used to be its essential function and its direct link with employment through its ability to provide vocational skills and qualifications, however comprehensive or specialised.

In every sector of social and economic activity, including services, the pace of evolution of processes and work organisation has accelerated, with the result that in every country one can find institutions and firms at varying stages of modernisation existing side by side. Whether in the interests of greater competitiveness or for social and cultural reasons, Taylorist systems are rapidly being ousted by other models making greater allowance for the human factor. The progress being achieved with the aid of new technologies calls for, and indeed presupposes, new forms of work organisation and human resource management, and new job profiles.

The much-talked-of flexibility in the training of individuals capable of understanding, adapting and responding with initiative to these developments also has a direct impact on methods of evaluating qualifications and training needs. The reply to such questions as who should be trained, for what and how, on which planning of traditional training activity and the courses to be offered by schools or training centres was based, have ceased to be clear and definite but have become more fluid, giving rise to new ideas and concepts of the appropriate balances between available training and demand for qualifications and skills, in the light of which training practices need to be reviewed and assessed.

The fact that situations differ from one sector, region and country to another and the turmoil on the employment front mean that proposals of a global nature or standard models are no longer adequate. Training now goes beyond what used to be its essential function and its direct link with employment through its ability to provide vocational skills and qualifications, however comprehensive or specialised.

The difficulty in defining standard means for forecasting the need for qualifications as the basis for training provision has led to the use of models for the "dynamic convergence" between the qualifications offered by training systems and those required in specific employment situations. In other words, one of the new objectives of training is not just to satisfy the requirements of a given job structure but to offer the flexibility necessary to enable people who either have already acquired a wide range of skills and qualifications or have the potential to do so to take responsibility themselves for their work organisation and to bring it up to date. This new dynamic convergence being called for does not render superfluous studies as to what training is needed and what is available, although these will tend to be used more by intermediary bodies such as vocational guidance and job counselling centres which will play an important role in reconciling supply and demand for vocational training programmes.

The new anthropocentric training concept

Given the challenges posed by and the constraints imposed on the development of society, training today may be defined as the acquisition by an individual of the capacity for constant personal, social and vocational development through a renewal and updating of scientific and technical learning, application of knowledge and experience, and the training of cognitive skills for grasping realities and social relations.

For the individual, training is not, therefore, merely an intensive period of learning and acquiring a basic education and

technical knowledge and skills of a different nature in a school, institutional or other organised context, but a continuing process involving intensive personal effort to achieve organisation and equilibrium as part of the process of self-realisation. Nowadays educational and vocational training systems have a markedly anthropocentric component.

Education and training are thus no longer perceived as successive or parallel processes but instead in terms of social organisation as interactive, convergent facilities designed to support and assist the formative process in each individual, founded on a sound and broad base of general culture and the development of both personal and social cognitive abilities.

Whatever the response to this new conception of training and its objectives in today's world by the various institutions and member states of the European Union, a thorough renewal of and innovation in the content of training and the methods used is a must.

To date, the chief yardstick used in effecting a comparative assessment of European training systems has been their organisation. In future we shall have to place greater emphasis on the teaching aspect - in other words the strategy for mobilising people and their ability to contribute actively to their training constantly or at important moments of their life by pursuing a path of continuous learning in a society that is predominantly "cognitive".

Innovation in training methods

The continuous investment that has been made in the training field is reflected in the large number of innovative experiments in every area and, specifically, in theoretical models and practical teaching methods, curricula and the resources employed - to use terms similar to those of the school education system. A vast bibliography presenting the results particularly of empirical research or pilot projects is now available as a theoretical framework of reference not only for action but also as a scientific basis for what in some academic institutions is being referred to as training science as opposed to educational science.

The European cooperation networks in this field have also helped to spread information concerning innovations and in particular to encourage a different attitude to the reorganisation of training activities, targeted at either young people or adults in or out of work.

When we sought to classify these lines of innovation we found the emphasis to be on:

❏ New concepts and models for basic training and apprenticeships for young people.

❏ New concepts and models for adult training.

❏ Giving recognition to knowledge and skills.

❏ Training as part of management and institutional strategy.

• The school system continues to exert a strong influence on training, especially basic training for young people. The fact that in most countries this kind of training is provided either at school or in centres running formal training courses and that the trainers tend to be teachers and instructors who have themselves been trained for traditional school work has helped to ensure the continuance of school-type, curricular organisation and teaching methods. However, recent years have shown the effects of reforms in various countries which despite their different systems have introduced sandwich-type training or alternating periods of on-the-job training to replace traditional stints of practical work experience, acquisition of a scientific and technical grounding through a series of training modules, technical skill-building methods, and trainee assessment in the context of a vocational project giving them the opportunity to display their cognitive skills, initiative in solving problems and so on.

At the same time, the plan to make training more flexible by providing subsequent stages enables students to make greater use of what the school system has to of-

Training is basically (...) a continuing process involving intensive personal effort to achieve organisation and equilibrium as part of the process of self-realisation.

The school system continues to exert a strong influence on training, especially basic training for young people.

fer and to broaden their general education as well as acquiring technical and vocational training. Active teaching methods which scrutinise and question industrial practices which help students to decide on a personal vocational project with information and support from industry and which consider knowledge, know-how and skills as among the elements on which to base assessment are just a few of the new approaches that are enhancing the social image of vocational training courses and youth appren-ticeship schemes.

The biggest problem in encouraging the spread of such innovation would seem to be the inadequate preparation of many of the teachers or trainers, the lack of contact between schools and firms and the non-existence in many countries of an effective partnership between training providers and potential employers.

In addition, young people reaching the age for vocational training or apprenticeship are today confronted with growing problems such as the lack of jobs, marginalisation, failures and other factors, which frustrate their expectations and inhibit the motivation which the new training model centred on the individual trainee demands.

• Adult education and training is currently a field in which both theory and practice are evolving rapidly. The contribution of some thought concerning the psycho-sociology of development, the anthropocentric view of learning and social and vocational identity-building, and post-modernist thought on the value to be given to social agents and the person over the past twenty years or so have yielded knowledge, often derived from innovatory experiments, that has beneficially influenced adult training programmes. Concepts and practices based on self-teaching, learning by doing, self-assessment and the recognition of knowledge and skills, biographical methods and curricula vitae, training in the acquisition of knowledge and other practices form part of a theoretical and practical corpus that opens up new horizons for the continuing training of adults in accordance with their personal and social situation and abilities and makes it possible to conceive society today as a society in training.

Here again, one of the big problems would seem to lie in the preparation of teams of trainers with different functions able to assist with training with such widely diversified objectives, purposes and group or individual strategies.

• A significant area of innovation in Europe which looks extremely promising is that of on-the-job training closely linked to corporate strategies for organisational change and human resource management. The experience of qualify-ing firms or those offering in-company training as part of development projects and regional initiatives are examples.

More recently training making use of new information technology has opened up a vast field for experiment with important results which, however, also raise further questions requiring an answer, particularly because in many cases they are not designed for use in an interpersonal context.

Two innovative projects in Portugal

We shall now describe two pilot projects, one concerning a vocational training school and the other a qualifying firm, both of which clearly demonstrate the relevance of the types of innovation referred to above.

Vocational training school project

The Escola Profissional de Educacao para o Desenvolvimento (Vocational Training School for Development), or EPED as it is known, is a non-profit body established by private initiative that came into being as the result of a project designed by the Educational Science Department of the Faculty of Science and Technology of the New University of Lisbon. This project evolved as part of the PETRA programme with the aim of training young people in the field of environmental and natural resource management. Its objective was to study and draw up the job profile for a level 3* technician with multiple skills who was creative, self-sufficient, and able to adjust to change and to unite teams of workers in the environmental management field.

