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ABSTRACT

This report contains 12 papers about and from a 3-day teacher and trainer training workshop that was attended by 37 individuals representing 12 European Union partner countries and 7 member states. The following papers are included: "For a Modern Organisation of Training Institutions and a Corresponding Professionalism of Teachers and Trainers" (Bernhard Buck); "Teacher and Trainer Training in the Partner Countries--First Results of a Cross-Country Review" (Soren P. Nielsen); "New Linkages between Vocational Education and Training Establishments and Their Local/Regional Environments (shortened version)" (Johanna Lasonen, Pekka Kamarainen); "Management in Education: The Implementation of Change" (Jeanny Prat); "Entrepreneurship in Education and Training" (John Konrad); "The Teacher as Facilitator of the Learning Process (shortened version)" (Dainuvite Bluma); "The Teacher as Team Worker within the Vocational Institutions" (Jette Beck Harrebye); "The Teacher as Networker across Boundaries (shortened version)" (Rimantas Laupackas, Kaestutis Pukelis, Adela Rogojinaru); "Relevance of Occupational Subject Areas for Teacher Training (shortened version)" (G. Heidegger); "The Image of Teacher Training in a Lifelong Learning Process--New Requirements in the In-service Teacher Training" (Eva Tot); and "The Vocational Teacher Training Institution as a Learning Organisation (shortened version)" (Jittie Brandsma). Some papers include substantial bibliographies. A list of participants concludes the document. (MN)

3rd workshop on curriculum innovation

REPORT

Teacher and Trainer Training

October 1998, Budapest

European Training Foundation

European Training Foundation

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The European Training Foundation is an agency of the European Union which works in the field of vocational education and training in Central and Eastern Europe, the New Independent States, Mongolia and the Mediterranean partner countries and territories. The Foundation also provides technical assistance to the European Commission for the Tempus Programme.

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FOREWORD

Developments in employment and work have triggered efforts in the EU Member States to concentrate on the most important agents of change in education and training, namely teachers and trainers. These have focused on content and methods, as well as on institutional aspects such as opening up schools to the surrounding environment and the reorganisation of teacher training institutions.

In line with these efforts, the European Training Foundation organised a three day workshop on "Changing Roles of Teachers and Trainers - Changing Identities of Schools and Vocational Institutions", which took place in Budapest from 14 to 16 October 1998.

The two Foundation workshops on curriculum innovation, which were held in 1996 (Turin) and 1997 (Bled/Slovenia), stressed the importance of redesigning the training of teachers and trainers as a prerequisite for the implementation of modern curricula. Three points were particularly emphasised:

- school organisation: changing the organisational style in the direction of teamwork and the creation of a learning organisation;
- role of teachers: the teacher as facilitator, and problem orientation as the key didactic principle applied to make students the key actors in the learning process; and
- environment: the school as the focal point in a local/regional network of learning.

In addition to this workshop, the Foundation has undertaken two further initiatives on teacher and trainer training. A review on the needs and achievements of vocational teacher/trainer training and the obstacles it faces in the partner countries has been carried out. First results will be given in this report. The full text of the review can be obtained directly from the Information and Publications Department of the European Training Foundation. Based on the outcome of the workshop and the review, a pilot project entitled "Reshaping the focus and structure of vocational teacher and trainer training" in Latvia and Lithuania has just started. The programme will run for three years (1999-2001) and is organised as a donor cooperation project involving Denmark and Finland. The aim of the project is to increase the relevance and attractiveness of vocational education and training in the associated countries of Central and Eastern Europe, in view of their future accession to the EU. The ambition is to develop a number of successful sub-projects on different aspects of teacher/trainer training. The experiences and results of the project will then be made available for wider dissemination in and outside the participating countries. Transnational cooperation between various vocational education and training actors from the countries involved will be strongly supported. Communication channels will be established to allow for expanded information flows about teacher/trainer training between Central/Eastern and Western Europe.

CEDEFOP and the Foundation have examined the feasibility of a common activity in the field of teacher training. CEDEFOP is setting up an EU network "Training for Trainers" (TTnet) which aims to encourage transnational cooperation between vocational training institutes providing training for trainers within the European Union and to promote the transfer of innovative practices. The Foundation is going to launch a TTT-network for countries participating in the pilot project and to integrate it into the CEDEFOP network.

Thirty-seven participants, representing twelve partner countries and seven Member States, attended the workshop. The speakers, who presented an outline of their papers in the plenary sessions, were invited to submit the full text, which can be found on our internet web site on http://www.etf.eu.int. The papers, when taken together, form an excellent framework for innovation which, we hope, will be used both as inspiration and guidance for the reform of teacher and trainer training.

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INTRODUCTORY PAPERS

For a modern organisation of training institutions and a corresponding professionalism of teachers and trainers

Bernhard Buck

As a result of the process of transformation, and also as an effect of developments in what is required of vocational education and training in Europe as a whole, the demands made of teachers and trainers in the partner countries have drastically changed. Their task has become more complex, calling for greater self-confidence, dialogue abilities and creative capabilities in their work. There has, likewise, been a change in the expectations of teachers and trainers as regards their day-to-day activity. On the one hand, the responsible shaping of their professional work is, increasingly, a function of the way they see themselves; on the other hand, teachers and trainers perceive the greater demands made of them as an imposition. In the absence of any support, there has been no incentive for them to participate in the changes and they have seen their social and occupational status eroded by a steady decline in their salaries and by inadequate funding for the education and training sector. These excessive structural demands may be one of the factors undermining the validity of the new requirements.

Admittedly, there is a greater awareness, at training policy level, of the need to change the perception and profile of the profession. In reality, however, this has not resulted in greater efforts being made to increase and improve the financial, social and organisational framework within which teachers and trainers operate.

1 *Challenges to be met by the vocational education and training system*

The change in the professional profile of teachers and trainers is a direct result of the new role of the education and training sector and of the training facilities available. These are designed to ensure that vocational and continuing education takes into account changed, and changing, socio-economic circumstances as well as fulfilling the legitimate expectations of the individual.

The principal objectives of the education sector in the partner countries, following the changes that have occurred there, are:

- to promote democratisation; and
- to support a market economy,

across all levels and all areas of society.

With regard to vocational education and training systems, at least four key factors that encourage educational change can be identified:

- the end of rigid central control and the decentralisation of power to regional and local levels;
- the increasing transfer of responsibilities from the State to the individual, in the light of recognition of the right of students to make educational choices in their own interests and to promote their individual abilities;
- the setting-up of vocational education and training systems, aimed at strengthening economic competitiveness by enhancing the competencies and qualifications of graduates; and
- recognition of the need to foster employability and the capacity of individuals to shape their own working lives.

Although many partner countries are beginning to implement policies along these lines, it should be pointed out that this is more by way of response and less in a pro-active spirit of forward planning.

Increasingly, in instituting reforms, vocational education and training systems are faced with the challenge of responding to:

- individualisation and uncertainty in all aspects of life; and
- instability and turbulence in economic life in general and in labour market developments in particular.

These are principally challenges faced by the individual, who must equip himself/herself with the thought processes required to adapt to the process of change. This process will continue throughout life, which means that individuals must prepare themselves for lifelong learning.

But in addition to the challenge to individuals, a new and pivotal role must be played by the vocational education and training system: to initiate, facilitate, guide and provide counsel to the individual throughout this lifelong learning process. The emphasis must be placed on the self-development of the individual, and supportive processes, structures and institutions/vectors for change must be set up which can promote this self-development process throughout life.

This new definition of the role of the vocational education and training system must be contrasted with the traditional model, in which the sector acted as a form of "closed-shop" and focused on the top-down transfer of functional knowledge from experts within vocational education and training institutions over a very limited period of time (the years spent at school). The aim was to educate and train students in skills and knowledge for their entire working lives, which is no longer possible.

Reforms of training for teachers and trainers must reflect this new approach of lifelong learning from at least two perspectives:

- How can *school/training institutions* be turned into open and learning organisations?
- What do *students (and teachers)* need to learn and how?

2 The new identity of the school/training institution in the process of economic change

2.1 The school/training institution as a learning organisation

Lifelong learning for the individual calls for the organisation of learning on the part of educational and training institutions: they must constantly be aware of the fact that society is changing and that schools must be open to such changes. Learning must be seen as a continuous cycle of action, reflection and evaluation by such organisations. In the context of the development of school/training institutions, reference is commonly made, therefore, to the concept of "organisational learning". This focuses on two aspects:

- the central focus of any policy considered by learning organisations must be their existing staff and their potential; and
- the benchmark for learning organisations is not so much organisational structure (departmental organisation) as organisational practices (procedural flow).

The personal expertise, skills and experience of the staff, together with their individual preferences, interests, life and career plans, have an impact on the planning of staff and organisational development, and thus determine the organisational policies adopted.

Organisational practices are open to change. The organisational structure is not completely fixed in detail from the outset; to some extent, it adjusts to the circumstances that arise and takes on the form required for generic problem solving. Organisational practice is no longer a reflection of departmental operation, as was the case with traditional organisations, but of the individual members of staff and their ability to act, their communication skills and cooperative needs. As regards the ability to act, the organisation is thus defined less on the basis of departments and standards, and more on the basis of the reactions of people in response to a specific problem in a particular situation. Frequently, therefore, the only justification for the organisation is the need to resolve a particular problem situation. Hierarchical relationships, whilst not in fact taboo, are no longer based on the principles of power and seniority. Hence, it is increasingly possible to create, change, reverse and do away with hierarchy depending on the situation and the needs which arise.

Organisational learning would, therefore, seem to be essential for schools and training institutions, since such learning makes it possible for them to react appropriately to the demands and problems of the local situation.

This excellence can, however, be achieved by school/training institutions only if they, like other sectors in society, adopt the management principle of "assumption of responsibility" by the staff, so that they can adopt the policies necessary to deal with the problems and challenges that arise, without having to go through complex administrative procedures. Currently, although educational policy seeks to increase staff responsibility, as far as the legal framework and the division of powers are concerned, it is an element of change which is given a low priority. In many countries, responsibility with regard to schools is concentrated in the hands of the central administration and supervisory authorities. The right of staff to take the initiative has evolved comparatively little. Primary control at central level means that administrative and organisational issues take precedence over vocational education aims. This conflicts with the school's ability to react and with the process of innovation which is required of learning organisations.

A learning organisation can come into being only where the decision-making and decision-taking structures in all organisational areas – including educational theory, personnel, finance and school organisation – comply with the principle of self-organisation. It must be possible for those involved

to develop forms of organisation which reflect the prevailing social and economic requirements and independently-established key priorities. The framework conditions determined by the State should, first, lay down the standards to be met, and, secondly, promote the assumption of responsibility, which includes accountability.

A school/training institution with a defined level of responsibility should draw up a development programme which reflects and sets out current priorities and trends. Based on this school programme, the school/training institution should establish a Personal Development Learning Plan for each member of its staff. Continuing teacher training should be an important element in it. The justification for the growing importance of continuing teacher and trainer education lies in the different and changing nature of the work environment in which teachers must develop and prove their capabilities. The initial training which teachers have undertaken no longer suffices. Hence, work experience itself must be viewed as a training phase. The organisation of continuing training for schools and training institutions calls for systematic cooperation between all the establishments involved (universities, teacher training centres and other bodies). Of considerable importance in broadening teacher qualifications during their working life is cooperation with businesses in the region.

2.2 *The need for co-operation with the regional environment*

From the point of view of lifelong learning, school/training institutions must institute learning that is not targeted at functional adaptation but which opens up opportunities for personal development and for allowing individuals to determine the shape their lives should take. Personal development, as the basic task of all education, cannot be seen as divorced from the objective of enabling the individual to participate in society. For vocational education and training, this means fostering personal development in such a way that the individual can participate actively in the process of change and also in shaping new prospects for business and working life.

For school-oriented vocational education this poses a problem, which cannot be resolved by leaving it to its own devices. The hallmark of traditional vocational education is the use of a comprehensive syllabus as a means of providing comprehensive knowledge. This places students and teachers under constant pressure to present and acquire knowledge. Yet, in industrialised countries, it is decreasingly sufficient simply to apply knowledge assimilated at school. The market demands experts, capable of using their know-how flexibly and creatively, applying their skills in concrete professional situations, and treating both knowledge and expertise as tools either for solving problems as part of a team or for motivating others to find solutions, which they can then help to implement.

From the point of view of lifelong learning, the school (especially at secondary level) is just one approach to learning among many others that can be listed in an individual's CV. The school must, therefore, develop a completely new view of itself, which would involve:

- on the one hand, the realisation by schools that initial education no longer represents the entire vocational education and training system but is only the entry phase of a multi-stage learning sequence, which greatly reduces the learning/teaching pressure referred to above, since there are institutions for subsequent continuous education which are better equipped for certain subjects; and
- on the other, the realisation by both schools and training institutions that students will not be able to acquire the ability to act in concrete situations solely through exposure to the teaching content and methods offered by these bodies. As befits the public nature of education, schools and training institutions continue to be indispensable as places of learning and may even take on increasing importance as relationships and interconnections in modern society become more complex and impenetrable. However, the greater the demand from business and the labour markets for an ability to act which is learned mainly from dealing with concrete work situations, the more traditional learning will become insufficient.

The necessary cooperation between school/training institutions and business poses a challenge for both:

- from the point of view of the school, it means accepting the company as a place of learning, i.e. as a vector for experience-oriented learning;
- from the point of view of business, it means opening up the school to the world of work and reforming it accordingly; and
- it requires both to conceptualise a new integrational education model based on the idea that, as far as possible, learners should perceive what is learnt as meaningful to their personal situation.

3 What to learn and how?

Currently, in considering vocational training, its goals and content, teaching approach and methods in a new and fundamental way, we do so in the belief that the quality of vocational training is undergoing a radical change. First, learning no longer takes place in a context of job security, but in a climate characterised more by a high level of insecurity in working life. Secondly, job requirements, which act as a benchmark for interaction between teachers and learners in the field of vocational training, have drastically changed.

3.1 Production process-oriented vocational training

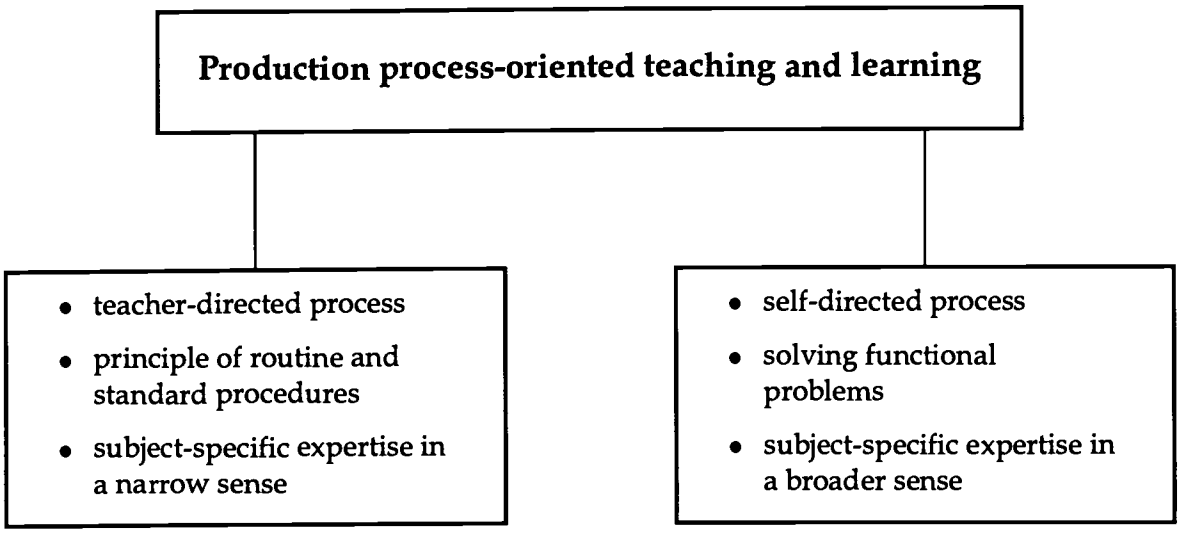
What was, and still is, understood by work, and has traditionally been taken as the reference point for vocational training, is manufacturing activity. This has three identifiable characteristics:

- clear determination of the results to be achieved;
- clear determination of the manufacturing procedures; and
- clear testing of procedures and results.