3) Editorial note: level 3 - training giving access to this level: compulsory schooling and/or vocational training and supplementary technical training or school technical training or other, at secondary level.
This training involves more theoretical knowledge than level 2. The activity involves principally technical work which can be carried out in an autonomous way and/or involves management and coordination responsibilities.
Source: Official Journal of the European Communities, L 199/59 of 31 July 1985

We sought out as partners for the project firms that would permit training objectives to be harmonised with the needs of the labour market in a new and developing field. In this context, the New University of Lisbon as the body responsible for managing the Community-sponsored programmes of the Faculty of Science and Technology, the National Institute for the Environment - now renamed the Institute for Environmental Development and which was responsible for formulating information and training strategies leading to the implementation of policies concerning the environment - and the Almada and Lisbon Municipal Authorities joined together to create EPED.

The plan of training, therefore, was drawn up at the interface of the personal, social and vocational development projects for the future technician with the needs of the labour market.

The involvement of different bodies in working out a training plan must be regarded as a quality indicator since it permits personal development and training to take place as part of the wider process of social development.

The curricular development model adopted is modular and the project work so designed that as it progresses the trainee comes into contact with the working environment either through periods of work experience with firms or government bodies specialising in various aspects of the environment or through an organised programme of visits enabling him to understand and participate in the various stages of the process under analysis with a view to future involvement.

As part of its training and job counselling activity the school has created a structure which brings together trainers, outside consultants and trainees and operates as a service enterprise in the environment sector. This means that potential employers become familiar with the skills of the newly trained technicians while the trainees are able to remain in contact with a variety of projects initiated in the environmental field.

The School's range of training facilities has now been extended beyond the initial courses on environmental management and management science to subjects considered relevant to team- building such as socio-cultural group work, computer science and management.

The chief innovation in this pilot project is the involvement - from the design stage to its administration and educational management - of partners with strong links to local employers. This ensures that training is linked to the needs and interests of the local community.

Work is currently proceeding on the development of a job placement monitoring system which utilises inter alia the following quality indicators:

- ❏ The suitability of human resources
- ❏ The quality of material resources
- ❏ The organisation amd management of training
- ❏ Assessment
- ❏ The degree of trainee satisfaction
- ❏ Means for adapting trainees to the job
- ❏ Ease of trainee placement for work experience
- ❏ Employability

Qualifying enterprise project

The firm of **Transportes Luis Simoes** is a medium-sized Portuguese road haulage firm whose customers are based principally on the Iberian Peninsula.

With a corporate culture focused on client satisfaction it has since 1988 been systematically developing continuing employee training. Its substantial investment in training in order to obtain a better-qualfified workforce is considered a strategic component of the firm's competitiveness and growth.

All efforts aimed at improving the quality of service are based on either formal or informal training activities run by the firm and well attended by its employees.

The firm's objective in providing in-house training goes beyond simply improving job performance for its own purposes. The introduction of a new organisation has necessitated a growing involvement on the part of a motivated workforce able to identify with the aims of the projects in which they are asked to participate.

The object of the project was to study and draw up the job profile for a level 3 technician (...) in the field of environmental management.

The chief innovation in this pilot project is the involvement (...) of partners with strong links with local employers.

The firm has drawn up a plan for continuing adult training based on personalised training routes designed to utilise the knowledge of each individual employee.

Consequently one of the prime objectives of training here, apart from better job performance, is to further the personal and vocational development of all involved - workers, foremen and managers - so as to link each one more closely with the company's values and culture.

The firm has drawn up a plan for continuing adult training based on personalised training routes designed to utilise the knowledge and experience of each individual employee.

The innovative aspect of this project lies especially in the developing of a training model suited to the needs of both the firm and the individual employee. The rhythm of training that has been established makes constant demands on the various parties involved with a view to encouraging a characteristic learning culture in which personal and vocational development is linked to the company's plans.

The firm uses a list of quality indicators for the service it provides which are collected and processed at monthly intervals. Their analysis frequently leads to working groups being set up to devise solutions to the problems identified, which in turn makes implementation of solutions easier.

The following are a few examples of the indicators used:

- ❏ The number of customer complaints received
- ❏ The number of corrective measures taken
- ❏ The number of accidents involving vehicles
- ❏ The number of accidents involving goods
- ❏ The number of cases of damage
- ❏ The number of delays
- ❏ The number of documents involved.

An analysis of indicator frequency is used to formulate training objectives of a qualitative rather than a quantitative nature and the adjustments that need to be made to the training model, especially as regards training in skills such as:

- ❏ Relationship with colleagues
- ❏ Ability to communicate
- ❏ Involvement in problem-solving
- ❏ Cooperative attitude
- ❏ Keenness to identify shortcomings
- ❏ Proposals for action to improve service quality.

Other indicators, which to some degree reflect the working atmosphere within the firm, such as absenteeism, sickness, staff turnover, disciplinary action etc. can be related to the indicators listed above.

Training of trainers: disseminating innovation

It is impossible within the space of this article to deal exhaustively with the various lines of innovation currently being pursued in the field of vocational training or of training it its wider sense.

What we do hope is to have given a brief account of the complex problems involved in fostering innovation in this field and to draw attention particularly to the new ideas and objectives and current trends in training. While a steady improvement of the content of courses, methodology, organisation and the training of trainers is an immediate requirement, encouraging innovation is not simply a political matter nor one of commercial interest but a call to mobilise the population as a whole for the democratic construction of a new society.

Dialogue and cooperation between those with more responsibility for or involvement in training activity and research in various fields will help to maintain the pace of innovation.

The bibliography given at the end of this article represents the present state of knowledge and the more innovative practices in the training field. But how can we make it more widely known?

The preparation of trainers alongside individual trainees, who vary considerably in terms of age, social grouping and employment situation, is probably the most complex problem here.

Many questions have no simple answer - among them the following:

Will the job of trainer be a profession on a par with that of teacher or technical/

specialist training instructor or more that of colleague or mentor? In other words what professional or other status will a trainer enjoy?

Will it be possible - and useful - to draw up job profiles for trainers for vocational training schools, small and medium-sized firms or multinationals, for groups of disadvantaged young people and the long-term adult unemployed? What type of courses, seminars or other activities can be used to give such trainers a sound basis of training? How and where can one find the information on innovative training methods that already exists? Will the trainer not be someone who is aware of his own training progress and who reflects, learns and researches in order in turn to be able to assist and guide, with recourse to various other specialists when necessary? And how can the qualifications of this kind of trainer be certified?

Training trainers through European master's courses using teams of academic teachers or those engaged in research in the field is not a new suggestion but has proved difficult to realise in practice. This is a path which should be pursued because it increases the status of training and the experience gained and will enable worthwhile knowledge and experience to be made more generally available, thus helping to strengthen European policy.

However, there are at present a number of "black holes" that call for the assistance of broadly based, high-quality research programmes. One example concerns the definition and delimitation of key scientific knowledge to be included in science and technology curricula that need to be circulated and taught to all at a basic and general level or subsequently in training centres so as to permit the development of cognitive and technical skills. The results of research in this field would not yet seem to us a sufficient basis for formulating strategies and general guidelines for curricular reforms.

Then again, the question of acquiring and developing interpersonal and other skills at the workplace (connected, for example, with identity-building and gaining self-confidence) is a major problem for the time being which even training technology cannot adequately solve.

There is vast scope for innovation whose impetus the European Commission in particular is seeking to increase. It will be necessary to exploit the positive results of European programmes such as Socrates and Leonardo, of European research projects and networks (TSER) and work being done by CEDEFOP in order at European level to demonstrate the efforts already being made not only to improve the quality of what already exists, but also to innovate.

The preparation of trainers alongside individual trainees, who vary considerably in terms of age, social grouping and employment situation, is probably the most complex problem here.

Bibliography

We give here just a few of the publications explaining the questions raised in this article

Carré, P., Pearn, M. (1992) - *L'acteurs de la formation - L'autoformation dans l'entreprise* - Paris, Ed. Entente

Chartier, D., Lerbert, G. (1993) - *La formation par production de savoir* - Paris, Ed. Harmattan

Courois, B., Pineau, G. (1991) - *La formation expérientielle des adultes* - Paris, La documentation française

Dejan, Jacques (1991) - *Analyse des pratiques d'education et formation* - Paris, Ed. Harmattan

Honoré, B. (1992) - *Vers l'oeuvre de formation - l'ouverture à l'existence* - Paris, Ed. Harmattan

Josso, C. (1990) - *Les formateurs d'adultes et leur formation* - Université de Genève, Cahiers de S.S. Education, No. 58

Lange, Jean-Marie (1993) - *Autoformation et développement personnel* - Chronique Sociale

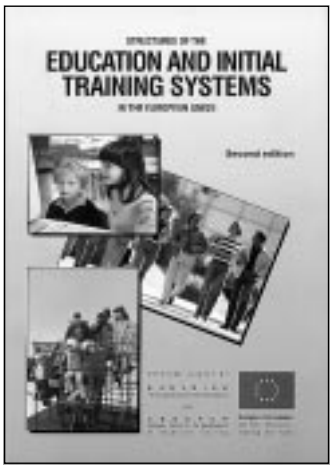
Pearn, M., Carré, P. (1991) - *Developing People's Ability to Learn* - Inter University Press

Periodicals

Le développement des compétences - Analyse du travail et didactique professionelle - Education Permanente No. 123, 1995

This section has been prepared by
Martina Ní Cheallaigh,
and the Documentation Service with the help of members of the national documentation network (cf. last page)

This section lists the most important and recent publications on developments in training and qualifications at an international and European level. Giving preference to comparative works, it also lists national studies carried out as part of international and European programmes, analyses of the impact of Community action on the Member States and national studies seen from an external perspective. The Section, "From the Member States", lists a selection of important national publications.



Reading selection

Europe international

Information material, studies and comparative research

Structures of the educational and initial training systems in the European Union
The European Information Network in the European Community (EURYDICE)
European Centre for the Development of Vocational Training (CEDEFOP)
Luxembourg, Office for Official Publications of the EC, 1995, 458 p.
ISBN 92-826-9319-8 (en)
DE, EN, FR

This volume which updates the 1991 edition, provides information on the administration and structure at, all levels, of education and initial training in each of the 15 member states of the EU, plus Iceland and Norway. In all cases, the first chapter comprises brief information on the country concerned, the basic principles affecting the education and training systems, the distribution of responsibilities, administration, inspection, financing, private education and awarding bodies. This is followed by chapters describing pre-school, primary, secondary (general, technical and vocational), higher education and initial training, including apprenticeship and other forms of basic vocational training provision, sections on curriculum, assessment, teachers and statistics are included for each level. The description for each country follows an identical format which facilitates comparison of the systems, while particularities of individual systems are also reflected. This document is now available on the European Commission Internet server, EUROPA access code: http://www.cec.lu.

Teachers and trainers in vocational training, volume 1: Germany, Spain, France and the United Kingdom
Cordova, P.; Gerad, F.; Melis, A.; et al.
European Centre for the Development of Vocational Training (CEDEFOP)
Luxembourg, Office for Official Publications of the EC, 1995, 190 p.
ISBN 92-827-4081-1
EN

The objective of this book is to describe and, insofar as possible, to compare the current situation of trainers' professional development and both their initial and continuing training. It treats trainers and teachers who are involved in initial vocational training. This work is of interest to trainers and vocational teachers because the information provided is designed to promote their mobility both within the European Union and within each country. Training institutions and bodies will find it useful in identifying potential partners for research and development projects. Those responsible at a political level for this area will find a systematic presentation of information on the training personnel involved in initial training in other countries. The information is presented within the context of the training system in each country, its different branches and options and public interest in it.

The coherence of compulsory education, initial and continuing training and adult education in countries of the European Economic Area: comparative analysis
Guildford Educational Services
European Centre for the Development of Vocational Training (CEDEFOP)
Berlin, CEDEFOP, 1995, 52 p.
(CEDEFOP Panorama n° 60)
EN
CEDEFOP, P.O. Box 27 (Finikas), GR-55102 Thessaloniki

During 1994 CEDEFOP commissioned reports from 12 countries of the European Economic Area, describing measures to improve the coherence between compulsory education, initial and continuing training and adult education. This report results from a comparative analysis of the content of the twelve country reports. The term lifelong learning is used here to encompass all age groups from compulsory schooling upwards. Three types of continuity are recognised: internal continuity

relates to opportunity for progression and transfer within the education system; external continuity relates to opportunity for easy transfer between education and training and work; and complex continuity resembles external continuity but relates also to those not currently in employment or registered as unemployed, e.g. women returners.

Apprenticeship in the EU member states: a comparison
Ní Cheallaigh, M.
European Centre for the Development of Vocational Training (CEDEFOP)
Luxembourg, Office for Official Publications of the EC, 1995, 97 p.
(CEDEFOP Document)
ISBN 92-827-4265-2 (en)
EN, ES, FR

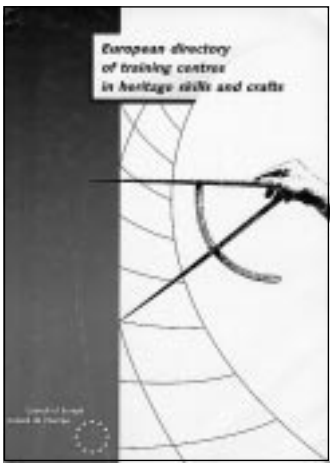
The publication describes and compares features of the apprenticeship systems in the twelve EU Member States as they were in 1994, highlighting some of the similarities and differences between countries and any apparent trends or changes. Starting with the apprenticeship contract, it also looks at the conditions of entry, duration, certification, qualifications and financing. The various bodies involved in the administration of apprenticeship are treated, as well as the two main training providers, the company and the school/ training centre, and the various components they deliver - theoretical training, practical work experience and general education. A statistical section examines the numbers participating in apprenticeship 1980 - 1993 and the range of occupations involved. It gives some estimates of the relative importance of apprenticeship as a training route and the success rate of apprentices on the labour market. It also examines female participation in apprenticeship. Some topical aspects are introduced, including modularisation and the impact of EU and international programmes. The final section reviews the findings in the Member States in the light of previous criticisms of apprenticeship.

Identification and accreditation of skills and knowledge acquired through life and work experience: comparative report of practice in France and the United Kingdom
Perker, H.; Ward, C.
European Centre for the Development of Vocational Training (CEDEFOP)
Berlin, CEDEFOP, 1995, 63 p.
(CEDEFOP Panorama n° 44)
EN/FR - mixed
CEDEFOP, P.O. Box 27 (Finikas), GR-551025 Thessaloniki

As increasing emphasis is placed on the training needs of adults, it is being recognised that traditional methods of assessment and accreditation of skills are unsuitable for the new client groups in training. The increase in the levels of qualification required, the movement from an unqualified workforce and changes to the organisation of work are some of the factors which have led to this situation. Hence, procedures have been devised to allow the skills and knowledge acquired through life and work to be identified and accredited. This publication compares the practices used in France and the United Kingdom, including the competence audit (bilan de compétences) in France and accreditation of prior learning (APL) in the UK.

European directory of training centres in heritage skills and crafts
Council of Europe
Strasbourg, Council of Europe, 1995, 310 p.
EN, FR
Council of Europe Publishing, Council of Europe, F-67075 Strasbourg Cedex

In 1987, the Council of Europe launched the European network of Heritage Skills and Crafts. One of its tasks was to survey the establishments in Europe which provide training in heritage skills and crafts. This directory is the result of a questionnaire survey, replies to which were received in 1993. It covers twenty-three countries and more than 190 establishments, including training centres for initial and further training, secondary and higher education establishments and post-graduate training institutions. This first edition is neither selective or exhaustive, it contains all the empirical data collected. The centres are listed by country, with a standard description of each detailing their activities, facilities, target groups, etc. An outline of the overall system of training and qualifications in the heritage sec-



tor is given for each country. Alphabetical indexes by country, field of activity and training centre complete the work.