From this perspective, the teaching and learning process was planned in detail, efficiently performed and clearly controlled. Vocational training was seen as a series of events governed by rules, and involved imparting the required skills and the necessary knowledge to learners, without regard to individual abilities or requirements. This objective perception of vocational training favoured an expert understanding by teachers and trainers of their profession: they had the knowledge and their task was geared towards clearly defined teaching and testing processes.

As a result of technological developments, the status of skilled workers in Member States has substantially improved. By the 1980s, workers were expected to plan, execute and monitor their given tasks independently. They were no longer supposed to carry out duties prescribed by a third party, but to do their jobs in a self-directed and self-monitoring manner. Vocational education and training systems were then supposed to equip trainees with the self-reliance necessary for this.

This so-called "occupational performance competency" can be achieved, however, only if learners are seen as players, who, within their respective learning environments, acquire the necessary qualifications for the tasks they must direct on their own. Such self-directed learning processes may be promoted by methods which assign the tasks of planning, executing and monitoring learning to the learner or groups of learners themselves.



The discovery of active learning by learners did not, however, lead to a new basic understanding of the teaching and learning process. The latter was, and still is, seen as a production process for obtaining the required qualifications, although it is now viewed as an essentially self-directed process. This is because work itself (and vocational training) continued to be seen as an activity governed by certain rules, that is to say as a production process.

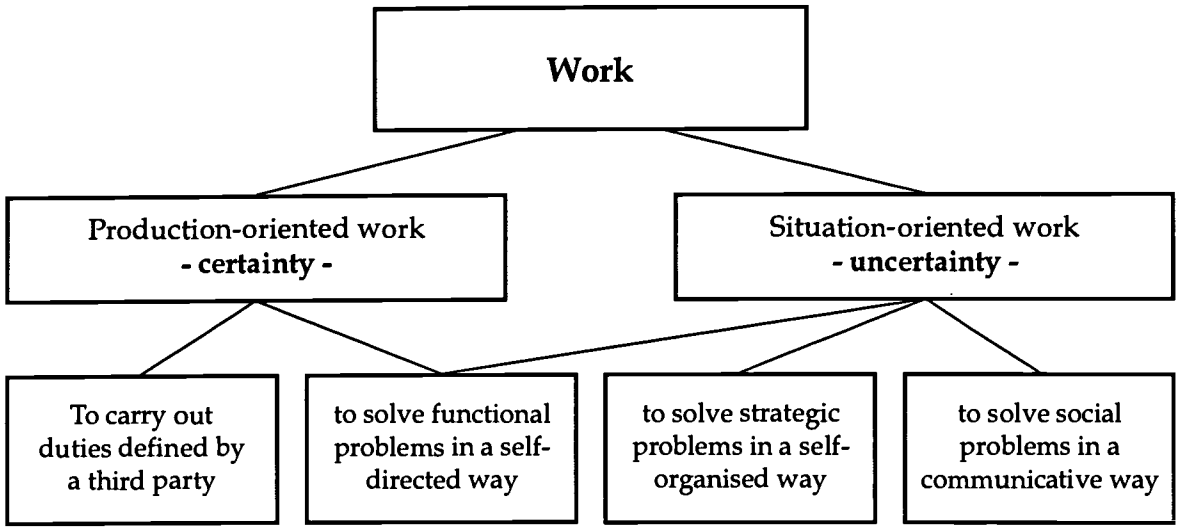
3.2 *A new quality of vocational training*

It is only in recent times, in the wake of a new understanding of work, that a "new quality" of vocational training has begun to emerge. This can be illustrated by way of an example from industrial business administration. In demand-driven economic conditions, administrative work is losing its dominant role within organisations. The profession itself is changing and now involves more "client-oriented problem-solving" work. This calls for:

- the consideration of customer requirements, requests and conditions, from the customer's viewpoint;
- the development of imaginative, reasonable and economically suitable proposals which offer possible solutions; and
- grounding in concrete reality through the use of different forms of consultancy, analysis and negotiation.

In general, it can be said today that an industrial business administrator not only has to know how to deal with situations and how to carry out given procedures (as is the case in supply-driven economic conditions); s/he must also be able to adopt a flexible approach to the wishes of customers, and bring them into line with what the company can provide, in constantly changing, open-structured and undefined situations. The traditional image of the "expert" must be replaced by the in-house "situation-based problem solver."

As can be seen from this example, this new quality is related to uncertainty: problem solving is the ability to cope with manifold practical situations. What the related situations have in common is that they, unlike processes which can be regulated, must be carried out in a climate of uncertainty where the consequences are unknown.



The definition of work is also changing. Work can no longer be considered an activity which can be performed in a clear and reliable fashion: it must now be seen as a service provided to the customer and to the company. Two factors underlie this change in perception.

1. Customers are no longer paying just for a product; they are paying for a solution to their problems or for the satisfaction of their needs. They are interested in the product only insofar as it helps them to solve their problems;
2. What is decisive for success in the market is not whether a competitive advantage exists on the technical side, but whether the product is perceived by the customer as an advantage.

The change in the meaning of work may be a reflection of the reality that work is no longer relates primarily to objects, but to relationships between people, their possibilities and needs. It is true that producing a technically perfect product will remain a necessary condition for sales, but it is no longer sufficient to ensure the success of a company on the market.

3.3 *The individual ability to act*

Within the framework of this new understanding of work, workers are not only expected to perform the duties given to them by their company, but are offered tasks and problems and urged to interpret and act on them. Workers are expected to bring these tasks and problems into line with their own ideas and/or to try to adjust or change them.

For workers, therefore, the required ability to act also means that they should be able to:

- contribute to shaping the objectives and cultural identity of their company;
- discover the situational frontiers of their potential to act; and
- estimate the consequences of their actions and, in cases of disagreement, rely, consciously, on their own point of view.

This perception of an "individual ability to act" is based on an experimental attitude towards work and on the idea that the individual will strive, in a given situation, to perform tasks to which he/she is suited. Accordingly, vocational education and training must develop, first and foremost, the ability of the learner to take initiatives. The learning process must promote self-organised experimentation.

The individual ability to act calls for the individual to demonstrate:

- *an ability to shape reality*, i.e. to find a solution to fit the circumstances; to solve the problem;
- *self-confidence*, i.e. the ability to perceive uncertainty as a condition which allows for the possibility of "shaping"; and
- *an ability to communicate*, i.e. the ability to express a point of view, to value the opinion of others and to come to an agreement.

On the one hand, these are basic human abilities, of the kind most adults in Western Europe are forced to develop. In private life, there are no superiors to dictate who to marry, how relationships should be organised, how children should be brought up or how new homes should be financed, or to decide which personal computer to buy and how it should be operated, which training to undertake, how spare time should be used or how high aims should be.

On the other hand, the ability to act under conditions of uncertainty is rooted in a particular social system. Indeed, parents and students in Central and Eastern European countries, after decades of planned development, constrained freedom of speech and dependence, are now being forced to make far-reaching and complex decisions about their own lives, including decisions about how to enter the vocational education and training system and to start along other professional paths, without knowing which approach it is best to follow.

Notwithstanding the differences between Eastern and Western Europe, however, the ability of workers and clerks to make day-to-day, private-life decisions had been forgotten in the workplace. Over a long period of time, workers had been asked to put aside their ability to solve problems because of the Tayloristic, bureaucratic and hierarchical structure of companies and institutions, while the hidden agenda of training institutions was to produce a workforce that could exhibit and practice dependent behaviour.

3.4 *Methodical aspects and the role of teachers and trainers*

Vocational education and training should go back to day-to-day, private and working life problems and examine learning situations which support learners' ability to act. In general, it can be said that this ability may be acquired in situations in which learners, in cooperation with others, can, as far as possible, organise their own activities in terms of goals, content and method by themselves. Self-organised learning is much more far-reaching than self-directed learning. The issue is not whether students can learn the task given to them, in a self-directed manner. The key point is that they themselves should decide on the learning task, the content and the method. Self-organised learning, therefore, can take place only within communicative contexts in which learners decide (within certain limits), for themselves, to learn and to proceed on the basis of what they have discovered to be problematic. What is decisive is that they themselves decide about the learning task, content and method. An organisation, which fosters this kind of self-organised learning, is called a "learning organisation".

Basically, if it is to enhance the ability to act, learning must be linked to actual work. However, school-based learning methods which are geared towards action, such as those provided in workshops and industry-wide places of learning, can also contribute to this ability.

The existence of a place of learning per se does not mean that the ability to act can actually be acquired, although there is a chance that this will be the case. Whether this potential is exploited in the learning process or not will always depend, basically, on the methods adopted: even in the best places of learning, like places of work, the provision of opportunities to learn can prove totally ineffective, if the methods used (such as, for example, the traditional four-stage method:

explanation, demonstration, reproduction and implementation) are not conducive to turning potential into reality.

Learning methods, as distinct from the way places of learning are structured (and, of course, learning content), constitute a field of their own which must be taken into account and be given an appropriate form in the conception of teaching and learning processes designed to foster the ability to act. Methods are important because since they determine the actions aspect of a learning situation: in a learning situation which calls only for listening, the learner will acquire an ability to listen, but not an ability to experiment. It is, therefore, important to find learning methods which confront the learner with situations structured in such a way that the type of requirements correspond to the way in which qualified workers must organise their work, now and in the future.

The learning methods referred to here differ somewhat from traditional methods, which were concerned with ways of processing and presenting the material to be learnt. The new methods seek to ensure that the materials are presented and absorbed effectively and rapidly. The learning method advocated here corresponds to the "requisite arrangements of learning situations". This requires teachers and trainers to be able to discern and weigh up all the aspects of a learning situation, but particularly the real activity aspect, from the point of view of the learning potential they offer. The question that must then be asked is whether what can be provided and learnt under such circumstances corresponds with what needs to be provided. If it does not, then an alternative and appropriate learning situation should be sought and created.

The project method

In this section, I shall provide a brief outline of the "Project method", a learning method which could be used to advantage by schools and other educational establishments and which has, for some time, been regarded as highly suitable for vocational training.

Projects are complex since they relate to an isolated and unique, although in principle repeatable, type of problem which has to be solved within a particular period of time. They relate, therefore, to the solving of identifiable problems. Projects generally extend over a period of time, proceed in a series of stages and, above all, involve overlapping themes which draw on areas of knowledge, viewpoints and subject areas which are normally distinct.

Projects relate to real life situations calling for action. The project group works, to a large extent independently, towards a predetermined goal, on the basis of real figures, facts and requirements. To a large extent too, the group must obtain the requisite information by itself. Teachers/trainers only set the project task, which can, however, be changed by the group or even replaced by another task. The teacher/trainer then contributes, generally in a pre-arranged manner, by providing feedback sessions in a consultative capacity. Other than that, the working group must marshal its knowledge by itself and seek to extend it in order to achieve a solution to the problem.

Using the project method, those involve learn how to tackle a problem and how to find an appropriate solution to it, by amassing and marshalling the knowledge required for the task. The decisive factor is that the process will be focused on a task and not on routine application. Quite apart from the motivation which a project normally generates (those involved understand why they must learn and learn from the project itself rather than on the basis of formal rules), the element of cooperation is particularly important, since all those involved are part of a group and learn a great deal about the social problems of working together and the advantages and disadvantages of various forms of organisation as well as styles of leadership and stages in the decision-making process.

3.5 *A new role for teachers/trainers within a new organisational framework of the school/training institution*

As regards the future of vocational training, it is clear, from what has been said above, not only that teachers and trainers must make allowances in the learning and teaching process for a plethora of new requirements and procedures, but that their role and function has greatly changed. Teachers and trainers counsel learners on how to learn, i.e. the learning process no longer relates to instruction but establishes a synergy, and provide assistance where necessary. The ability to use specific methods should not lead them to see their work as a sinecure. Teachers and trainers should see methods as working tools, designed to meet the needs of the learning situation.

If schools and training institutions do not develop an appropriate organisational framework to facilitate the reform of the teaching process, any educational improvements to the teaching and learning processes will be piecemeal and place too great a burden on teachers and trainers. What is needed is professional school management, characterised by high levels of communication, creativity and cooperation. To achieve this, schools and training institutions must be reconstructed as learning organisations in which education and training constitute "problem solving". What has been said about self-organisation by students and the role of the teacher/trainer also holds true for the school/training institution as a learning organisation. The self-organising school/training institution amounts to a project, in which the teachers and other staff come together as a group to solve educational, financial and organisational problems, the principal acts as a professional manager, i.e. as a mediator, communicator and coordinator, and all parties concerned interact with one another in an ever-changing environment.

Teacher and trainer training in the partner countries – First results of a cross-country review

Søren P. Nielsen

1 *Introduction and background*

Teachers are the key actors in the innovation process. At present their status is not very high and the financial rewards are low. For curricula and other reforms to be effective at the school level, the active and continuing support of school management, teachers and course designers is essential. Teacher and trainer training needs added weight in the coming years to support the huge transformation that is occurring in the Central and Eastern European countries.

The countries of Central and Eastern Europe, like their Western European counterparts, are currently experiencing the effects of fundamental changes in the global economy, with capital becoming ever more mobile on a global scale, production cycles being shortened and modern production concepts being introduced. The innovative potential of information technology-based production systems cannot be realised unless the labour force is flexible, motivated and well-trained. Training will have to be modernised and, for this to happen, there is a clear need to focus specifically on the training of teachers and trainers. This, however, will require the investment of substantial resources.

On the other hand, it is important to recall that the partner countries are not starting from scratch in their education and training reform efforts. General education systems in these countries have often managed to attain better literacy and numeracy levels than their more prosperous EU neighbours. Thus, vocational education and training reforms have a solid education base to build on. Furthermore, there is, in the countries involved, an understanding of the fact that the successful overhauling and change of vocational training depends, to a large extent, on vocational teachers and trainers.

This basic orientation is, perhaps, most clearly formulated in the Lithuanian White Paper on vocational education and training (1998):

> *"The foundation of vocational training, based on democratic beliefs, is the initiative of educators and their active participation in evaluation processes and in planning and developing the content of vocational training. That is why the proper education and training of educators is the main prerequisite of change in vocational training and in the satisfaction of individual and societal training needs."*[1]

In this article, I will first briefly reflect upon the achievements and the, as yet, unresolved aspects of the Phare Vocational Education and Training Reform programme undertaken in recent years. Then, I will present the preliminary results of a European Training Foundation cross-country study which tries to describe the state of the art of vocational teacher training in the Phare partner countries and

1 Lauzackas, R. et al.: Teacher/Trainer Training (teacher/trainer training) in Lithuania. Kaunas, 1998.

to define what needs to be done in the coming years. Finally, I will give a short description of an important development project, proposed by the Foundation, to reshape the focus and structure of vocational teacher/trainer training in the partner countries.