Training for occupational flexibility. Outcome of ILO case-studies from enterprises and institutions in Germany, Sweden, Switzerland and the United Kingdom
Chrosciel, E.; Plumbridge, W.
International Labour Office (ILO)
Geneva, ILO, 1995, 20 p.
ISBN 92-2-109981-4
EN, FR

The ILO's Vocational Training Systems Management Branch undertook a study in Germany, Sweden, Switzerland and the United Kingdom to examine the experience of leading training institutions and enterprises in organizing and conducting training for occupational flexibility. Four case studies considered in this research reflect a clear, rational and deliberate effort to design curricula for occupational flexibility. These four designs involve essential elements of broadly-based initial training in basic enabling skill which can accommodate frequent updating, upgrading, and retraining. They provide appropriate mixes of specialized skills, technical information, and applied theory. Thew devote attention to the affective as well as to the cognitive domains. They focus on the key qualifications required to perform work independently and innovatively on both individual and team bases.

The role of technical and vocational education in the Swedish education system
Friberg, N.; Carnstam, B.; Henry, L.
International Project on Technical and Vocational Education (UNEVOC)
United Nations Educational, Scientific and Cultural Organisation (UNESCO)
Berlin, UNEVOC Implementation Unit, 1995, 31 p.
EN
UNEVOC Implementation Unit, c/o BIBB, Fehrbelliner Platz 3, D-10707 Berlin

The purpose of the UNEVOC project is to contribute to the development and improvement of technical and vocational education in UNESCO member states. Following consultation with experts from different regions of the world, in order to identify some of the factors which determine the role and status of technical and vocational education, a series of case studies has been initiated on the relevance of these factors within national education systems. The present study on Sweden reports on transition within the education system due to the introduction of an important school reform, aimed at improving the status of vocational education and training and promoting life-long learning.

The role of technical and vocational education in the education system of the Russian Federation
Smirnov, I.; Solomakhin, D.; Sedykh, E.
International project on Technical and Vocational Education (UNEVOC)
United Nations Educational, Scientific and Cultural Organisation (UNESCO)
Berlin, UNEVOC Implementation Unit, 1995, 20 p.
EN
UNEVOC Implementation Unit, c/o BIBB, Fehrbelliner Platz 3, D-10707 Berlin

The purpose of the UNEVOC project is to contribute to the development and improvement of technical and vocational education in UNESCO member states. Following consultation with experts from different regions of the world, in order to identify some of the factors which determine the role and status of technical and vocational education, a series of case studies has been initiated on the relevance of these factors within national education systems. The present study on Russia analyses the development process of reforms in Russian vocational education and its adaptation to the market economy. Another brochure has been published in this series on the "adaptation of vocational curricula for industrial business clerks from Germany to the Russian Federation".

The Golden Riches in the Grass. Life-long learning for all
Nordic Council of Ministers
Copenhagen, Nordic Council of Ministers, 1995, 120 p.
ISBN 92-9120-715-2
ISSN 0903-7004
DA, EN, SV

This is the final report submitted by a Nordic think-tank on future qualification requirements. A capacity for learning to learn is today the most essential prior requirement for economic growth and personal development. The information society and the new surge of global integration impose heavy demands in terms of new and updated knowledge - life-long learning for all. In facing this challenge, rich rewards can be gained by basing the approach on adult education and on the Nordic tradition of democratic, participant-steered learning processes. But the tradition must be developed and renewed, if we are to achieve our goals. The future offers tantalising opportunities, but it also poses the risk of social and ecological problems. Life-long learning must achieve a fusion of vision and insight, knowledge in specific subjects and wisdom, understanding and sensitivity, a capacity for action and self-confidence, progress and caring.

The German Dual System: A Model for Europe?
Géhin, J.P.; Méhaut, P.
in: Industrielle Beziehungen - Zeitschrift für Arbeit, Organisation und Management n° 2 (1), Rainer Hampp Verlag, 1995, p: 64-81
ISSN 0943-2779
EN

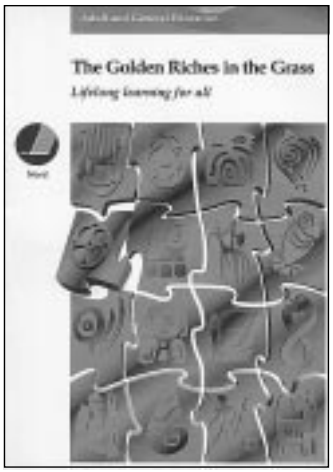
The strength and flexibility of the dual system are generally explained by the consensus it commands in the German system of industrial relations. Moreover, many studies attribute economic success, especially in exports, to the quality of vocational training which upholds this system (Steedman and Wagner 1990). It is thus to be expected that this would attract much attention particularly in the European countries where the school systems seem to be in a period of crisis. Based on a comparison with France, this article seeks to give a broader and more dynamic reading of the German dual system and to include further training. It argues there has been a rise in internal strains which could radically transform the system at the level of schooling, work organisation and workforce management within the enterprise. It then examines the current changes in the French model, which approach, but by other ways, a more occupational structure for the labour market.

Le système dual passe à l'Est
Giraud O.
in: Formation emploi (Paris) no. 50, April-June 1995, p. 89-103
ISSN 0759-6340
FR

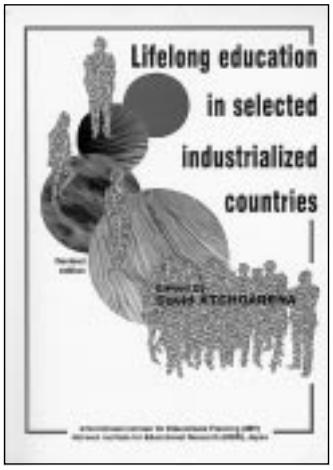
This article examines changes in vocational training in the eastern part of Germany by examining a particular employment basin and a former ironworks combine which has recently been privatized. The author begins with an analysis of the mechanisms of vocational training in GDR days, both in the region's main employer and in the labour market of the overall region. He then looks into the functions of vocational training within a Soviet-style economy. Since reunification, the introduction of the dual system has subjected vocational training to the dynamics of the market; the author examines the effects of this trend.

Managing vocational education and training in Central and Eastern European countries: report of a programme on the training of researchers in the management of vocational education and training
Caillods, F.; Bertrand, O.; Atchoarena, D.
International Institute of Educational Planning (IIEP)
Paris; 1995, 360 p.
(IIEP research and studies programme)
IIEP, 7-9 rue Eugène-Delacroix, F-75116 Paris

All Central and Eastern European countries have initiated reforms in the structure, organisation and management of their systems of vocational education and training (VET). A number of initiatives have been taken, at central and at local levels. Monitoring the changes that are taking place in the management process in particular, analyzing the present conditions of the VET institutions and evaluating the impact of some of the measures which have been taken is essential for policy-makers and educational administrators. Such were the objectives of a programme undertaken by the IIEP with the support of the European Commission (DG



XII). This programme aimed at training researchers from Central and Eastern European countries in the area of the management of the VET systems; thus contributing to the building of national research capacities in the region. Another objective was to establish a network of researchers with a view to facilitating the exchange of information on the experience gained by different countries. This publication is the result of a workshop held in Paris, 19-21 December 1994, which outlines the main research findings and presents four national reports diagnosing the changes occurring in Hungary, Poland, Lithuania and Estonia.



Lifelong education in selected industrialized countries
Atchoarena, D.
International Institute for Educational Planning (IIEP)
Paris, UNESCO, 1995, 231 p.
EN
International Institute for Educational Planning,
7-9, rue Eugène-Delacroix,
F-75116 Paris

Covering four European countries (France, Germany, Sweden, the United Kingdom) Japan, the United States of America and the former Soviet Union, the various chapters of this publication bring to light some of the most recent changes affecting lifelong education in the industrialized world. In this framework, particular attention is given to issues such as the evolution of the concept of lifelong learning, the organization of training in industry, the restructuring of higher education, the redefinition of assessment and certification systems or local strategies for lifelong learning. It is hoped that such contributions acknowledge with accuracy the gradual progress made towards a learning society.