2 *"Phare from the madding crowd..."*

The EU Phare Vocational Education and Training Reform programme and other aid programmes have made a considerable investment in the reform of vocational training in the countries of Central and Eastern Europe. The approach of the Phare programme has been to support vocational education and training reform through a "pilot school" approach and to develop new dynamic curricula. The programme has had 5 inter-dependent components:

- curriculum development;
- partnerships with EU vocational institutions;
- teacher training;
- the upgrading of teaching equipment; and
- the development of education policy and the dissemination of results.

This combined approach is a good strategy. There is no doubt that the integrated innovative development of products ("what you teach"), of learning and teaching methods ("how you teach"), and of school organisation is, in many senses, the optimal way to renew the existing provision of vocational education and training programmes and to provide a framework for meaningful learning processes for the many actors involved. A cross-country analysis of the efforts undertaken in curriculum development under the Phare Vocational Education and Training Programme[2] indicates that this strategy has paid off well.

Effective as the strategy has been, it cannot stand alone. In all types of pedagogical pilot projects, there is a risk of "encapsulation". You start by selecting a number of the best institutions and, in order to give them good development conditions, you protect them from the difficulties and red tape that are to be found in the ordinary structure. At the time of the transfer and broad implementation of pilot results, all the real world problems and barriers may suddenly crop up again. The effect of barriers in the ordinary vocational education and training structure is always a serious factor to be reckoned with in the transition from the phase of "vocational education and training reform project" to the phase of "national vocational education and training reform strategy".

Another problem can arise with the "model school" approach, i.e. when a number of "elite" schools are given all the equipment, all the coaching, all the travel opportunities, all the development support, etc., and schools, which were "backward" to begin with, are left another couple of years behind. There is no easy way out of this challenge. What we do know is that the availability of a critical mass of well-qualified teachers is a decisive factor in the success of a nation-wide curriculum innovation process. Development theories would have it that, in reform programmes relying on a pilot school approach, friction occurs quite frequently between the "elite" schools and other schools, if pre- and in-service vocational teacher training is not provided in a structured, systematic way. A massive upgrading of teachers' and trainers' skills will be needed in order to implement curricular

2 Gronwald, D. et al: A Cross Country Analysis of Curricular Reform in the Vocational Education and Training in the Phare Countries. European Training Foundation. December 1998.

reforms on a wider scale and to disseminate results from the pilot schools to the level of the vocational education and training system. Cascading training efforts and building up the infrastructure necessary to "institutionalise" in-service teacher training should be top of the reform agenda. The vocational teacher training institutes should not only be fully integrated into the reform process; they should also be strengthened through special development programmes to build up their institutional capacities.

Are these comments a criticism of what has taken place in the Central and Eastern European countries in recent years? No, not particularly. They are general reflections on the challenges involved in educational reform processes in any European country. When I was involved in the implementation of the last Danish vocational education and training reform in 1989-1991 (a new vocational education and training reform is now in the pipeline), we faced the same challenges. But the challenges are much bigger in the partner countries and it may be that we expect them to do too much in too short a time. In Denmark, we acknowledged, at least to one another, that the full implementation of the new curriculum would take about 10 years - and we had to deal with only one national, and highly specialised, vocational teacher training institution, which received a substantial amount of government money to support the broad implementation of the new reform. In most of the partner countries, there is a number of vocational teacher training institutions. These are, usually, faculties of autonomous universities and provide only general teacher training. More often than not, they are on the sidelines of the Phare Vocational Education and Training Reform programme. Furthermore, no extra government money seems to have been allocated to support the widespread vocational teacher training needed to reap the full benefits of the pilot school projects.

3 *Teacher and trainer training in the partner countries - a cross-country review*

Up to now, the development support given to Central and Eastern European countries has focused on teacher/trainer training only to a certain extent. This is now changing. The European Training Foundation is concentrating more on specific studies and development programmes. A review on the needs and achievements of vocational teacher training and the obstacles it faces in the partner countries is currently being carried out for the Foundation. This will be followed up, in the coming years, by intensive work on developing vocational teacher training in a number of projects. The preliminary results of the Foundation study are presented here.

3.1 *Methodology of the European Training Foundation teacher/trainer training cross-country review*

The cross-country review is based, mainly, on a study of a number of case studies. These studies present country-specific data and are based on information provided by the National Observatories, which were given separate contracts from the European Training Foundation to undertake this assignment. The vocational teacher/trainer training surveys are based on a common structure/questionnaire formulated by the Foundation. Work on the synthesis report[3] is being carried out by three authors from DEL, Copenhagen (the Danish vocational teacher training institution), who have many years experience in documentation and analysis as well as in teacher training, and who have all been involved in DEL's teacher training development activities in the Baltic States since 1993.

3 Nielsen, S.P. et al: Reshaping the focus and structure of vocational education and training teaching personnel in the partner countries - a cross-country review on needs, achievements and obstacles. Preliminary draft report to the European Training Foundation. DEL, Copenhagen. October 1998.

Almost all the countries have answered the questionnaire (11 out of 12 national surveys have been received) so the synthesis review is virtually complete. The national case studies vary in quality and relevance. In most cases, they are written by authors from outside the vocational education and training system and the various aspects of university-based teacher/trainer training are much better covered than the very important issues of vocational pedagogy in its own right and the training of trainers. Another problem is that written reports alone cannot provide all the information necessary for a better understanding of teacher/trainer training theories and practices. We also need personal interviews and observations both of concrete sequences in vocational teacher training and of pedagogical processes in the classrooms and workshops of vocational schools. The comparative analyses and formulation of needs and recommendations presented here should be read with these limitations in mind.

3.2 *Challenges and recommendations for the renewal of teacher and trainer training in the partner countries*

All over Western Europe, countries are trying to adapt and modernise vocational education and training teacher training in order to keep up with the dynamic pressures stemming from global and technological changes in industry and commerce. There are no ready-made blueprints to guide this process and the partner countries are not alone in trying to cope with uncertainty. While there is no specific model of vocational teacher/trainer training to be offered, some preliminary findings from the review are presented below.

a) Developing a new concept of vocational education and training teacher professionalism

The de-ideologisation of teacher and trainer training in most Eastern European countries, including the closure of vocational support institutions in the wake of the post-1989 transformation, has been necessary but has also had negative effects on teacher identity. This has been compounded by the relatively low social prestige and salary levels of teachers. Vocational teachers have too many jobs, are over-worked and have lost their former social position. More should be done to build up a new concept of teacher professionalism so that teaching can be made more attractive again. Added emphasis on "teaching as profession" is an important theme which should be further developed in teacher/trainer training institutions. To get the priorities right, the partner countries must start to reflect on this challenge. Teachers are not only transmitters of technical or commercial skills; they also have a central role in the socialisation of young people.

b) The polarisation of vocational teacher and trainer training

The fact that the provision of pedagogical qualifications is divided between university trained teachers of theory and "masters"/trainers/instructors, who, often, have no pedagogical training at all, is problematical. While the level of education of vocational teachers is high in almost all countries, their pedagogical training seems to be too academic and traditional and is not linked to the world of work. Almost everywhere, there is a a lack of awareness of the fact that the primary social function of vocational teachers and trainers is not to produce "teaching" but to produce the "qualifications" needed in a modern economy. The qualification needs of companies require competent workers who are capable of combining theory and practice. What is needed in the vocational education and training system is a configuration of teaching, learning and practical work exercises. This framework might help to gradually strengthen the individual student's capacity to move, as the context required, between theoretical-analytical competence and a more experience-based, intuitive competence. The achievement of this type of configuration poses a very serious challenge to the existing structures of vocational teacher and trainer training in almost all the partner countries (and in most EU countries as well). A good way to further the development of this

integrated approach is to support vocational schools' efforts to become continuing vocational training providers. Continuing vocational training offered to experienced workers from local companies might force vocational teachers to combine theory with the experience and (often tacit) knowledge of their adult course participants. This procedure should, in fact, be required of the teacher/trainer training institutions in their provision of continuing training to teachers in vocational schools (cf. point i).

c) *The trainer/"master" group - low qualifications in pedagogy and technology*

The lack of up-to-date vocational as well as pedagogical qualifications of the "masters" is a serious problem for vocational schools. In a transition phase, where the old links between schools and the companies have broken down, trainers are important role models for young people who opt for working with their hands when they leave compulsory school. The *"Meister-lernen Paedagogik"* (Apprenticeship) is built on two core phenomena: *identification* and *imitation*, both of which have content-related and methodical implications. The apprentice identifies with the "master" and having this role model is part of his/her training. The narrow vocational learning process typically takes place as an imitation of what has been done by the experienced master until the specific work function is "mastered" by the apprentice. Whether work functions are performed in companies or in school workshops, such activities are normally holistic and contain good opportunities for learning how to plan problem solving, to anticipate results, etc. This means that active problem solving and feedback are a central and genuinely integral element of the learning process. With the lack of proper involvement of modern companies and the increasing drop-out rates of vocational students, more should be done to qualify the masters for a central pedagogical role in vocational education and training. A group of "practical occupational teachers" should be created so that the sharp division between vocational theory teachers and vocational practice trainers can be bridged.

d) *Many teacher/trainer training institutions but no specialised centres of excellence*

There are hardly any specialised, separate vocational teacher training institutions, although Latvia and Lithuania may be on the verge of introducing such structures to provide pedagogical qualifications to vocational teachers. Vocational teacher education tends either to be integrated into general teacher education or to be a sub-speciality in other university programmes. At the same time, there are (too) many institutions delivering vocational training in most of the countries, often under different ministries. This has a negative effect on the building-up of vocational education and training expertise and on vocational education and training research and innovation. There is also a lack of didactical thinking on vocational subjects which need institutional homes and can best be developed in centres of expertise. Some institutional concentration would, therefore, be advisable.

e) *Weak vocationally specific subject theory in vocational teacher/trainer training*

In all the partner countries, the traditional way of teaching divides the comprehensive learning process of the learner into the teaching of theoretical and practical subjects. The content of the old curricula was (and mostly still is) systematically broken down into small basic units and terms which can be learned separately. The content and goals of basic technological subjects are described, for the most part, via the basic laws of the natural sciences in their relation to basic technology. This is not useful for an understanding of the work process since teaching methods are not related to learning how to solve practical problems. There is a need to devote more attention to the development of the content of the vocational subject in its own right. Vocationally specific subject theory is only weakly developed in almost all partner countries. The connection between learning and work is often reduced to irrelevant theory or unreflecting "doing". In teacher and trainer training, there is a lack of focus on knowledge of work processes, on job configuration in companies,

on job analysis, and on how learning takes place on the job. In this regard, there is an urgent need, not only for the overall reform of teacher training, but also for the intensive further education of teachers. Teachers should not only have academic qualifications and practical real-life work experience; they must be trained to be able to convert this experience into their teaching concepts. Teachers should understand the organisation of workshops and be familiar with the work environment in real companies and how it is likely to develop. Only then can they bring the student's learning closer to the world of work. Basic (and also further) training of teachers should be geared more towards cooperation with regional companies, and be based on an understanding of the needs of modern work processes and on the practice of modern learning processes.

f) The paradigmatic shift in terminology from "teaching" to "learning"

The change in conceptual emphasis, in recent years, from "skills and knowledge" to "competence" is more than just a change of terminology. Much more emphasis is being placed on the ability to "act". The shift from teaching to learning and to taking responsibility for one's own learning is necessitated by the increased demand for personal competencies in modern industry and commerce. New qualifications cannot be acquired simply through the introduction of new learning content; they require, above all, the implementation of new learning methods. Change in most EU countries is also necessitated by the problematic relationships between teachers and students in traditional classroom settings. Modernity has changed the identity of students and requires a redefinition of teacher styles and roles. The cultural contract, in the form of values and shared frames of reference, which used to underpin teaching, no longer exists in modern Western countries. These tendencies are visible, only to some extent, in the partner countries - but signs of dissatisfaction show up as a big increase in drop-out rates. At the same time, the cultural and vocational competencies needed by vocational students in modern society cannot be developed only through traditional teaching and in the traditional teacher-student stage setting. In vocational teacher training in the partner countries, more emphasis should be put on the concept of the teacher as the "process owner" organising the optimal learning environment for students. This can hardly be organised by the individual teacher but must be realised by a team of teachers. Teacher training should concentrate on the theoretical and practical development of a new pedagogical scenario: from teaching to a setting where the focus is on the students' learning processes and on the forms of organisation which support this learning. We know, from the experience of the Phare Vocational Education and Training programme, that teachers and students are interested in the new styles of learning demanded. In most of the countries reviewed, new curricula, developed in the Phare pilot schools, are focused on independent learning on an individual basis or in teams.

g) Theory and practice in pre-service teacher and trainer training

The content and organising principles of pre-service vocational teacher training need to be modernised. New combinations of theory and practice seem to be needed. More practical teaching exercises are needed to develop hands-on experience and to avoid the "reality shock" experienced by new graduates from university. Experiments with some form of a dual system of vocational teacher training should be promoted with periods of theoretical pedagogical studies alternating with periods of practical teaching of real classes in vocational schools under the supervision of an experienced teacher. But this will require that these teachers professionalise their advisory role. It is recommended that programmes be set up for would-be teaching practice supervisors in order to renew and give added value to the theory-practice relation in teacher training. This strategy would kill at least three birds with one stone: it would force vocational teacher training educators to establish close contacts with teaching practice supervisors at the schools and to concentrate their minds on the practical relevance of what they teach; it would make vocational schools co-responsible for the qualification of their teaching staff; and it would contribute to an increased awareness of vocational pedagogics in the vocational education and training system at large.

h) *Reforming the teacher training curriculum*

The existing teacher/trainer training curriculum will have to be changed if appropriate learning environments are to be created. Learning environments are created, essentially, by teachers and are thus dependent upon their creativity, their views on teaching and learning and their understanding of how to create a problem-solving environment in the classroom. Because the teacher's role and skills are so central to the learning environment, the initial training of vocational education teachers and the continuing training offered to practicing teachers are crucial. Many current teacher education programmes in universities and in other higher education and training institutions are out of date. To concentrate on updating these teacher development programmes would have a positive, multiplier effect on the entire vocational education and training system. Teacher training methods need to focus more on the outcomes for learners in the form of a demonstrated competency. Such a competency is more likely to emerge if experimental learning methods are used. Through more active, project-based learning, the deep understanding of vocational concepts and skills, which is required in a rapidly changing economy, is more likely to be developed by learners. If the teacher training curriculum is based on solving problems similar to those experienced in the world of work, this transfer of knowledge and skills is more likely to occur.

i) *Continuing teacher training should be closer to vocational teachers*

The dominant model for continuing teacher/trainer training is still supply-based: universities, faculties, methodological support centres, etc. offer training courses to vocational schools either free of charge or on market terms. Existing provision procedures are only partially successful. Continuing vocational teacher training, in particular, is still focused on individuals rather than groups, and does not incorporate institutional and organisational development. It risks creating individuals who, metaphorically speaking, return from their cultural island to a resistant mainland. More emphasis should be put on demand-led training provision close to or within the schools. Pilot projects should be supported where, on an experimental basis, selected continuing vocational training institutions start the training process by going to the vocational schools and, together with teachers and headmasters, defining the actual training needs. Training needs assessments are still not carried out in most partner countries. Action learning principles should be applied, and on-the-job learning supported by external consultancy and the training of teachers and trainers in groups introduced. Genuine partnerships between training providers and vocational schools would, probably, then emerge. Feedback mechanisms would allow these experiences to be channelled back as important inputs to ordinary teacher/trainer training programmes.

j) *"Grass-roots" innovative development work as a vehicle in teacher training*

It is a characteristic feature of the tradition in the Nordic countries that pedagogical innovation starts, to a large extent, from R&D work in local schools. This contrasts with other European countries, where scientific approaches weigh far more heavily. Local development projects, as an element in a strategy for pedagogical renewal, are decisively important in the Nordic countries, and not least in Denmark. This development model is also found in Germany. The German "Modellversuche" , of which there two types, for schools and for companies, are based on the same principles. The idea that content-related and pedagogical development must be based, largely, on giving schools and teachers as free a hand as possible and backing them up with state funds without rigid control has great innovative potential. It would be worthwhile to try out this strategy also in the partner countries; the Phare Vocational Education and Training Reform experience demonstrates that schools and teachers are very motivated to participate in school-based pilot projects. One advantage of local R&D projects is that the pedagogical development of content and methods goes hand-in-hand with organisational development and the renewal of teacher qualifications.

Pedagogical innovation organised as experimental project work must, of course, be an integral part of the vocational teacher/trainer training curriculum. But it is also a powerful instrument for developing individual vocational schools.

k) The retraining and upgrading of skills of vocational teacher educators

On the basis on the author's own experience in the Danish-Latvian vocational teacher training programme (the "DELATE"-project 1996-97[4]), there is no doubt that a systematic effort to train the teacher educators is a crucial condition to achieve the 10 points already mentioned. To renew teacher/trainer training programmes, specific training must be offered to the teacher educators who are to function as agents of change. Seminars and training packages should en-compass such subjects as: new learning processes and changed teacher roles; methods of activitating students; observation of teaching and feedback; school-company links in teaching and learning; qualifications and competencies; evaluation as a tool; the development of a school culture etc. In programmes to upgrade the skills of experienced teacher educators, the pedagogical methods employed and the learning environments established must be organised so that student-motivating methods are employed, and the participants are encouraged to create and develop their own future teaching materials. The objectives, structure and methods of one such retraining programme for experienced teacher educators are documented in the "DELATE" reports.

4 *Summary: what now and what next in teacher/trainer training - learning from each other?*

The European Training Foundation has taken the initiative, not only to analyse teacher and trainer training in the partner countries, but to invite representatives from East and West Europe to take part in this conference here in Budapest, to present new ideas and practices in vocational teacher training and to discuss what we can learn from each other. The aim has been to increase the relevance and attractiveness of vocational education and training in the associated countries of Central and Eastern Europe, in view of their future accession to the EU.

The challenges to vocational teacher training have been summed up in 11 points above. These are tough challenges and they are conceptual and practical development work assignments, which have to be carried out also by the countries of Western Europe.

In the next phase of teacher/trainer training, the ambition should focus on turning concepts into practice. We must experiment with innovative ways in this field. The first step is to develop a number of successful projects on different aspects of teacher/trainer training. The experiences and results of such projects will then be made available for wider dissemination inside and outside the participating countries.

But 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 researcher, Ivar Bjørgen, on responsibility learning, which has had a great impact in Denmark but has made less of a mark in Norway. However, on the basis of the favourable experience of responsibility learning in vocational training courses in Denmark, a joint Nordic R&D project has been conducted under the Nordic Council of Ministers, with the particularly eager participation of Norwegian specialists in vocational teaching and learning methods!

4 Harrebye, J.B. et al.: DELATE - building systems for a basic pedagogical education of vocational teachers in Latvia, a joint DEL-Latvian teacher education process. Volume One and Two. DEL, Copenhagen. May 1998.

Two main models can be adopted to try to understand how the process takes place, a mediation model and a learning model. *The mediation model* assumes that there is a message which is given out centrally and tested through controlled experiments and finished models, with the results being implemented after the experimental period. 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 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 the 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 "grass-roots" level.

It is characteristic of the development requirements of vocational education and training courses - East and West - that we are confronted, to a great 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 can often easily become outdated. A strategy based on a learning model will probably be the most effective way to ensure continuous renewal and the development of new, locally adapted solutions to problems to which few answers are known today.

This conference has provided good opportunities for starting such networks of common learning in teacher/trainer training.

SUMMARY

The change in the professional profile of teachers and trainers is a direct result of the new role of the education and training sector and of the training facilities available. These are designed to ensure that vocational and continuing education takes into account changed, and changing, socio-economic circumstances as well as fulfilling the legitimate expectations of the individual.

Obstacles to overcome

But the new professional profile is one thing, the willingness of teachers and trainers to participate in institutional training courses, which reflect the changed circumstances is an other. It has been argued *(Eva Tot)* that with regard to learning and in-service training, teachers have various "ideologies":

- teacher's work is a kind of art, an activity that cannot be defined at all; in this sense, it is not possible to determine what makes a teacher's work good. Therefore, the essence of pedagogical knowledge cannot be taught;
- teachers are public service employees and the teacher's work is, therefore, a professional activity aimed at implementing the programmes of educational institutions.

Additionally, an analysis of the post-1989 experiences of working with the teachers and staff of teacher education institutions in the partner countries reveals that the factors causing difficulties in the process of change in education and training include *(Dainuvite Bluma)*:

- previous traditions in pre-service teacher education, which were exclusively subject-centred;
- the emphasis on science in the teacher-training curriculum and the scant attention paid to pedagogy, psychology and training practice;
- weak communication and cooperation skills on all levels, which interferes with the introduction of learner-centred approach; and
- a tendency to introduce new content into education while retaining traditional teaching/learning methods.

The changed socio-economic background

The new format of teacher and trainer training is based on two main principles:

- to promote a democratic society; and
- to support a market economy,

across all levels and all areas of society.

A vision of a wider and deeper Europe has to be built on a clear view of what such a society means and what concrete means can be used to achieve it. It has been argued that the prime motto for the new politics is "no rights without responsibilities". One important aspect of this change is the development of a Civic Society where all its members acknowledge individual rights and mutual responsibilities. Risk-taking includes both entrepreneurial activities at work and giving up benefits for work with little or no short-term economic payback *(John Konrad)*.

Traditional vocational education and training curricula and learning processes are seen as insufficient to meet the need to develop the skills and knowledge required by the new economies. Traditional definitions and explanations of professional competence or expertise have been based on theories of technical rationality - on the basis that learning can be applied in predictable and repeated ways. Vocational education and training curricula and processes have traditionally been based on imparting a fixed body of knowledge and skills required for identified tasks within occupational roles.

With the rapid rate of change in today's industrial society traditional roles and tasks are no longer fixed and predictable. Vocational education and training, therefore, has a new role in imparting the skills and values necessary for the development of new knowledge. Most of the trends vocational education and training in Europe can be taken as indications of implementing this new role. The underlying general trend is a transition from the centralised regulation of the educational system towards an empowerment of educational establishments to shape their own local or regional cooperation patterns and partnerships. The emergence of this decentralised policy may be manifested in several ways: by mergers of individual educational establishments into regional consortia with innovation-planning capacities; education and curricular collaboration between schools and higher vocational institutions; and new interfaces between school-based vocational education and work-based training *(Johanna Lasonen/Pekka Kämäräinen)*.

What to learn?

It has been argued *(Gerald Heidegger)* that a key question in vocational teacher training is the nature of the knowledge which good, experienced workers apply while doing their job. It has been concluded that what they use is a special mixture, combination or rather integration of knowledge and experience. This integration of different kinds of knowledge is called "work process knowledge", that is, knowledge about the whole work process. The challenge, then, consists in fostering this work process knowledge right from the beginning of vocational education and training in order to help young workers to do their job efficiently and to develop skills to "shape" the work process, their working tasks and the way work is organised. These "shaping activities" may improve the efficiency of the work process and, therefore, the economic performance of the enterprise. At the same time, from a pedagogical point of view, i.e. from the perspective of fostering personal development, shaping activities can contribute also to improvement in performance, by fostering self-reliance and independence.

Small and medium enterprises (SMEs) as the drivers of social and economic change will be crucial to the development of new employment and economic competitiveness *(John Konrad)*. But this in itself poses new challenges to vocational education and training. Traditionally, the curricula of VET are mainly geared towards big and often well-established companies. Although these companies might still play an important role in the economy, in terms of employment, their role is quickly decreasing. Restructuring goes hand in hand with the lay off of workers. Only in micro, small and medium sized enterprises new jobs are being created.

An entrepreneurship curriculum in education and training seems to be better at outlining the competencies, skills and procedures needed in the majority of companies where VET leavers get their first jobs, namely the SMEs. It also seems better "equipped" to give the clients of the education and training system the inspiration and the competencies to start a business on their own.

The prerequisites for schools to be part of the regional innovation cycle

For both vocational education and training institutions and vocational teacher training institutions, there is the need to understand the process of innovation at a regional level. It has been argued *(Rimantas Laužackas/Kæstutis Pukelis/Adela Rogojinaru, Jittie Brandsma)* that they could play a central role in the innovation cycle of the region on the condition that they

- play a new and pivotal role: to initiate, facilitate, guide and provide counsel to the individual throughout this lifelong learning process. The emphasis must be placed on the self-development of the individual, and supportive processes, structures and institutions/vectors for change must be set up which can promote this self-development process throughout life.
- are able to develop learning partnerships and networks with SMEs and other organisations to promote co-operation and innovation. The essential value of partnerships and networks lies in their potential to contribute effectively to the continuous further education of teachers. In-service training of teachers in the schools requires systematic cooperation among all institutions involved in vocational education and training.
- are constantly aware of the fact that society is changing and that schools must be open to such changes. That they see learning as a continuous cycle of action, reflection and evaluation by such organisations. In the context of the development of school/training institutions, reference is commonly made, therefore, to the concept of "organisational learning".

Partnerships and networks are instruments which are suitable for promoting the exchange of information between different partners. They could also make a contribution to the kind of organisational reform which is directed at facilitating the emergence of "learning organisations". A learning organisation is always undergoing change and development and, in this process, the experiences of its members are systematically taken into account. But before the learning organisation can become a reality, organisational forms, which support learning in the widest sense, have to be developed. To this end, partnerships and networks could help open the minds of teachers and loosen the structure of organisations. This would enable the actors involved in the process of change to identify, exchange, assess and disseminate pedagogical ideas, experiences and various aspects of organisational development in a much more far-reaching and complex way than would be possible if they were left to their own devices.

Another promising form which supports organisational learning is team work amongst teachers. In practice, this means that the teachers must work on the culture of their meetings, their patterns of communication and their interrelationships. This is demanding, both mentally and in terms of the time it takes, but it gives the teachers a greater insight into their own roles and functions in the communication process. It also gives them greater credibility and confidence, both in interacting with the students and in observing the processes and communication which take place between students in different types of learning situation *(Jette Beck Harrebye)*.

Consequences for teacher/trainer training

As regards the future of vocational training, it is clear, from what has been said above, not only that teachers and trainers must make allowances in the learning and teaching process for a plethora of new requirements and procedures, but that their role and function has greatly changed. Teachers and trainers counsel learners on how to learn, i.e. the learning process no longer relates to instruction but establishes a synergy, and provide assistance where necessary. This has consequences for teacher and trainer training: The focus should now be on the trainee instead of on subjects, with trainers specialising in one subject as was the case before. That is why, to take an example from France, a special group, the *Groupe de Suivi et d'Intégration Professionnelle*, is to be the trainees' point of reference. A group of fifteen trainees meeting regularly with the same team of two tutors, one from the Local Training Center and one from the field. This team's job will be to analyse each trainee's profile, to determine his/her training needs, to guide him/her (through counseling) and to help him/her pick the relevant parts of each module that will enable him/her to develop the necessary core of competencies to be a professional teacher/trainer. The emphasis is on "differentiated itineraries" as opposed to the old idea of "the same instruction for everyone". This conception of teacher training is isomorphic to the idea of developing a common core of competencies in students *(Jeanny Prat)*.

PART I
CHANGING IDENTITIES OF SCHOOLS/VOCATIONAL INSTITUTIONS

New linkages between vocational education and training establishments and their local/regional environments

(shortened version)

Johanna Lasonen and Pekka Kämäräinen

Introduction

In several EU member states, the development of vocational education policies is overshadowed by the development of general educational policy. In these countries, there is a tendency to blur the division between the provision of general and vocational learning in upper secondary education. In such policy contexts, it is difficult to develop an overview of how local and regional cooperation in vocational education and training provision could systematically support the implementation and redesign of vocational curricula and the development of organisational learning within the enterprises that collaborate with vocational education and training institutions. In some other countries, there are more distinct vocational education and training systems and the policy puts greater emphasis on creating new linkages between vocational education and training establishments and their local or regional environments. The examples below illustrate such policy initiatives and the different means for implementing them.

1 *Current trends towards cooperation between public vocational education and training systems and private enterprises in EU Member States*

Most of the trends can be taken as indications of a new pattern in policy-making. The underlying general trend is a transition from the centralised regulation of the educational system towards an empowerment of educational establishments to shape their own local or regional cooperation patterns and partnerships. The emergence of this decentralised policy may be manifested in several

ways: by mergers of individual educational establishments into regional consortia with innovation-planning capacities; education and curricular collaboration between schools and higher vocational institutions; and new interfaces between school-based vocational education and work-based training.

In **Norway** two recent generations of educational reforms have led to a policy mix that is based on three elements:

a) the unified institutions and the unified curricular frameworks that were created for upper secondary education in the mid-1970s;

b) the compromise of the early 1980s that linked the revitalisation of traditional apprenticeship training to the vocational programmes offered in the unified upper secondary education (as alternative models for implementing the vocational curricula); and

c) the consolidation of the policy mix by Reform '94, which introduced the 2+2 model (2 years of full-time education and 2 years of apprenticeship training) as the favoured means for developing initial vocational education and training within the framework of the unified upper secondary education system.

In the context of the policy framework of the 1990s, the public vocational education and training providers and the local authorities have been legally obliged to guarantee all who have enrolled in upper secondary vocational programmes a full-length initial vocational education. This policy favours full-time education as the basic model for the first two years and apprenticeship training for the last two years. Schools are thus expected to make room for apprenticeship training (for the last two years) but they are also obliged to compensate for the possible lack of apprenticeship training opportunities with the provision of equivalent full-time education.

Some insights into the implementation of the Norwegian reform can be gained from the two parallel European cooperation projects, Post-16 Strategies and INTEQUAL[5], which have analysed the Norwegian reform as one of a number of reform strategies (Post-16 Strategies) or as one of a number of curricular schemes (INTEQUAL) (Lasonen & Young, 1998; Brown & Manning, 1998).

The **Danish** policies for enhancing both vocational education and training and continuing vocational training have emphasised the need to make public vocational education and training and continuing vocational training bodies more attractive as cooperation partners for local and regional enterprises. The main characteristics of the respective policies for initial vocational education and training and continuing vocational training can be summarised in the following way:

- The initial vocational education and training reform of 1990 established a new funding principle that abolished the traditional recruitment areas and introduced a nation-wide competition for trainees. Thus, trainees, enrolled in school-based programmes based on an alternance structure, and enterprises, which had taken on apprentices following the same curricula as the school-based trainees, were made to behave as clients operating on a free market.

5 "Post-16 strategies" and "Intequal" are acronyms for two projects within the Leonardo da Vinci programme (strand "Surveys and Analyses"). Both projects were carried out in 1995-1997. The project *Post-16 strategies* ("Finding new strategies for post-16 education") analysed upper secondary education reforms that promote parity of esteem between general (or "academic") education and vocational education and training. The project *Intequal* ("Acquisition of integrated qualifications for professional work and study") investigated innovative schemes (mainly within the upper secondary education) which provide a dual orientation (towards employment as a skilled worker *and* towards higher education).

- In continuing vocational training, the main thrust in several pilot projects of the 1990s was to help public continuing vocational training providers to create better links between competence-giving continuing vocational training provision and the contexts of knowledge utilisation within client enterprises as well as to provide support for organisational learning. The earlier pilot projects were forerunners of national guidelines for developing continuing vocational training curricula and for nation-wide accompanying measures.