Comparaison européenne des dispositifs d'insertion professionnelle des jeunes. Stratégies des acteurs, production des normes, genèse des dispositifs. Actes du colloque International de l'IRES 21, 22, 23 et 24 novembre 1994, Paris
Lefresne F., Bouder A., Krais B., et al.
in: Revue de l'IRES (Noisy-le-Grand) no. 17, winter 1995, 206 pages
ISSN 1145-1378
FR

Results of the initial phase of a research project organized by the Institute for Economic and Social Research (IRES) with the support of the Interministerial Delegation for the Integration of Young People (DIJ) and of the Centre of Study and Research for Qualifications (CEREQ). The overall topic is supplemented by a summary of six national reports, which identifies common tendencies and specific national trends resulting from the historic heritage and the institutional mechanisms of each country. This is followed by a statistical analysis of the situation of young people in Europe and a set of reports on the strategy of the actors, the production of norms and the establishment of programmes in Germany, Spain, France, Sweden and in the United Kingdom.

Training for employment in Western Europe and the United States
Shackleton, J.R.
Aldershot, Edward Elgar, 1995, 266 p.
ISBN 1-8527-8863-1
EN

This book looks at economic analysis of training and relates it to the differing systems found in Germany, France, the United States and the United Kingdom. Some common issues and problems are discussed such as the relationship between schooling and training, the role of continuing training, retraining for the unemployed and the position of disadvantaged groups in the labour market. A central theme is the differing policies being pursued by governments.

Training levies in four countries
Senker, P.
Engineering Training authority (EnTra)
Stockport, EnTra, 1995, 45 p.
EN
EnTra Publications,
P.O. Box 75, Stockport,
UK-Cheshire, SK4 1PH

This document presents both sides of the training levy debate and is urging employers to be more involved with the issue. It describes how levies have worked in

Australia, Britain, France and Singapore. The author maintains that a training levy in Britain could support modern apprenticeships and encourage multi-skilling and supervisory training.

International study of vocational education and training in the Federal Republic of Germany, France, Japan, Singapore and the United States
Felstead, A.; Ashton, D.; Green, F.; Sung, J.
Centre for Labour Market Studies (CLMS)
Leicester, CLMS, 1995, 248 p.
ISBN 1-86027-000-X
EN
CLMS, University of Leicester, 103 Princess Road East, UK-Leicester LE1 7LA

This research, undertaken from a UK perspective, provides evidence on how well the UK's competitors are doing in terms of their vocational education and training (VET) achievements; including a succinct summary of the VET system in each country; current information on the qualification levels of each country's workforce and an up-to-date picture of participation rates in general education, vocational education and vocational training.

Education et travail en Grande-Bretagne, Allemagne et Italie
Jobert A., Marry C., Tanguy L.
Paris, Armand Colin, 1995, 398 pages
ISBN 2-200-21570-3
FR

This document presents the papers given at a colloquium marking the conclusion of a research project financed by France on the state of research in the area of education and work in Germany, Great Britain and Italy. In addition to the French researchers, this project had mobilized experts from the three countries involved. Following an introduction which presents the institutional and political framework of the area of investigation in the three countries, a series of texts present the main research trends in each of the countries.
The various authors thus go through the chain linking the educational system to employment via vocational training and the labour market.

Formación de trabajadores cualificados y técnicas en España y en la Unión Europea
in: Profesiones y Empresas (Madrid) no. 2, 1995, p. 3-51
ES
Profesiones y Empresas, Gran Via 38, E-28013 Madrid

This article summarizes various papers already published in this journal on technical vocational education in the European Union, comparing it to the levels of vocational training planned under the Spanish Law for the Reorganization of the Education System, concentrating particularly on level 2 vocational profiles in the European Union system, and including the characteristics of the vocational profiles of the various levels. The second part of the article makes a comparative analysis of the systems and processes of qualification in place in the Member States, showing the legal structures responsible for the creation and application of vocational training certificates, training contents and evaluation, conditions, procedures, training paths and modalities of access to qualifications, certification, etc. It describes the categories of qualification at levels two, three and four in the European Union countries, the authorities in charge and the organization of examinations in the twelve Member States of the EU.. This is followed by a list of professions (in 18 different sectors) corresponding to level two of training in the European Union. The article ends with a comparison to other types of apprenticeship models existing in the countries of the European Union.

The survival of apprenticeship training: a British, American, Australian comparison
Gospel, H.
In: British Journal of Industrial Relations (Bradford) 32 (4), 1994, p. 505-522
ISSN 007-1080
EN

This paper examines the development of apprenticeship training in three English-speaking countries where apprenticeship has fared very differently. It declined at an early date in the USA in most sectors of the economy; it survived intact in Britain well into the post-Second World War

period; and it has survived relatively strongly in Austrialia up to the present day. The reasons for decline and survival are examined and an explanation is proferred in terms of the interaction between the institutional supports and the ability and need felt by employers to sustain the system.

Die Systeme beruflicher Qualifizierung Frankreichs und Deutschlands im Vergleich. Übereinstimmungen und Besonderheiten in den Beziehungen zwischen den Bildungs- und Beschäftigungssystemen zweier Kernländer der EU
Rothe G.
Institut fur Arbeitsmarkt- und Berufsforschung der Bundesanstalt fur Arbeit
Nuremberg, IAB, 1995, 478 pages
(Beitrage zur Arbeitsmarkt- und Berufsforschung, volume 190)
ISSN 0173-6574
DE

The purpose of this research was to make a systematic and comprehensive comparison of similarities and differences between the vocational training systems of Germany and France. With Europe growing closer and Europeans wanting to take advantage of employment possibilities beyond their national borders, such extensive bilateral comparisons are gaining in significance. The research examines central areas of concern such as responsibility for vocational guidance, training and work, paths towards initial training and employment, ongoing vocational training and alternance training. Each of these areas is divided into several points of attention, and structured so that problem outline, description of the situation and contrasting analysis complement each other. Overall results are summarized in the conclusion and supplemented by basic statistical information and a comparative key explaining the vocational systems. The book is intended for a broad target group: counsellors, advice seekers, scientists and politicians. A comprehensive glossary and an index facilitate access to the various topics and give the reader a quick overview of the training systems in the two countries. The comprehensive appendix explains abbreviations and special terminology; it also includes the questionnaire used to gather the data and an overview of structural data regarding vocational training in France and Germany.

Formation et performance économique
Buechtemann C., Soloff D., Verdier E., et al.
in: Formation emploi (Paris) no. 50, April-June 1995, p. 5-66
ISSN 0759-6340
FR

This is a reprint of a few of the papers presented at the 1993 Santa Barbara (USA) international conference on the investment of human capital and economic performance. The first text is a summary of the conference. The second analyzes training policies and the employment market in France during the 1980s. The third section assesses the liberalizing reforms of the last fifteen years in the education and training systems of Great Britain.

Esperienze di formazione aprerta e a distanza
Marconato G.
In: Professionalita (Brescia) 26, 1995, p. 38-42; p. 55-59
ISSN 0392-2790
IT
Editrice La Scuola,
Via Luigi Cadorna 11,
I-25186 Brescia

In Italy today, the concept of open and distance training remains little known and hardly used. Pilot projects until now have not yet brought measurable innovation or lasting change in training systems. Training modalities still have no official status unless they involve a “calendar of courses” or “register of attendance”. In contrast, the success of the “Home of Open Learning” in Great Britain is assessed not from the point of view of its observance of bureaucratic norms but rather according to the centre’s capacity to satisfy training demand, to create genuine opportunities for all, and to renew and increase professionalism. This article also presents four Italian experiences involving distance training: the IFOL FAD project, the M.O.L.E. project in Piedmont, Trainet’s Fortel network and Scuola Radio Elettra.

Learning linked to work: the place of transfer and transferable skills in work-based learning: case studies in Italy, the Netherlands and the United Kingdom
Erlicher L., Moerkamp T., Sommerlad E.
Amsterdam, Stichting Kohnstamm Fonds voor Onderwijsresearch, SCO, 1995, 164 pages
ISBN 90-6813-450-7
EN

This is a combined investigation of activities and experiences by three research institutes in the Netherlands, Italy and Great Britain. The aim of the investigation is to examine work-based learning as an alternative. The researchers' main interest was the learning experiences of the learners themselves. Work-based learning can be subdivided into three elements: learning through work, on-the-job training and learning opportunities and off-the-job training.

European Union: policies, programmes, participants

Decision No. 2493/95/EC of the European Parliament and of the Council of 23 October 1995 establishing 1996 as the European Year of Lifelong Learning
European Commission
in: Official Journal of the European Communities (Luxembourg) L 256, 26.10.1995, p. 45-48
ISSN 0378-6978 (en)
DA, DE, EN, ES, FR, GR, IT, NL, PT

This decision is a follow-up to the "White Paper on growth, competitiveness and employment" and foresees actions which should: a) increase the awareness of life long learning as a key factor for employment growth; b) inprove the cooperation between education and training structures and companies, particularly, SMEs; c) introduce a European dimension in education and training; d) confirm the importance of education and training in reaching real equality of opportunities between men and women.

Die Kompetenzen der Europäischen Gemeinschaft für den Bereich der Bildungspolitik
Cudius S.
Frankfurt/M., Peter Lang GmbH, 1995, 214 pages
(Europaische Hochschulschriften, Series II, law, volume 1772)

Within the framework of his dissertation (Johann Wolfgang Goethe-Universitat, Frankfurt/M.), the author presents the results of a comprehensive investigation of the role of the European Community in the area of educational policy. An extensive outline of the problem and of the aims of the investigation is followed by a presentation of the results in five clearly structured chapters. The first outlines the Community's educational policy as laid down in Section 128 of the EEC Treaty. It is followed by a description of the areas of responsibility of the Community in the field of education after the Maastricht treaty. In the third chapter, the author discusses the effects on educational policy of Section 7 of the EEC Treaty as well as Sections 48 and 49. The role of the Community in terms of educational policy as laid down in Section 235 is the subject of the fourth chapter, which is followed by a final chapter on the legislation of the European Court of Justice. The publication ends with an extensive list of annotations and a comprehensive bibliography.

L'Europe et la formation professionnelle des jeunes: transférer les acquis de PETRA dans LEONARDO et EMPLOI/YOUTHSTART
Paris, Racine Editions, 1995, 229 pages
ISBN 2-84180-006-4
FR

With the LEONARDO programme and other new Community initiatives now being implemented, how can a trans-national project be characterized? What guidance tools are necessary to operate such a project? What is, in fact, its value added? After seven years of operation with the aim of developing vocational training for young people in Europe, the results of the PETRA programme can contribute to better preparing the future on the basis of the experiences of the past. This is the objective of this publication from RACINE, realized with the active participation of

the PETRA projects with the assistance of the vocational training Delegation.

Berufliche Weiterbildung in Europa: Stand und Perspektiven
Brandsma J., Kessler F., Munch J.
Bielefeld, Bertelsmann Verlag, 1995, 96 pages
(FORCE: Weiterbildung in Europa)
ISBN 3-7639-0034-9
DE

According to the stipulations of the European FORCE programme for the promotion of ongoing vocational training within the European Union, Member States must report regularly on the measures taken to implement the overall programme. These national reports form the basis of this publication. Its six chapters describe the current situation of ongoing vocational training in Europe: 1) Ongoing vocational training: concepts, definitions and components, 2) Financing systems, 3) Providers and personnel, 4) Access and participation, 5) Planning and certification and 6) Prospects for ongoing vocational training. Several appendices provide information on the framework conditions of the FORCE programme. This publication therefore gives a comparative overview of the current situation of ongoing vocational training in the countries of the European Union.

Van FORCE naar de toekomst. Een perspectief op LEONARDO en ADAPT
National FORCE Coordination Office for the Flemish Community
Flemish Employment and Vocational Training Service (VDAB), European Commission
Brussels, VDAB, 1995, 70 pages
NL
VDAB,
Keizerslaan 11,
B-1000 Brussels

This is the report of the final conference "Van FORCE naar de toekomst" (From FORCE into the future) organized by the FORCE Flemish agency with the aim of investigating the effectiveness of the FORCE projects, the synergies this information produces and the possibilities for increasing trans-national collaboration in the future by way of further European action programmes. At the same time, the conference looked into statistical aspects and into the possibilities for commercialization and distribution of the products resulting from the projects.

I programmi di formazione per la collaborazione europea
Scurati C., Bocca G., Segre R., et al.
Centro di ricerca per la formazione permanente - Universita Cattolica del Sacro Cuore (Ce.Ri.Fo.P.)
Professionalita (Brescia) no. 26, 1995, p. I-XII (43-54)
ISSN 0392-2790
IT

This document presents the material of a study meeting held in Milan in the autumn of 1994 on training programmes for European collaboration. It is 1) a reflection on vocational training in Italy from a European point of view; 2) a stock-taking in the light of the directives issued by the European Commission; 3) an analysis of a number of experiences made within the framework of the FORCE programme. If national training policies are to be coordinated, and, more generally, to promote the evolution of a new theory on training, a permanent study forum must be created. This will give specialists and operators the opportunity of open discussion on issues of training as a form of valorization of the human dimension of work.

Projecto transnacional de investigação no âmbito EUROTECNET - Flexibilidade, o novo paradigma da produção e as respostas flexiveis da formação numa organização
Fernandes A., Salgado C.M., Almeida Silva J., et al.
Nadu EUROTECNET Portugal
Caldas da Rainha, Nadu EUROTECNET Portugal, 1995, 258 pages
PT
CENCAL,
rua Luis Caldas-Apartado 39,
P-2500 Caldas da Rainha

This book is the result of a trans-national investigation set up by the Portuguese and Spanish NADUs, by BAT EUROTECNET and by various projects in Portugal, Spain, France and Belgium. In an effort to con-

ceptualize the notion of flexibility, the investigation approaches it from various perspectives presented in four texts: text 1 - Flexibility in enterprises; Text 2 - Technology of modern production; Text 3 - Analysis of training in advanced technologies for SMEs - electro-mechanical equipment manufacturing sector; Text 4 - Training and analysis, an intermediate process in a qualifying organization.

Europäische Wege in der Berufsbildung: Ergebnisse und Perspektiven des PETRA-Programms in Deutschland. Konferenz im Logenhaus Berlin, 3./4. November 1994
The Federal Minister for Education, Science, Research and Technology
Bonn, Federal Minister for Education, Science, Research and Technology, 1995, 96 pages
DE
Der Bundesminister fur Bildung, Wissenschaft, Forschung und Technologie,
Referat Offentlichkeitsarbeit,
D-53170 Bonn

This brochure contains the contributions made at the international conference "European Ways of Vocational Training. Results and prospects of the PETRA programme". In addition to a summary of the results in individual areas by way of examples of the projects organized within the programme, it also presents the results of the five working groups of the conference. These were divided according to the following topics: Exchange of trainees; Ongoing training and placements to promote individual European orientation and vocational qualifications; New concepts, methods and contents of vocational preparation and vocational training in a European context; Evolution of a European dimension of vocational training; Development and expansion of cooperation projects - trans-national management.

Women employees' training needs in Wales, Catalonia, Dublin and Thessaloniki
Rees, T.
University of Bristol
Cardiff, Gateway Europe, Welsh Development Agency, 1995, unpaged
EN
Gateway Europe, Welsh Development Agency, Pearl House, Greyfriars Road, UK-Cardiff, CF1 3XX

This report reviews employer-based initiatives and research on women employees and summarises the EC Force Axia project findings.

Insights and challenges from the Community Initiatives. Training of trainers conference
Department of Enterprise and Employment
Dublin, Department of Enterprise and Employment, 1995, 90 p.
EN
Department of Enterprise and Employment,
Davitt House,
65A Adelaide Road,
IRL-Dublin 2

The purpose of the conference, hosted by the Department of Enterprise and Employment, was to contribute to on-going developments and debate in the area of training of trainers within the national and European context. Presentations were made in three areas: the changing and developing role of the trainer, responding to changes in the training environment and the social and economic impact of training of trainers. In this context, the trainer's role as a facilitator in community development, the skills required for "access" education, and the benefits obtained from intra-organisational training were examined.