It is worthwhile to note that the basic principles behind the initial vocational education and training reform have been made public in several descriptive and introductory reference documents. However, their implementation was not supported by accompanying research projects and the experiences gained from the process have not been analysed in European cooperation projects. By contrast, accompanying research projects, e.g., the OVE project[6] and the General Qualifications project, have played a major role in supporting the pedagogic implementation of the 'training/learning/development' interfaces. Moreover, the interim results have been discussed in a number of European partnerships operating under several cooperation programmes, such as Eurotecnet, Leonardo, ADAPT[7].

Several similar examples of an interface between public or semi-public continuing vocational training providers and private enterprises are also to be found **France**. However, the most notable difference is that, in the Danish case, the continuing vocational training provider is a public nation-wide infrastructure that has a generalised competence-giving framework. In the analogous French cases, the continuing vocational training providers, e.g., GRETA and AFPA[8], have separate frameworks of their own rather than a common overarching framework. However, it is worth noting that AFPA in particular has been active in linking the major continuing vocational training providers into European networks and in promoting information exchange and European pilot projects in the domain of continuing vocational training.

In **the Netherlands** the vocational education and training and continuing vocational training policies of the 1990s have focused on the creation of strong regional consortia (ROCs) that cover, not only the hitherto separate provision of initial vocational education and training and apprenticeship training, but also adult education and continuing vocational training. As an alternative to mergers, the new consortia have been obliged to develop coordinated regional policies (innovation plans) and to adjust their training provision to the needs of their local/regional clients. The planning of innovations has been supported by pilot projects, without accompanying research, but with the support of consultants and national information services that make the pilot projects transparent nationwide.

Although the curricular and pedagogic shaping of the new local/regional innovation policies has not been supported by accompanying research projects, there has been some research-based evaluation of the organisational implementation of the reform. Similarly, there has been some accompanying research involving an attempt to analyse possible links between the implementation process and sectoral innovation policies. Such national studies are being used in some European cooperation projects, e.g., the Spider vocational education and training project and the TSER project

6 OVE is the acronym of a Danish research and development project that focused on mutual adjustment of *public* training provisions and particular *company-specific* development needs in their client enterprises (Offentlig og Virksomhedstilpassed Efteruddannelse).

7 ADAPT is a Community Initiative funded through European Social Funds. The ADAPT programme focuses on accelerating the adaptation of the workforce to industrial change, in particular on helping the workforce to adapt to the demands of the information society and on preventing unemployment.

8 GRETA and AFPA are acronyms of nation-wide networks of public (or semi-public) providers of continuing vocational training (GRoupement d'ETAblissements publics d'enseignement pour la formation continue; Association nationale pour la Formation Professionelle des Adultes).

of the FORUM network[9], to study the Dutch reform processes. It is also worthwhile to note that Dutch vocational education and training institutions are actively involved in European information exchanges between stakeholders and owners of vocational education and training institutions, e.g., within the EFVET network[10].

In the previous examples, the national policies have empowered training establishments to take initiatives to create local or regional "training and development" partnerships. In this respect, the *tradition* of the dual system of apprenticeship in Germany has not assumed the schools to be the key actors in organising the collaboration between schools and workplaces. Moreover, the legislation for the two learning sites (schools and workplaces) is contained in two separate legal frameworks (the Federal (Bund) framework regulates training at the workplaces whereas the Federal States (Länder) regulate the school part with their respectively autonomous educational laws. In order to promote innovatory developments, there is a framework for model/pilot schemes (Modellversuche) for both parts of the system.

More recent initiatives have involved an attempt to develop models for 'collaborative vocational education and training provisions for regional industries'. In such models a vocational school has been empowered to develop a local network with cooperating industries and to provide the infrastructural support for training and for other organisational development needs.

One example of such initiatives is the regional model/pilot scheme GOLO in the Wilhelmshaven region. The model/pilot scheme GOLO *(Gestaltungsorientierte Berufsausbildung im Lernortverbund)* was launched with a view to combining the efforts of small and medium-sized enterprises by means of consortium-based training in a particular region. The aim was to guarantee a satisfactory supply of training opportunities through a joining of forces by the SMEs and, at the same time, to support a qualitative improvement in linking the training function to production processes. The concept *'Gestaltung'* ,social shaping, emphasises this new quality.

The model/pilot scheme was based on a consortium that brought together all the regional enterprises that provided training opportunities in the fields of metalwork and electrical occupations, in industry. The coordinating function was assigned to the vocational school while the regional association for business and industry *(Wirtschaftsverband)* acted as a facilitator. The consortium established two field-specific teams and a joint coordination team to work towards closer collaboration between different enterprises.

The main thrust of the model/pilot scheme was in developing existing or potential production-related interface areas into major contexts for training activities. Thus, the joint training efforts were aimed at supporting production-related cooperation. Integrative working and learning assignments were used as major curricular vehicles. This kind of cooperation gradually persuaded some other enterprises, that had not previously provided training opportunities, to join the consortium.

A major innovative feature of this model/pilot scheme is the new role of coordinating the network-like cooperation of related industries assigned to the vocational school. This is a clear change from the auxiliary role usually assigned to vocational schools within the dual system of apprenticeship training. So far there has been no further information about how the experiences gained from the model/pilot scheme have been assessed at the national level or whether the lessons from the scheme have aroused the interest of European cooperative projects.

9 FORUM is a FORUM for European Reserch in Vocational Education and Training.

10 The EFVET network (European Forum of Technical and Vocational Education and Training) is a European network for the training providers, developers and stakeholders within vocational education and training.

The policy trends in **Finland** can be presented as examples that illustrate an educational system which is highly school-centred and in which academic drift has a major influence on the development of vocational and professional education policies. Thus, a demand for higher levels of education has paved the way for upgrading post-secondary vocational education through the introduction of the AMK institutions. Consequently, the corresponding reform of upper secondary education tried to establish a unified or collaborative framework for general and vocational, upper secondary education provision.

The traditional separation between general/academic and vocational education has been criticised in the 1990s for restricting the range of choice between various learning environments available to meet the needs of different learners. Accordingly, the educational reforms of the 1990s have focused on collaboration between general and vocational schools. Finnish vocational education and training has been delivered mostly in school-based establishments. However, schools have systematically organised various types of worksite and practical experience, such as job shadowing, simulated work experience, school-supervised work experience, on-the-job mentoring and structured training. By contrast, the most recent reform of Finnish vocational education focuses on work-based learning through authentic job experience.

Finland has been experimenting with new forms of secondary and tertiary education. The upper secondary school reform has provided a broader range of opportunities for completing vocational diplomas, the general upper secondary school curriculum or a combination of the `two through collaboration between vocational education institutions and academic upper secondary schools (Lasonen & Frantz, 1996). A wide--ranging experiment in vocational higher education has also been in progress, with the participation of 32 permanent or temporary AMK institutions (a Finnish equivalent of the British polytechnics, formerly non--universitary establishments, or the German *Fachhochschulen* and the Dutch HBO institutes). The purpose of the experiments is to study how inter--institutional cooperation can be used to raise the standard of post--compulsory education and to meet the changing demands for knowledge, skills and qualifications. Another objective is to explore possibilities for diversifying education and creating flexible and individualised programmes. A central focus of the experiment is inter--institutional cooperation with a view to lowering the barriers between different forms of education and offering students more options.

2 *Cooperation between general upper secondary schools and upper secondary vocational institutions in Finland*

The Finnish upper secondary education experiment, launched in 1992, entails local networking of, and cooperation between, general upper secondary schools and vocational institutions. An aim of the experiment was to mutually enrich academic and vocational education. The participating schools have created a network and cooperation methods and tools to enable students to make their course choices across the boundaries between general and vocational schools on a daily and weekly basis.

The upper secondary education experiment is being run in 16 localities where networks have been established. Each locality operates as a separate, locally managed, network. The individual networks consist of 8-9 schools on average. Distances between the schools vary from sharing a common schoolyard to locations as far as 20-40 km. apart. The number of participating students is 35,000, ranging from 350 to 6,000 per unit (Numminen & Virolainen, 1995).

The experiment can be said to be characterised by the following features: freedom of choice in constructing personal study programmes; local networking and cooperation between different educational establishments; and new ways of combining academic and vocational teaching and learning, in project work, for example. The students are allowed to select 30-40 percent of their studies from other schools. Learning sites have been extended in that students have the option of constructing study programmes across the boundaries separating different educational establishments. General upper secondary school students may select studies from other general upper secondary schools or vocational institutions, while vocational students may include, in their study programmes, courses from upper general secondary schools and from other vocational institutions. General and vocational students may also complete a combined programme comprising both general and vocational subjects. They may further conduct studies in other educational establishments such as adult education institutions, AMK institutions, open universities and summer universities. They may also include studies abroad and/or work experience in their programmes.

Cooperation between academic and vocational institutions has emerged in three phases. In the first phase, the schools opened their study options to students in other schools by offering occupational courses, requiring short-term joint scheduling, usually involving a few hours or half a day per week at a time. The organisation of this phase has been criticised because of the fragmentary nature of the courses offered. In response, the course options have been broadened to offer ready-made study packages for students from other schools. In scheduling, this has led to joint study days or periods with neighbouring schools. In curriculum design, teachers have had to familiarise themselves with each other's curricula by comparing the objectives and contents of courses. The third phase may be characterised as a progression towards independent student choice as regards constructing personal study programmes aimed at acquiring qualifications chosen by the students themselves. The reform has made it possible to acquire double qualifications and several single qualifications. The school networks have made a certain contribution to individualised study programmes. Open and flexible joint scheduling based on counselling and the use of information systems has recently been boosted, giving impetus to the further development of teaching and learning methods.

3 *Experimenting with work-based learning in school-based vocational education*

The work-based learning experiment, entitled the Bridge from Education to Working Life Programme, is an attempt to strengthen the links between education and working life and to improve students' qualifications for work-based learning. It is intended to help raise the standard and enhance the future readiness of vocational education. The experiment was launched by the Government's deciding, in principle, to reform and develop secondary education and the consequent recommendation (21 January 1998) by the Ministry of Education concerning young people's work-based learning. The work-based learning experiment stems from the policies adopted by the Government to promote lifelong learning, increase employment and boost economic growth.

Participants in the work-based learning experiment include 1,600 upper-secondary-level vocational education students, 1,200 workplace trainers and teachers as well as managers of the enterprises and department heads of the schools involved. The participants, who came from all over Finland, represent the following fields: Technology and Transport; Administration and Commerce; Catering and Home Economics; Social Welfare and Health Care; the Humanities and Cultural Services; and, Natural Resources.

Vocational programmes preparing students for different occupations have included considerable amounts of work-oriented instruction. Traditionally, work-based teaching has been delivered in the training classrooms and workshops of vocational education institutions, through laboratory-based instruction, in customer service and at workplaces. The length and intensity of authentic practical training has varied from study field to study field.

What distinguishes the reform of, and experiments with, work-based learning from previous practices is that, in all study fields, students will be given at least six months of practical training and that they will be systematically tutored. Methodical work-based learning will familiarise students with the job tasks central to a mastery of their future occupations and guide them towards self-regulation and the acquisition of lifelong learning qualifications in the everyday performance of their jobs.

Occupational mastery presupposes the development of occupational skill, of a feeling of competence and, as a result, of self-esteem. Students' self-assessment of their progress in the acquisition of the knowledge and skills required in their chosen occupation fosters their ability to recognise their own limitations and strengths and helps them to identify with the norms of their trade. Occupational skill involves an overall theoretical and practical mastery of the relevant work processes. Teaching and learning is underpinned by an occupation-specific conception of knowledge that includes ethical, aesthetic, epistemic, empirical and techno-rational starting points. Ethical knowledge covers the values and norms that guide the field. Aesthetic knowledge may include an employee's personal and creative approach to his or her occupation and to an understanding of it. Epistemic knowledge teaches a student to make conceptual sense of his or her actions. Empirical knowledge is knowledge produced by research and development projects as a contribution to the operations of the given field. Techno-rational knowledge is experiential knowledge that also includes the above-mentioned foundations of competence. An awareness of the conception of knowledge prevailing in his or her occupational field helps a student to gain a mastery of the occupation.

The acquisition of occupational mastery can also be considered from the point of view of the learning process. An essential precondition of successful work-based learning is that students are motivated to study and mentally prepared to solve problems, understand the things they are learning and personally assess the process and contents of their learning. Practical training or work-based learning offers them unique opportunities for testing their learning in authentic job situations.

To acquire lifelong learning skills and develop a personal and active engagement with their future job, students must themselves take part, under the supervision of their teacher, in defining the goals of their work-based learning. Such goal-setting presupposes that a student is capable of analysing the knowledge and skills base of his or her study field and of making choices and decisions. The amount of job tutoring required depends on the development of the student's sense of occupational mastery, decision-making skills and ability to act independently. Tutors monitor and give feedback on the progress of each student's acquisition of occupational mastery.

The design of the Finnish experiment as regards networking and cooperation between schools with different learning environments and varying school cultures and the construction of individualised study programmes suggest links with earlier educational debates. Core qualifications and/or future skills might be enhanced by combining multi-vocational and academic learning environments. The increasing autonomy of the student as the constructor of his or her personal study programme suggests links with constructivist pedagogy.

4 Concluding remarks

In previous sections, several examples have given of policies and practices in which schools, colleges and training centres have gained a new role as facilitators of local or regional innovations in working life. However, this new role cannot be prescribed by mere national or institutional policy decisions. It is obvious that the educational establishments that wish to gain such a role have to prepare themselves to extend their activities and competences beyond the customary patterns of delivering curricula for their clients. Moreover, the educational establishments need to be capable of positioning themselves as cooperation partners that can facilitate the kind of learning processes that are relevant for local and regional initiatives.

In order to meet these aims, it is not enough to confine the role of the educational establishments to finding new clients, students and enterprises, for their normal courses or to delivering some additional courses according to the needs that have been expressed by local or regional clients. Instead, the educational establishments are challenged to develop a manifold set of contacts in order to identify the links between their existing provisions, the identified learning needs and the possibilities of utilising the outcomes of learning in the local and regional contexts. Moreover, the educational establishments are challenged to identify needs, to develop new or adjusted learning provisions, to provide support for particular learning gaps and to provide facilitation services for a follow-up phase after the educational measures have been implemented.

Management in education: the implementation of change

Jeanny Prat

1 *Introduction*

I would like to start with the word «change», which seems to me to be pivotal here. By common usage, as my favourite companion, the Concise Oxford Dictionary, reads, "to change" is "to make, or to become, different". It has something to do, therefore, with transformation, whether outward- or self-directed.

Being a linguist, I am always very interested in the small words that follow an English verb and add meaning to it: "you change **to** ..., or **into** ..., **from** ..." - you can even "change **over**", that is from one system or situation to another. To change is, therefore, a matter of **evolution** - or, perhaps, of **revolution**.

Evolution means "development (of an organism, of human society, etc)". The Oxford Dictionary, of course, mentions Charles Darwin here and his "origination of species *by development from earlier forms, not by special creations*". I stress the last part of this quotation because I think it has very much to do with management in general (corporate management) and with management in education in particular!

So change has something to do with life - and, of course, with death, since an organism which does not evolve, and does not adapt to its new environment, is bound to disappear.

2 *Change in education*

Is change in the field of education very different from that in general life then? Human organisations such as educational systems can be looked at as living and dying organisms, too. As in the theory of evolution, the need for change in educational systems comes from some sort of pressure, either internal or external - or both. This is as true for a given school (which can be seen as a micro-organism) as for society (its parallel macro-organism) or for a given society's educational system, which is somewhere in between.

In France, the 1989 *Loi d'Orientation*[11], has brought about major changes, if not upheavals, in our educational system through its attempts to adapt that system to societal changes at various levels (French, western, European, international),. The law provides a very general framework, which encompasses each and every area of education in France, with global goals to be reached, values to be shared, etc. It calls for a complete change in focus:

- from a teacher-centred to a learner-centred approach;

11 Mr. Lionel JOSPIN, our present Prime Minister, was then Minister of Education

- from content acquisition to competence development;

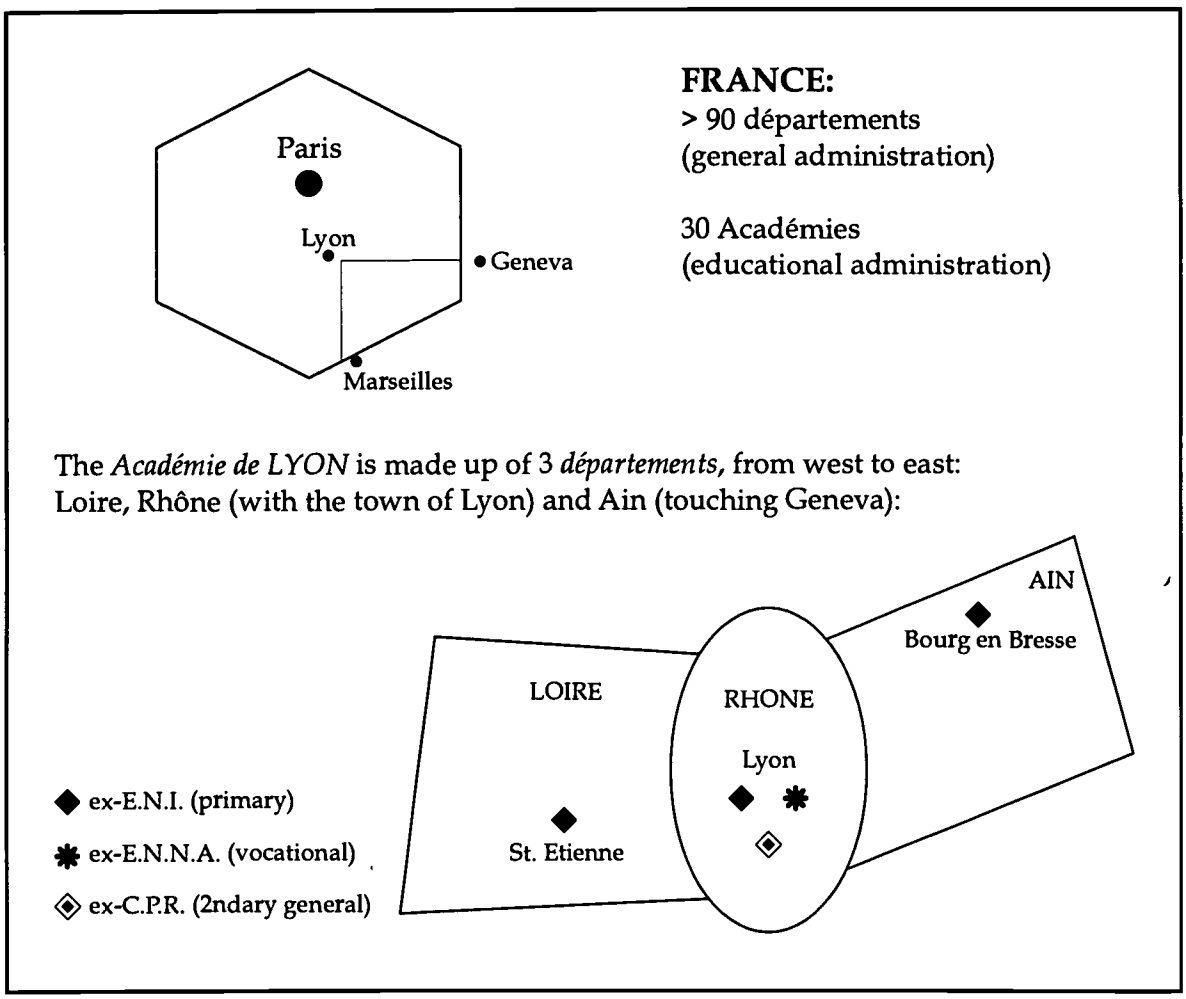
and lays the emphasis on global education rather than mere instruction in a number of subjects. That can, indeed, be considered as a revolution in this country.

One of the major decisions then taken was :

- **to recruit all state[12] teachers at *Licence*[13] level** (i.e. *Baccalauréat*[14] plus three years in University)
- and to offer them, first, pre-service training, then in-service training, **in the same training institute, the I.U.F.M.** (cf footnote n° 2).

This was not the case before (cf fig. 1 & 2 below).

Fig. 1: The LYON I.U.F.M.'s «Local Centers» today

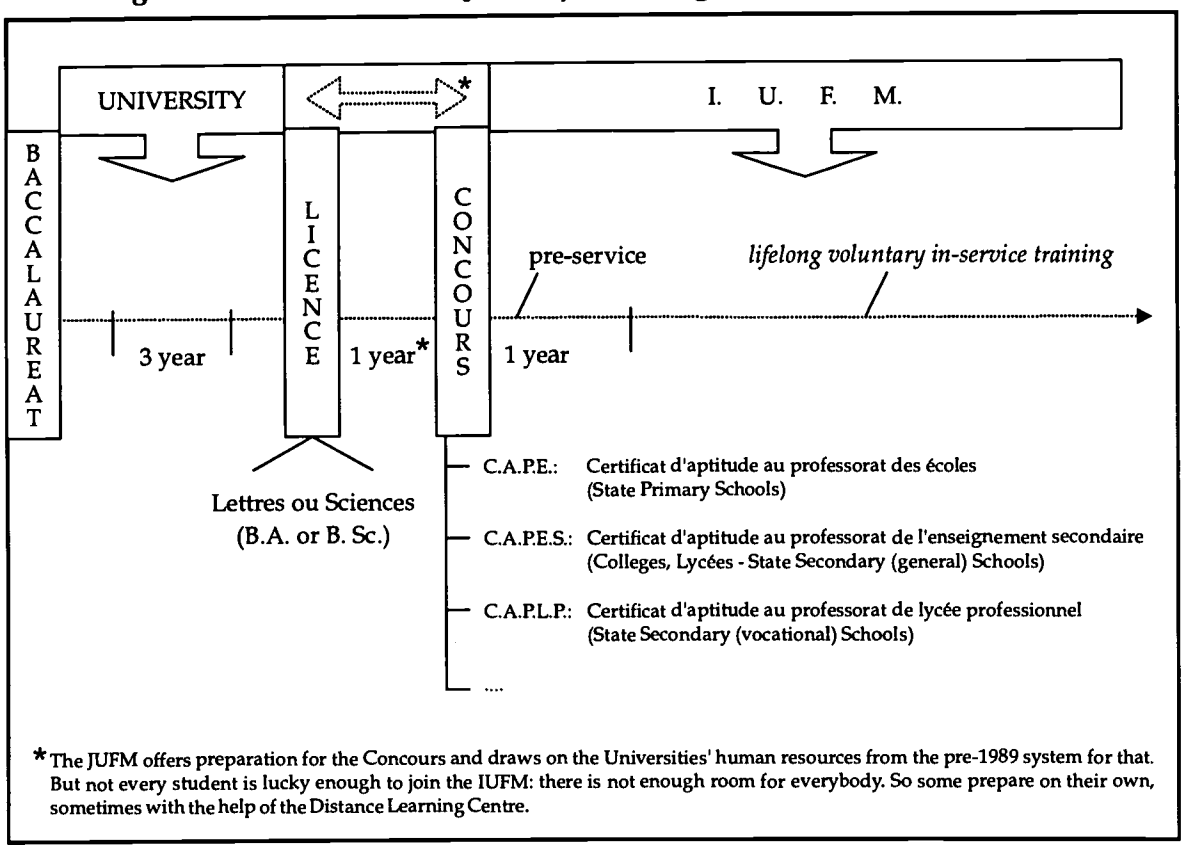


12 Please note that, in France, people have to take competitive exams to become lifelong civil servants, for example a teacher in a state school

13 cf British B.A. or B. Sc.

14 cf British A' Levels or German Abitur

Fig. 2: The current French system of recruiting and training state teachers



The **devolution** of the E.N.I., C.P.R. and E.N.N.A. into I.U.F.M is the example I have decided to take to tackle the subject of this paper.

3 *Case study: the birth and development of the I.U.F.M. in the Académie de Lyon*

The formula IUFM = 3 ENI + 1 CPR + 1 ENNA[15] is easy to follow only on paper, since these institutions came from very different historical backgrounds and geographical-hierarchical lineages (for precisions, see Appendix 1 at the end of the article). So how has this great change been implemented?

At this point, I suggest going back to the sources of meaning in language for a moment again. My very precious companion reads that "to implement" is "to complete (contract, etc); to fulfil (undertaking); to put (decision, plan, etc) into effect" - but I am not going to forget that "an implement" is also "a tool or an instrument"!

At the national level, the *Académies* were asked to come up with projects for a IUFM (within the general framework of the Loi d'Orientation, of course) **on a voluntary basis**. Three of them were chosen as **"experimental sites"** to be started in 1990. Lyon was not among these but, in 1990-1991, it was preparing its project for the **general implementation** of the new law, which was to be in 1991.

15 In the *Académie de Lyon*. Some *Académies* cover more than 3 *départements*, but may not have had an ENNA since there were only 6 for the whole France, but each *Académie* had 1 CPR.

I have underlined these three phrases because this has been a regular way of implementing change in the French educational system for the last decade - sometimes with an evaluation plan, sometimes with the experimental stage lasting over a year[16], but interestingly enough, independently of whether left or right political parties are in power.

At the *Académie de Lyon* level, here is how things went - as far as I know since I have been in the IUFM for two years only.

The initial project was the work of one man who, I suspect, consulted a number of his colleagues in every area concerned. The project was accepted at top government level and the man was appointed Director of the Lyon IUFM[17]. I still wonder how he managed those first years, having to work with people from each of the ante-1989 institutions, some of whom used to be directors of these institutions themselves! Under such conditions, change cannot be implemented straightaway; it has, I presume, to be instilled quietly into the building of new professional relationships on a personal basis, and that can take an awful lot of time. It may even, in the case of some individuals, never work at all, in which case one has to wait for these people to retire.

Although it is still a very young organisation, the Lyon IUFM has already experienced two successive *Plans de Formation* (Teacher Training Plans)[18]: 91-94 and 94-99. It was evaluated in 1996 by the C.N.E. *(Comité National d'Evaluation)*[19]. It came out of that not too badly and already knew its few flaws (the need to develop NICT[20] for instance, and also international relationships). It is now coming to a major turning point as it is going to sign its first contract with the *Direction de l'Enseignement Supérieur au Ministère* (Department of Further Education at Ministry level) for 99-03, much in the same way as universities have already done.

Here is how the Lyon IUFM team has tried to manage this process. It started two years in advance and tried to involve everyone, very much, I think, in a participative management way.

In 1997-98, a *Comité de Pilotage* was set up to carry out interviews with everyone who was responsible for something within the IUFM (not only teacher training, but also administrative matters etc.) in order to draw up the blueprint of a new *Projet d'Etablissement*. The Committee could also hear any individual or group who wanted to contribute thoughts or questions. Anyone could send in written notes at will, too and the Committee also took into account the results of the trainees' yearly evaluation sheets. Then, we had a half-day meeting in Lyon in March 98 to give our opinions about the main issues that had come out of the hearings (from wishes as well as from complaints). I had the feeling that day that it was the first time people from every corner of the old institutions were mixed and asked to share opinions with a view to imagining something new together.

The *Comité de Pilotage* was then assigned a new task, that of mapping out and writing a *projet de plan de formation* to be presented at the next meeting of the *Conseil Scientifique et Pédagogique* (C.S.P.) which is a consultative body, and then at the *Conseil d'Administration* (C.A.) in early July 98. Both bodies gave their formal assent to the plan.

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16 For instance, the introduction of Foreign Languages into primary schools in 1989: the initial experimental stage was prolonged to three years, but the generalisation stage has still not been reached (1998) because of a lack of human resources. Another example is *le Nouveau Collège*, particularly its *"parcours diversifiés"* scheme: 368 experimental sites were set up in 1995, the results of whose projects were transformed into a "law" the following year when every lower secondary school had to produce its own scheme in accordance with the national framework thus defined.

17 M. Alain Bouvier, who asked me to represent him at this Workshop. In 1991, he launched a regular seminar on "management in education and *projets d'établissements*" which has been going on ever since. This year we are working on the theme "learning organisation".

18 Please note that the *Plan de Formation* is only one part of the global *Projet d'Etablissement*, which also includes administrative, financial, documentary aspects etc.

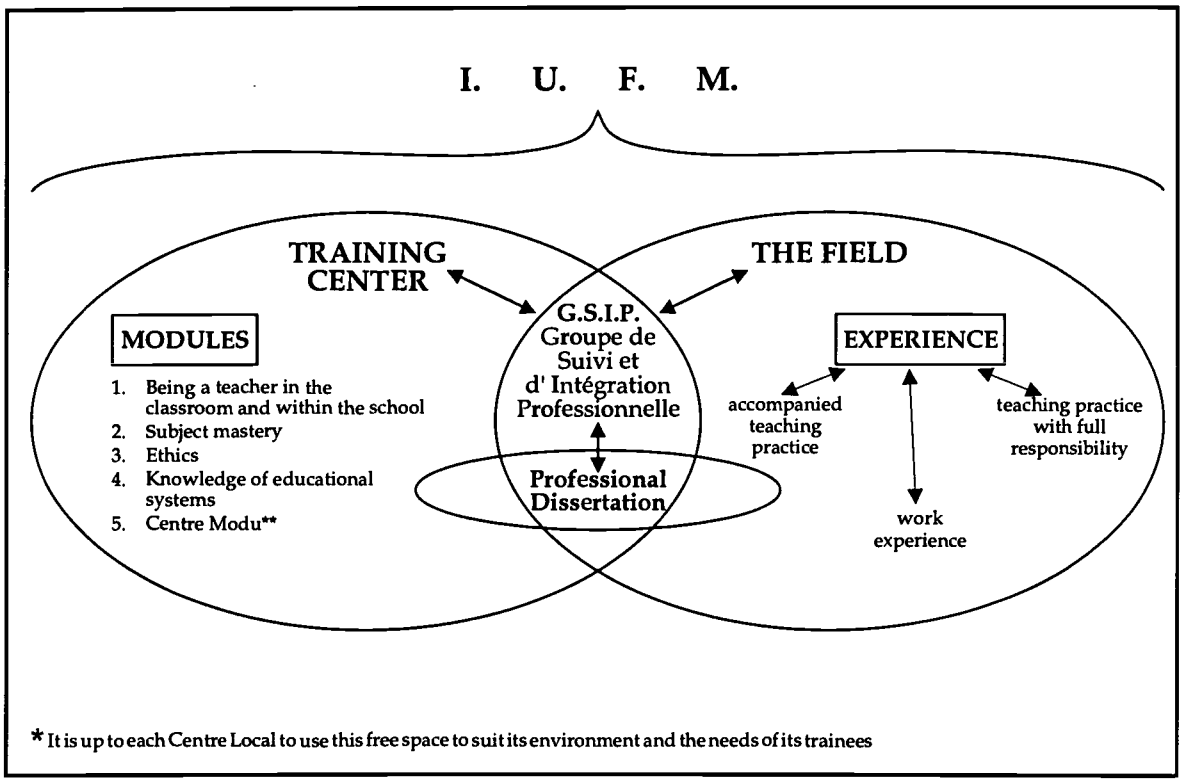
19 The Evaluation Report can be found on the C.N.E.'s Internet site: http://www-cne.mesr.fr

20 New Information and Communication Technologies.

This year 98-99 is one during which we must think out new ways of training and of working together as trainers (those from the IUFM and those from the field). We must establish new procedures and co-train ourselves as trainers in order to be ready for the great leap forward on 1 September, 1999![21] In the meantime, experts from the Ministry will have come and debated with the Board of Directors before the final signing of the four-year contract. Of course, this contract is of utmost importance as government funding depends on it.