Media assisted language learning in adult (basic) education: under construction
van den Brand I.
Amersfoort, SVE, 1995, 77 pages 383 pages
ISBN 90-5003-194-3
EN

This publication discusses the possibilities of media-assisted language learning in adult education. It includes descriptions of projects and products which were presented during the two-day European conference organized by SVE in January 1995. It gives an idea of expectations for the near future. It discusses distance learning, development of electronic reading

material and flexible teaching environments.

Second conference of the European Chambers of Commerce and Industry on transnational training co-operation activities of the Chambers of Commerce and Industry, Barcelona, 21st to 23rd June 1995
Ollier, B.
Association of European Chambers of Commerce and Industry (EUROCHAMBRES)
Brussels, EUROCHAMBRES; 1995, various pagination
mixed language version
EUROCHAMBRES,
rue Archimede 5,
box 4,
B-1040 Brussels

This conference was attended by 15 of the 31 EUROCHAMBRES member countries in Europe. It gave them a platform to exchange information, report on their experiences of transnational training activities and participation in EU training programmes. The results of a survey on transnational cooperation activities of Chambers of Commerce and Industry were presented, these are available as a separate document (B. Ollier/S. Panebianco). Workshops were held on the crossborder cooperation between Chambers within the European Union, and with non-member countries. The final workshop discussed the role of the Chambers in the development of vocational training in Europe. Common concepts were agreed for the training of entrepreneurs and chamber staff.

A practical guide to transnational partnerships
European network on Women's Training (IRIS)
Brussels, IRIS, 1995, 40 p.
EN, FR
IRIS Association,
21 rue de la Tourelle,
B-1040 Brussels

In 1992, IRIS published its first guide to training partnerships. This updated version provides training organisations and all those interested in setting up transnational projects with an insight into what makes a partnership work, using recent case studies and offering an overview of current EU funding opportunities.

From the Member States

A Vocational education and training in the apprenticeship system in Austria
Federal Ministry for Economic Affairs
Vienna, Federal Ministry for Economic Affairs, 1995, 40 p.
EN
Federal Ministry for Economic Affairs, Stubenring 1, A-1011 Vienna

This booklet deals with the apprenticeship system and the advantages of the on-the-job training in companies supplemented by vocational education in part-time schools. It provides comprehensive information about: apprenticeship regulation; the training agreement; the companies and part-time schools as providers of training; the trainers, responsibilities at local, provincial and federal level; the apprenticeship trades and the constant change of occupations financing and statistical overview.

B Het Vlaams onderwijs in de kijker/ een internationaal perspectief
de Groof J., van Haver T.
Ministry of the Flemish Community, Education Department
Brussels, Education Department, 1995, 164 pages
ISBN 90-403-0046-1
NL

This publication, which was prepared with the cooperation of authors from several Flemish universities, starts with a description of the usefulness of indicators of Flemish education (such as indicators regarding financing, quality, numbers of apprentices and teachers etc.) and continues with an attempt to set a concrete basis for improved management in matters of education e.g. by means of scientific investigation and statistical analyses. The publication also has an international dimension, in view of the fact that it is the consequence of a further OECD investigation of Flemish educational policy.

D Fragen und Antworten zum Dualen System der deutschen Berufsausbildung
Arnold R.; Munch J.
Federal Ministry for Education, Science, Research and Technology
Bonn, Federal Ministry for Education, Science, Research and Technology, 1995, 138 pages
DE
Bundesministerium fur Bildung, Wissenschaft, Forschung und Technologie, Referat Offentlichkeitsarbeit, D-53170 Bonn

For years now, the German dual system of vocational training has met with great interest among training experts abroad. In particular, the circle of countries seeking advice in setting up or reforming their vocational training system has grown since the political changes in the countries of the former East Bloc. Many foreign experts want to see the dual system in operation in Germany, and the questions they tend to ask during their visit are often the same. This 16-chapter brochure is a compendium of these questions and an attempt at providing replies. From the historical development, educational and organizational principles and a general overview of the training situation among young people, the range of topic also includes questions about financing, legal foundation, training personnel, teaching locations and methods as well as the international aspects of the dual system in Germany. The individual chapters are followed by 120 questions covering the entire scope of this complex training system. The publication ends with an explanation of the special terminology used, a list of video films and a short bibliography for further reading on the subject

Was leisten Modellversuche?
Bahr Z., Holy H.
Federal Institute for Vocational Training (BIBB)
Bonn, BIBB, 1995, 641 pages
(Innovationen in der Berufsbildung)
ISBN 3-930809-08-7
DE

IFA-Verlag GmbH, Erlenweg 6, D-53227 Bonn

For the past twenty years, the Federal Institute for Vocational Training (BIBB) has been operating pilot schemes in co-operation with several partners such as companies to improve awareness and promote innovation in the field of vocational training. To celebrate the twentieth anniversary of this activity, a two-day conference was organized in Magdeburg in 1994. This volume is a collection of the papers contributed in eight different working groups at this conference, presenting a representative sample of issues and topics involving pilot schemes, and at the same time an overview of current topics in vocational training research. Topics directly connected with learning processes were given particular emphasis: 1) decentral learning, 3) cooperation between learning locations, 4) guiding text-oriented learning and 5) multi-media learning in vocational training. Other topics included 2) the international dimension of pilot schemes, the issue of 6) subsequent qualification and 7) self-qualification of trainers and 8) environmental protection in vocational training.

DK **Dansk Økonomi Forår 1995. Konjunkturudvikling. Instrumenter mod strukturledighed. Uddannelse. Økonomi og natur**
Det økomiske Råd: Formandskabet
København, Det økomiske Råd: Formandskabet, 1995, 172 p.
DA
Det økomiske Råd, Adelgade 13,
DK-1304 København K

In this report from the Danish Economic Council some economic aspects of education and training are analysed. A crucial question is whether the economic return to society of investing in education is satisfactory. Calculations of the economic return to society of different types of education show that in general there is a positive return on education. The return is between 2 and 15 per cent, calculated as the difference between the benefit and the cost of the education. The economic return of investments in vocational education is clearly positive, this is due to VET being relatively cheap. The economic return on education is sensitive to the age at which the student commences education, as a postponement results in a shorter period with a higher income. It is recommended that the main effort in education policy be directed towards ensuring that young people receive an education that will qualify them for employment, in particular through participation in the ordinary VET courses for young people.

F **Les Métiers de la formation**
Gerard F.
Centre for the development of information on ongoing training (Centre INFFO)
Paris, Centre INFFO, 1995, 133 pages
ISSN 0242-259X
FR

Les métiers de la formation: de nouvelles compétences à tisser
Gerard F., Gaultier-Moulin, P.
in: Actualité de la formation permanente (Paris-la-Défense) no. 137, July-August 1995, p. 41-126
ISSN 0397-331X
FR

Aimed at professionals or at persons intending to work in the field of training, this paper gathers hitherto dispersed information: general data on ongoing training in France, activities and functions of training, status of trainers, quality in training, schemes available for training towards training professions. A bibliography and a list of useful addresses complement the paper.
In the journal “Actualité de la formation permanente”, the same author reports to a broad target public on new skills in training professions on the basis of a number of testimonials from companies and public or private training organizations.

GR **Evolution of technical and vocational education-training. Evaluation of the structure and operation of the Institutes for Vocational Training (IEK)**
Biniaris, A.
Athens, Panepistimio Athinon, Paidagogiko Tmima D.E., 1995, 5O7 p.

GR
Athanasios Biniaris,
19, Nikou Xylouri Street,
GR-15773 Zografou

This thesis is aimed at evaluating the structure and operation of the Institutes for Vocational Training, IEK, which are supervised by the Organization for Vocational Education and Training (OEEK). IEKs provide initial training outside the educational system. The book includes a historical overview of the evolution of technical-vocational education, educational reforms between 1950 and 1985, aspects of the relationship between education and the economy and presentation of the National System for Vocational Education and Training (ESEEK). The author finally proposes the planning of training in relation to the labour market needs and the certification of trainees' occupational qualifications, as soon as possible.