After a year and a half of various forms of debate and of writing and re-writing, the Lyon IUFM has come up with a (new) global teacher-training format, which is to be applied to primary as well as to secondary general and secondary vocational teachers-to-be. I must stress that Fig. 3 below only applies to the pre-service professional training at the IUFM, i.e. it concerns those students who have passed the *Concours* and thus have become state-paid trainees, for whom the IUFM has full responsibility[22].

Fig 3: The future format of teacher-training at the I.U.F.M. de l'Académie de Lyon



21 Ironically enough, while I was giving my presentation at the Workshop in Budapest, my colleagues were having our second half-day of discussion in Bourg-en-Bresse.

22 The format of the previous year in which the students prepare the *Concours* has not been touched yet – it is a sort of joint University-IUFM responsibility and it is also a matter of who gets the money from the government for that It seems the

4 *Analysis*

It seems to me that this new format is very much in keeping with the 1989 *Loi d'Orientation* in that it aims at trainee-centeredness.

The **focus** should now be **on the trainee** instead of on subjects, with trainers specialising in one subject as was the case before. That is why the *Groupe de Suivi et d'Intégration Professionnelle* (G.S.I.P.) is to be the trainees' point of reference. A typical G.S.I.P. will be a group of fifteen trainees meeting regularly with the same team of two tutors, one from the Local Training Center and one from the field[23]. This team's job will be to analyse each trainee's profile, to determine his/her training needs, to guide him/her (through counseling) and to help him/her pick the relevant parts of each module[24] that will **enable him/her to develop the necessary core of competencies to be a teacher/educator in today's and, hopefully, tomorrow's, school**. The emphasis is on "differentiated itineraries" as opposed to the old idea of "the same instruction for everyone". This conception of teacher training is isomorphic to the idea of developing a common core of competencies in children, via primary then secondary education, until the age of 16 (end of compulsory education).

5 *Conclusion*

Coming back to the initial question of whether such a change be **implemented or** whether it needs to be **managed**, my best of friends will help find the answer. Of course, to manage is "to conduct (an undertaking, etc) ; to organise, regulate", but it also means "to gain one's ends with (a person, etc) by tact, flattery, dictation, etc", and that is already something more subtle. But what I like best in the Concise Oxford Dictionary's definitions is the following: "to succeed in one's aim (often with inadequate material etc)", i. e. to cope, with people, situations, things ..., to make do with what we have. Isn't that so very human!

So, it seems to me that we are simply trying to make a new French *mayonnaise* here; it is all a matter of balance between mustard, pepper and vinegar, to make it hold!

Maybe we French people have an unconscious tendency to commemorate our very first revolution (1789), but I tend to think that, in French educational matters, the 1880s with Jules Ferry saw our first revolution and that our most recent and modern framework, the 1989 *Loi d'Orientation*, was our second, and one which we are still working at implementing almost ten years later. Implementation of change, whether in education or elsewhere, requires a lot of day-to- day management; "It takes time", as Satchmo Armstrong used to sing - or, as a more French tradition puts it:

" Patience et longueur de temps
Font plus que force ni que rage. "

(Jean de La Fontaine, Fables - Livre Deuxième, *Le Lion et le rat*)

23 Someone who is a part-time teacher in a school and a part-time associate trainer.

24 Each module is to be divided into a number of sub-modules, a few of which are compulsory, as they are considered as basic.

Appendix One

Primary school teachers were recruited at *Brevet* (≈ GCSE) level (in the 70s), later at the *Baccalauréat*, and later still at *Baccaulauréat* + 2, level. They used to be trained in a special school, **the E.N.I.** (Ecole Normale d'Instituteurs/-trices), at the most local level in the French educational administration, i.e. the *Département* level. These schools, established at the end of the 19th century (in Jules Ferry's times) and concerned with both pre- and in-service training, were integrated into the I.U.F.M. in the early 1990s.

As regards **secondary general education**, although the *Lycée* originated with Napoleon and the *Collège* in the first half of this century, still their teachers used to be trained together in a **Centre Pédagogique Régional** (C.P.R), an institution at the *Académie* level, which did not have any buildings and was only concerned with pre-service training. To make up for the lack of in-service training for these teachers, a *Mission Académique à la Formation des Personnels de l'Education Nationale* (M.A.F.P.E.N.) was set up in 1980 alongside the C.P.R., often with the same trainers. The C.P.R. disappeared in 1990, too, and the M.A.F.P.E.N. in September 1998. Both were integrated into the I.U.F.M..

As for **secondary vocational education**, at one point there were two different grades of teachers/trainers, people who came from factories and were made teachers after a few years of good service, and others who started directly as teachers. These were trained in another special school again, the *Ecole Normale Nationale d'Apprentissage* E.N.N.A. There were only six of these for the whole of France. The E.N.N.A also disappeared in 1990 and were integrated into the I.U.F.M..

Entrepreneurship in education and training

John Konrad

1 *Introduction*

This presentation identifies the main cognitive approach to Entrepreneurship Education; draws on a major study of the growth of small businesses in Central and Eastern Europe; and finally raises development issues for teachers, trainers and other professionals for this approach to vocational education and training.

> *"Every society and every company has key individuals, or entrepreneurs, with the ability to identify opportunities and who have the ability to satisfy new needs and better satisfy existing needs. ... Could a programme in entrepreneurship develop basic psychological attitudes for entrepreneurial action?"* (Hansemark 1999: 28)

It follows from this quotation that there is not a necessary connection between being an entrepreneur and being self-employed or managing an independent business. Entrepreneurship is an attitude, a degree of motivation and self-confidence, and a set of practical capabilities (such as the ability to manage resources). In this sense, entrepreneurs within an organisation would be identified with the ability to enable the organisation to survive and grow. However, this process is usually assumed to be beneficial to all concerned.

> *"The entrepreneur is seen as an innovator breaking an existing state of equilibrium and doing so to create progress. Innovation means to create new products or quality, to create new methods of production, to open up a new market, to create a new source of supply, or to create a new organisation or structure in business."* (Schumpeter 1934)

A person whose actions generate employment for others or goods and services which contribute to the growth and well being of social institutions is generally positively regarded. In some contexts, an entrepreneur who fails is still lauded as a person prepared to take risks! This concept of success would, however, not necessarily be extended to a person who builds up a large successful multinational enterprise designed to supply narcotics from (say) Colombia to Europe. In addition to this evaluative aspect,

> *"the world of the small business person and indeed the entrepreneur is best characterised as a way of life, not a mere business activity. Put simply, those who create the environment for entrepreneurship must understand and share the entrepreneurial culture"* (Gibb 1995)

The important study of Entrepreneurship by the Chairman of the Small Business Centre at Durham University Business School in the UK is based on research and consultancy in Central and Eastern Europe. This study represents a classic view of the agenda of market liberalisation prevalent in the first half of the 1990s. The paper identifies the classic obstacles to inward investment in "Emerging Markets" with political instability, financial risk and (lack of) legal infrastructure. The typical sources of entrepreneurs, the majority of whom are in the service sector, identified by this study included:

- workers made redundant by market liberalisation;

- public sector workers having marketable skills who have seen their real income fall sharply;
- those with access to the capital necessary to purchase small businesses sold off by the State;
- those working outside the formal economy, often based on illegal, or semi-legal transfer of funds, and other criminal activities; and
- pensioners and low-income workers.

The main success factors are the ability to operate in a fast-changing world with such key stakeholders as:

customers	suppliers
bankers	lawyers
accountants	regulatory authorities
family workers	peer group members

A study in the USA suggests that the demand for entrepreneurship education comes from the impact of the downsizing and job insecurity resulting from the economic changes of the early 1990s. (Kourilsky 1995) Young people can see clearly the impact of these policies, which have their equivalents in the post-Soviet process of "market liberalisation in Central and Eastern Europe. In both contexts, young people have seen their parents' values and expectations destroyed by the economic and social changes of the 1990s.

2 *Implications for schools and teachers*

This paper suggests that there are a number of practical implications for the curriculum. In the experience of this author, care should be taken to ensure that schools have the autonomy to adapt to the differing environments and contexts of their area.

The first step is to identify appropriate entry points at all levels of the curriculum. It may be useful to consider this area of learning as a theme, which cuts across the programme of teaching and learning. For example, the study of geography could include field studies that are concerned with changes in the pattern of employment and the impact on distribution of settlement and transport flows.

Secondly, it is necessary to organise school/business links that will enable teachers and students to see the reality of business life. This involves visits and studies of business organisations, but also the involvement of people from outside education in the work and life of schools. For example, it may be appropriate to use ex-students who have been successful in developing new enterprises, as role models within a school.

Thirdly, the development of entrepreneurial values and attitudes within schools is an important issue. If, as educationalists, teachers are seeking to develop entrepreneurial attitudes and behaviour in their students, this is likely to be more effective if the teachers themselves are seen to be entrepreneurial. This is a difficult issue and should be considered in the context of how schools manage the processes of organisational development and renewal.

The final implication is that schools need to develop a learning culture. At first sight, this may be a statement of the obvious! However, the point here is that if entrepreneurs learn from their failures as well as their successes, then teachers should consider the implications for both their pedagogy and also their non-classroom practice.

3 *Product and process outcomes*

In practice, the introduction of entrepreneurship education across the curriculum involves responses to a number of questions.

1. **What knowledge skills and experience should teachers seek to share with their students?**

   This raises the important issue of how far teachers can and should be involved in this process. If this field is considered of sufficient importance, then it follows that teachers have to develop the necessary knowledge and skills themselves through in-service education and training. Otherwise these resources will have to be brought into the school in some other way. Neither strategy can be carried out quickly or cheaply. It may well be that a combination of the two strategies is the most effective way to tackle this issue.

2. **Is the development merely one of content, or does it also require the organisation of the school and its staff to develop an entrepreneurial culture where rewards are more defined by outcomes than by formal status?**

   This issue is perhaps the most difficult for schools. Typically, teachers have either been Civil Servants or have some equivalent status that is based more on achievement than performance. The introduction of performance-related rewards, whether involving bonuses to individuals or greater resources to the school, involves a significant shift in culture. The leadership of schools and local authorities is likely to be crucial here.

3. **Can schools and businesses develop a partnership approach where the development of entrepreneurial abilities, principally the ability to learn from experience, can gradually develop?**

   In this context, partnership between schools, businesses and the other stakeholders of the local economy involves a recognition of common goals and ways of achieving them. This aspect of the interaction between schools and their environment needs careful development over a period of time and effective leadership and co-ordination. The impact of this process is unlikely to be seen quickly.

4. **Should this lead to a model where students are increasingly becoming entrepreneurs, at first through simulated enterprises or mini-enterprises within the school, and later with appropriate mentoring support, become real-life entrepreneurs?**

   This aspect raises perhaps the most far-reaching changes and may well involve issues beyond the range of all schools. For example, how far are the values of business compatible with those of education?

The specific curriculum of entrepreneurship education involves such activities as:

- opportunity recognition - seeing the nature of business opportunities and their relevance to the accumulation of capital;
- accumulating resources in the face of risk;
- starting a business and planning its development;
- capital development: covering the creation and enhancement of physical, financial and human resources;
- marketing: developing and implementing a successful strategy; and
- cash flow analysis - managing the ways in which funding is monitored and evaluated.

4 Challenges to the nature of knowledge and meaning

In European society, challenges to the nature of knowledge and meaning date from the time of the Renaissance. Knowledge and meaning are increasingly socially constructed rather "objective".[25] The modern focus on learning as partly dependent on the social context is a concern of constructivist theory such as "situated cognition".[26] Jean Lave develops this perspective more seminally for vocational education and training.[27]

Recent UK research has addressed the following questions. What is being learned at work? How is it being learned? What are the factors that affect the amount and direction of learning in the workplace?

> *"Increasing the amount of learning at work in order to realise the aspirations conveyed by the rhetoric of the learning organisation or The Learning Society depends on recognising how much learning occurs, or could occur on the job, and the factors which affect it. Our analysis at the individual level suggests that learning depends on confidence, motivation and capability – especially when capability is viewed as something to be acquired rather than something innate. This in turn depends on people's work having the appropriate degree of challenge, on how they are managed and on the microculture of the immediate work environment."* Eraut M et al. (1998:2)

An increasingly social perspective is relevant to the issues of quality, flexibility and adaptability as occupational skills and knowledge develop over time. This is well expressed by Gerald Heidegger in his emphasis on the *"shaping approach"* for enriching vocational education and training. This approach makes it possible for vocational education to achieve mastery of academic subjects and the mastery of everyday tasks, at work, in the field of politics or in private life. (Heidegger G, 1997) This perspective argues that workers need the skills and knowledge to control the application of technology and the social aspects of work. This clearly requires research into new taxonomies of learning as indicated by Rauner F (1998) and the work of Eraut and his colleagues quoted earlier.

> *Learning to learn is of increasing importance in both personal and occupational settings based on "communities of learning" involving a shift from training to learning; from transmission of knowledge and skills; integrating training into the mainstream of human resource management. This is not merely a cognitive and pedagogic task, but an issue of motivation and self-confidence. If people, not just young people, are confident about their ability to learn new knowledge and skills in the future, they assure their own future in the turbulent conditions of modern economic life, and also strengthen the culture of their society. The fostering of self-directed learning is a central objective for European education.* (Straka GA, 1997).

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25 This is a large field, but the initial arguments can be found in Michael Polanyi's (1962) seminal work which argues, initially, that "we have sound reasons ['good and sufficient evidence'] for seeing theoretical knowledge as more objective than immediate experience" [page 4] Further, "... the aim of a skilful performance is achieved by the observance of a set of rules which are not known as such to the person following them." [page 49]

26 For example, "... every cognitive act must be viewed as a specific response to a specific set of circumstances. Only by understanding the circumstances and the participants' construal of the situation can a valid interpretation of cognitive activity be made. ... People learn information and pattern of reasoning from one another, either through direct teaching or more informal cultural transmission mechanisms ... if individuals shared common processes of knowledge construction and if they were exposed to the same opportunities for knowledge construction (i.e., the same data), they would also arrive at common conceptions. " Resnick L B (1991:4&11)

27 For example, "In the workplace, people who are members of work groups in formal terms often form sustained but disjunctive communities of practice as in the shop floor culture described by Willis (1977). These communities shape the ways in which work and play are produced, their meaning, and the skilled, stylised relations among old-timers to which newcomers aspire – in short a form of mastery. ... At the same time schools and school-like workplaces accord knowledgeable skill a reified existence, turning it into something to be 'acquired' and its transmission into an institutional motive." (Lave J 1991: 78-79)

5 *New ideologies of society and the economy*

A vision of a wider and deeper Europe has to be built on a clear view of what such a society means and what concrete means can be used to achieve it. Historically collectivist thought[28] emphasised the role of the state as a generator of solidarity and equality, in contrast to the liberal-market ideology of conservatism, which emphasises the role of the individual.[29] However, Giddens argues that the prime motto for the new politics is "no rights without responsibilities". One important aspect of this change is the development of a Civic Society where all its members acknowledge individual rights and mutual responsibilities. Risk-taking includes both entrepreneurial activities at work and giving up benefits for work with little or no short-term economic payback.