IRL Enterprise-related training and state policy in Ireland. The training support scheme

O'Connell, P.; Lyons, M.
Economic and Social Research Institute (ESRI)
Dublin, ESRI/ Policy Research Series, 25, 1995, 104 p.
ISBN 0-7070-0160-9
EN

The study first examines the incidence of training activity in Ireland and seeks to assess the extent of skill deficiencies in the Irish workforce. The study concludes that Ireland suffers from deficiencies in both qualifications and skills and in the level of training when compared to leading industrial countries. Second, the study assesses the impact of the Training Support Scheme (TSS), a State programme initiated in 1990 to promote training in small and medium enterprises through the provision of grants, and implemented by FAS-Training and Employment Authority. By comparing the level of training among TSS-aided firms and unaided firms, the study found substantially more training in the aided firms. The greater level of training found among TSS-aided firms was most pronounced among small firms (with less than 20 employees), while its effect in larger firms was marginal where it amounted to a subsidy for training which would have been undertaken without state aid.

Training and development in Ireland

Garavan, T.; Costine, P.; Heraty, N.
Irish Instiute for Training and Development
Dublin, Oak Tree Press, 1995, 725 p.
ISBN 1-872953-88-9
EN

This book provides a comprehensive review of training and development in the Irish context. Specifically it examines: the nature, role and activities of training and development; themes of learning and training design; the institutional framework of training and development; policy issues at national level; and contemporary trends and developments.

NL Internationalizing the curriculum in higher education: experiences in the Netherlands

Bremer L., van der Wende M.
The Hague, Nuffic, 1995, 136 pages
ISBN 90-5464-016-2
EN

In November 1993, the Centre for Educational Research and Innovation (CERI), a branch of the Organization for Economic Cooperation and Development (OECD), launched the project "Higher education in a new international setting". Commissioned by the Ministry of Education, Culture and Science, Nuffic carried out a partial study within the framework of this project to examine the internationalization of curricula in the Netherlands. A methodological account of the investigation is followed by an overview of international research directions at universities and colleges. This is then followed by an elaboration of five in-depth investigations and closed with conclusions and recommendations.

Ontwerp landelijk overzicht volwasseneneducatie 1996 - 1999

Ministry of Education, Culture and Science
Zoetermeer, Ministry of Education, Culture and Science, 1995, 138 pages
NL

Ministry of OC&W, P.O. Box 25000,
NL-2700 LZ Zoetermeer

The most important function of this overview is to provide information on the means which the state authorities, according to expectations, will be making available for the period, and the sections of adult education covered by the report. Moreover, it offers an overview of the main lines of administration, the measures deriving from them and developments in the area of adult education.

P Diagnóstico de necessidades de formação de gestão geral

Lavadinho J.
MundiServicos - Companhia Portuguesa de Servicos e Gestao, Lda.
Lisbon, MundiServicos, 1994, 49 pages
ISBN 972-96573-0-0
PT

Taking into account the growing importance of vocational training in the evolution of small and medium-size enterprises and, on the other hand, the gaps still existing in management training and in diagnostic techniques for training needs in this area, MundiServicos - Companhia Portuguesa de Servicos e Gestao, Lda developed a project for the "creation of a diagnostic methodology for training needs in general management". The project's aims are not only training for technicians in this area and in the field of management, but also the production of a set of materials which, in an integrated manner, could constitute an implementation support in this field. A video has been prepared, a diagnostic questionnaire and a diskette for data processing, and finally, this document, which is nothing more than a help for the implementation of a diagnostic process for training needs in the various areas of management.

UK Policies and Programmes for Employment in the UK

Department for Education and Employment (DFEE)
Sheffield, DFEE, 1995, 21 p.
DE, EN, ES, FR
Department of Education and Employment, Moorfoot, UK-Sheffield S1 4PQ

The booklet summarises the goals, results and plans of the UK government in the area of employment. Promotion of investment in vocational training is a key feature of policy and programmes. The priorities are longer participation in education, developing vocational training for young people and promoting lifelong learning. Policy on increasing the employment intensity of growth, improving the effectiveness of labour market policy and improving help to groups particularly hard hit by unemployment are also described.

Community programme of study visits for vocational training specialists

The Community Study Visits' Programme was established in 1985 following a Council Resolution (13 July 1983) and the Commission of the European Communities has entrusted CEDEFOP with the management of the Programme. Since the Council Decision of 6 December 1994, establishing the LEONARDO da Vinci Programme, the Study Visits' Programme is included in its strand III.

CEDEFOP acts in cooperation with a network of *National Liaison Officers* (NLOs). The NLOs are officials, formally nominated by the government authorities; their task is, in an autonomous manner to implement the guidelines and organizational procedures which have been fixed in agreement with CEDEFOP. The NLOs are in charge of distributing information on the Programme within their own national contexts. They liaise with the various parties involved in the realization of the Programme: social partners, enterprises, public authorities, vocational training organizations, research institutes, other Community programmes, etc. The NLOs are also in charge of the annual registration procedures and of the selection of the candidates who will participate in the Programme.

Programme objectives

The Programme's aim is to activate information flows in the area of vocational training among specialists from the Member States of the Community or from other countries associated to the programme.

Programme users

The programme is addressed primarily to vocational training specialists (public national or regional decision-makers, social partners at national and Community level and managers and planners of vocational training policies and programmes) . It tends to favour persons who are in a position to spread the information received during the visit and to influence political decisions.

Some visits are tailored to special groups of users.

The visits

The visits last three or five working days and always have a specified topic. Groups of up to 12 persons are formed.

Visits are carried out according to a model which alternates information and reflection sessions and sessions of contact with the various parties involved in vocational training: enterprises, schools, documentation centres, research project coordinators, trainers, pupils, social partners, guidance officers, etc.

Financial aspects

CEDEFOP provides grants to contribute to participants' travel and accommodation expenses.

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Issues recently published in English

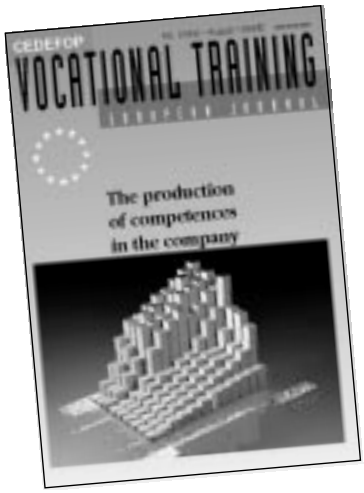
No. 4/95 The new Member States: Austria, Finland, Sweden

Trends in Nordic social "models"
- The difficult metamorphosis of the social "models" of the Nordic countries (Sweden, Norway, Finland, Iceland) (Janine Goetschy)

The education and training systems
- The Swedish training system - future expectations on its integration (Eugenia Kazamaki Ottersten)
- Features of vocational education in Finland (Matti Kyrö)
- Boom in apprenticeship training in Finland (Henry Vartiainen)
- Vocational training in Austria (Gerhard Riemer)
- Reforms in the vocational education and training systems of the Nordic countries (Pekka Kämäräinen)

The Nordic countries: an integrated labour market
- Experiences from the integrated Nordic labour market (Per Lundborg)

The new Member States: some data ...
- Statistical data
- Bibliographical data
- Useful addresses



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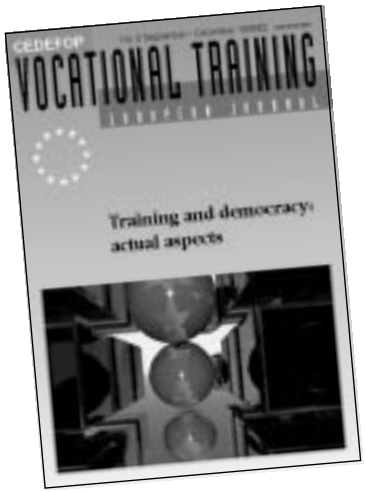

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