In this process, the switch from passive benefits to the socially excluded to genuine work-based learning and qualifications are as much part of the essential role of vocational education and training, as building work force skills to attract capital investment.

Learning is a social activity. As such, vocational education and training reflects the dominant ideology and is, at the same time, a transmitter of values and ideology itself. There is a need to obtain a deeper understanding of the cultural role of vocational education and training, especially in a transnational context.

The nature of knowledge and its relationship to the goals of vocational education and training in society is one of the key research questions for the 21st century. Traditional vocational education and training curricula and learning processes are seen as insufficient to meet the need to develop the skills and knowledge required by the new economies. Traditional definitions and explanations of professional competence or expertise have been based on theories of technical rationality – on the basis that learning can be applied in predictable and repeated ways (Edwards, 1993). Vocational education and training curricula and processes have traditionally been based on imparting a fixed body of knowledge and skills required for identified tasks within occupational roles. When thinking about knowledge development in a richer way, it may be useful to distinguish between different types of knowledge. Lundvall and Johnson (1994) identify four different kinds of knowledge, each requiring different types of mastery: know-what, know-why, know-how, and know-who.

With the rapid rate of change in today's industrial society traditional roles and tasks are no longer fixed and predictable. Vocational education and training, therefore, has a new role in imparting the skills and values necessary for the development of new knowledge. It is this work-related knowledge, or know-how, combining 'hand skills' with 'brain work' which can lead to innovation in products and processes and, thus, to the creation of employment and societal wealth. At the same time, knowledge has a social role in enabling workers to themselves co-shape the future of work and society. More research is necessary to validate the practical approaches that will facilitate and support these new roles in the approaches adopted in different systems and, possibly, in different sectors.

Small and medium enterprises as the drivers of social and economic change will be crucial to the development of new employment and economic competitiveness. But this in itself poses new challenges to vocational education and training research. SMEs have traditionally failed to participate in either initial or continuing vocational education and training (Smallbone D, et al 1995). Barriers to participation include the cost of training, the difficulty in releasing workers and the relevance of vocational education provision. Thus, researchers have to address problems of access and relevance and explore the use of new forms of learning for SME employees. Furthermore, there is the need to understand the process of innovation at a regional level and to develop networks of SMEs and other organisations to promote co-operation and innovation.

28 For example, Marx's view that "the free development of each will be the condition of all" quoted in Giddens A (1998).

29 This was expressed in an extreme form by Prime Minister Margaret Thatcher at the 1987 Conservative Party Conference in the statement: "there is no such thing as Society, only individuals and their families."

New approaches to the updating and accrediting of vocational education and training professionals – teachers, trainers and planners – are critical for the professionalisation of vocational education and training. Research shows that vocational teachers and trainers will continue to play a central, if changing, role in both the design and shaping of learning opportunities and in the support of learners. The present, fragmented provision of education in Europe is inadequate in preparing vocational education and training professionals for such a role. Neither does present provision allow for the continuing updating of skills, knowledge and practice. The continuing professional development of professional communities of practice needs to incorporate current concerns, but also has the ability to look beyond these, and this is possible only if, as Ellström (1997) argues, practitioners develop a broad developmental and interactive view of occupational competence. This would complement a focus upon the significance of work-related knowledge and work process knowledge in the continuing professional development of professional communities of practice.

> *"There remains the need for further comparative research, but there is also an imperative to seek and develop new methods for collaboration and co-operation at a research level. ... One possible course of action, developed by the EUROPROF (New forms of education of professionals for vocational education and training) partnership, may be to develop a general framework for vocational education and training professional education and to encourage institutions to develop and reform programmes within such a framework. The framework may also form the basis for a European network of researchers and providers of vocational education and training professional education."* (Attwell G. 1997)

This framework has recently been developed in an ERASMUS curriculum development proposal submitted by a group of six Universities in the UK, France, Germany, Portugal, Romania and Spain.[30]

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PART II
CHANGING ROLES OF TEACHERS AND TRAINERS

The teacher as facilitator of the learning process

Dainuvîte Blûma

1 *The changing role of the teacher*

The teacher's role depends on the functions s/he has to carry out in the teaching process. The traditional view of these functions does not correspond to the new situation, where the learner is an active partner and takes on the responsibility for his/her own learning.

In order to create the conditions that provide the student with opportunities that will enable him/her to become an efficient and successful person and professional, now and in the future, it is necessary to change the whole process of teaching/learning, the classroom practice as such. This will involve changes in the teacher's functions, which, in turn, will require the teacher to learn skills and competences based on personal characteristics that are different from those teachers were hitherto required to have. The very word "teacher" acquires a new meaning – that of facilitator and consultant.

Changes in the role and function of the teacher also involve changes in values, beliefs, attitudes and the teaching culture. In fact, it is the change from individualism to development-oriented collaboration. This is collaboration between teachers and students in a teaching/learning process, based on mutual respect, shared goals, support and a shared school culture. (Hargreaves 193-194)

Teachers have to move from teacher-centred and subject-centred teaching to a learner-centred teaching/learning process where the learner is an active partner.

The teaching/learning process, in which the teacher is a facilitator, is subject to more unpredictability and spontaneity. It demands from the teacher greater concentration, intensity of thinking, attention and creativity. This is required in a situation when the learner becomes a partner and is given a chance:

- to take an active part in planning and organising his/her learning;
- to decide and take responsibility for the results of his/her learning;
- to have his/her opinions listened to;
- to show his/her initiative and creativity; and
- to develop his/her self-confidence and self-reliance.

The functions of a traditional teacher and a teacher/facilitator can be contrasted as follows:

	Traditional teacher	Teacher/facilitator
1.	Teaches, gives information, explains	1. Facilitates students' learning
2.	Teaches formally	2. Teaches informally
3.	Does everything for the students	3. Creates situations for students' experiences
4.	Decides everything	4. Involves students in decision making
5.	Is creative about how to teach	5. Is creative in finding and offering situations for the development of students' creativity
6.	Dominates the classroom	6. Builds relations on mutual respect and trust and encourages student participation
7.	Focuses on students' errors	7. Focuses on students' progress
8.	Is active, creative, and innovative him/herself	8. Delegates the right to be active, creative, innovative to students

The teacher needs certain skills and competences to organise a learner-centred teaching/learning process. These are:

- the skills of democratic classroom management;
- the skills to facilitate the development of interpersonal relations on teacher-student and student-student levels;
- the skills to clarify and identify student needs and abilities; and
- the competence to create a relevant balance between theory and practice, teaching and learning and teachers' and students' responsibilities and activities (after Brandes 10-32).

The teacher, as facilitator of the growth of the student's whole personality, must, first of all, have the qualities s/he is assisting and encouraging the learner to develop. In addition, s/he has to know how to encourage, promote and support the student's personal and professional development. This means that teachers have to have certain new qualities. The skills of student-centred teaching cannot be learnt and used efficiently if the teacher does not have certain personal characteristics such as:

- tactfulness;
- the ability to communicate;
- the ability to share without being imposing (Brandes 15-16); and
- resourcefulness.

Another basic skill of the teacher/facilitator is the ability to create an environment which encourages learning. A learning environment has several aspects:

- *the physical environment:* the equipment and the way it is organised in the classroom, e.g. how students are seated, the teacher's place, arrangement of furniture etc., tidiness, the colour of the walls, plants and aesthetic aspects such as design of the furniture, the professional suitability of everything in the classroom.

- *intellectual climate:* attitudes and relationships, the atmosphere in the classroom, the teacher's attitude to students' progress, e.g. interest and support, the teacher's enthusiasm about his/her own work, students' cognitive interests and their attitude to their own learning goals, generally accepted values, beliefs and the broad interests of teachers and students. (after Brandes 1986).

The student's role in the teaching/learning process depends greatly on teacher-student relations, i.e. on the teacher's role and his/her attitude towards the students.

The teacher is the organiser of the teaching/learning process and determines the style of communication used with and among the students. The way the teacher carries out his/her role and the attitudes s/he has are part of the so-called hidden curriculum and influence the students' development e.g. an authoritarian teacher and a democratic teacher will have different influences on their students. (Cornbleth 33-35).

2 *Experiences of encouraging teachers to acquire new roles in Latvia*

Certain experiences in updating pre- and in-service teacher education in Latvia have focused on the changes in the paradigms described above.

The period of transition from an authoritarian regime, with one ruling ideology governing all aspects of life, to a democratic state with a democratic system of education, is very specific and unique. Schools and teachers have a major role to play in this period. On the one hand, the teachers' education and experiences are of the previous system but they, nevertheless, have to facilitate the development of children and young people who will be living in, working in and building a very different society.

In this situation, joint international projects have had a decisive role. The country now has had six years of experience of projects updating pre- and in-service teacher education. The basic characteristics of these projects is that they were all developed and organised along the same guidelines so that there was marked continuity in the development of basic concepts, guiding principles, approaches and methods. At the same time, serious doubts were expressed about whether it is possible for teachers, who are fully-formed adults, to change at all, about what can and will change and, about how long it will take before changes are discernible.

Two of the projects "Updating of teacher training and debate on education in Latvia" (1992 - 1995) and "Updating of in-service training for teachers in the universities of Latvia" (1994 - 1997) were TEMPUS projects. These provided an opportunity for the actors involved to gain knowledge and an understanding of the whole process and management of change in education in general and in teacher education in particular.

The process of change starts with reflection, evaluation and acknowledgement of the situation - the strengths and weaknesses of past experiences and the impact that historical experiences in education have had on the people in terms of qualifications, personality, values and attitudes.

Changes in education undoubtedly take a long time. They cannot be started without establishing what the situation is, what is needed, what is expected and what is wanted by people themselves, including students, parents, teachers and the community.

Up to 1991, teacher education in Latvia was very authoritarian and centralised and was guided by strict regulations and instructions from 'above'. Its content and organisation were largely determined by the tenets of an ideology which was not adhered to by the majority of the people.

The result was the phenomenon known as the 'double morality', which influenced all levels and all aspects of education. This influence, in many ways, is still discernible in relations at school among teachers, students, parents and school administrations.

The buzzwords that are used today - democracy, creativity, development of personality, teacher/researcher, teacher/facilitator - were also used in the Soviet period. Then, however, they had a more restricted meaning: democracy was allowed if it fitted the ruling ideology; creativity and the development of personality were aimed at reaching goals set by the ruling party; and the teacher was to do research and be responsible for facilitating the development of the builders of communism although s/he may not accepted that system as a value or goal.

An analysis of the post-1991 projects and of their experiences of working with the teachers and staff of teacher education institutions revealed that the factors causing difficulties in the process of change in education included:

- previous traditions in pre-service teacher education, which were exclusively subject-centred;
- the emphasis on science in the teacher-training curriculum and the scant attention paid to pedagogy, psychology and training practice;
- weak communication and cooperation skills on all levels, which interferes with
- the introduction of learner-centred approach; and
- a tendency to introduce new content into education while retaining traditional teaching/learning methods.

The aims of in-service teacher training directed at encouraging the process of change were:

- to develop an understanding of the process of change in society and education; and
- to encourage the development of the teacher's personality in line with his/her new role in a democratic education process.

Experience has shown that the methods of work, which were most successful in bringing about personal and professional changes in teachers, were:

- workshops;
- group work and group discussions;
- project work;
- cooperative learning; and
- evaluation and self-evaluation activities.

The methods mentioned above are widely described in the literature on education. Our experience was that, in teacher education which has the aim of encouraging change, these methods should be applied in the same sequence as above.

The workshop proved to be the best method to start the process, to develop friendly and more democratic interpersonal relations and to encourage teachers to participate actively and to learn about coordination, collaboration, shared responsibility and openness.

Group work and group discussions gave excellent results when used as exercises to validate the new theories put forward in lectures. They allowed these ideas to be promoted and facilitated the development of a true understanding of them. They provided teachers with the opportunity to adapt ideas to concrete situations in schools and to their own practical needs and, thus, reinforced the links between theory and practice and between education and related sciences.

Project work served to develop openness to new ideas and to stimulate the teachers' interest. It was the beginning of self-directed education. It helped teachers to understand such phenomena as the integration of knowledge, cross-curricular themes, topics, and subjects and the multifaceted nature of personal development.

Cooperative learning activities created opportunities for the teachers to acquire competences and qualities for developing new learning contexts for their pupils. (Benet 1991) .

Traditionally, teachers understand further education to include:

- learning what is new in one's field;
- following general developments in the country and in the world;
- updating teaching skills and methods; and
- participating in various activities and courses and the exchange of experiences with other teachers.

The experience of being involved in student-centred methods and learning them by doing led to a broadening of this conception so that teachers saw further education also as:

- developing an openness to new ideas and to change, especially to change in one's own personality;
- creating the understanding that it is possible to learn in the process of teaching by reflecting on one's own work and on the activities of students.

Evaluation and *self-evaluation* activities helped the teachers understand what changes were taking place.

The teachers understood that, in order to become a reflective teacher, it is necessary to acquire:

- the ability to analyse the teaching/learning process: what, how, when and why to teach and to do;
- the ability to foresee and prevent difficulties and to avoid possible errors;
- skills in experimenting with new approaches, ideas and methods; and
- to manage the teaching/learning practice on the basis of research (on the students' needs and opportunities) and of the aims of education etc.

The projects proved that:

- it is possible for teachers to change, though not all of them will;
- the teacher will acquire a new role only then when his/her personal qualities change;
- activities aimed at encouraging change must be regular and the same participants should be involved repeatedly in them;
- participants should do practical implementation work between the training sessions;
- to make the changes sustainable, it is necessary to involve educators from all levels in in-service training activities: the ministry, school boards of district municipalities, headmasters, teachers and staff from teacher education institutions.

This last point was especially important in the context of developments in education in Latvia.

It is, therefore, necessary to develop in-service training activities which offer teachers the chance to acquire new knowledge and to develop relevant competences and qualities.

There are two main ways to approach in-service teacher training aimed at initiating a process of change:

- by providing courses, seminars etc., of varying lengths, in teacher education institutions or teachers' resource centres (which are also called external institutions). With regard to this approach, it should be said that individual, or groups of, teachers, who had acquired new qualifications, often met with serious difficulties when they tried to initiate changes in their work. Teachers do not always get the support they need from their school administrations;
- by organising school-based educational development activities where all the staff are involved. This approach is considered to be one of the most effective and successful. Changes in the teachers stimulate the development of the school as an organisation and this, in turn, influences the development of education in the country. (Dalin 1-31).

3 *The changing teacher and the school*

Changes in teachers and schools ensure changes in society and vice versa. In Latvia, the tendency towards decentralisation and democracy in education is growing. Schools are becoming more independent and everybody involved in education needs additional knowledge and skills as well as the courage to take on new responsibilities. The need for new qualifications was the rationale behind three other joint projects, which were aimed at encouraging school development and school-based in-service teacher education and which focused on changing qualification needs.

The Nordic-Baltic project "Education management in democratic education" (1997-1999) is about learning democratic school management, cooperation on all education levels and involving teachers in decision-making and in sharing responsibility.

The main focus of the Nordic-Baltic project "Curriculum development and teachers' qualifications" (1997-1999) is on encouraging teachers to change by adopting student-centred methods that promote students' participation and encourage them to take responsibility for their own learning. It also provides teachers with the opportunity to learn skills of curriculum design and development and trains consultants to implement interactive methods in schools.

The third project, the Latvian-Danish project "School development", involved the same schools (30 schools from 10 districts) that are participating in the other two projects. The project involved all aspects of the development of the school as organisation: designing school development projects in each school and training consultants for school development. The schools in the projects were involved in developing teams of teachers to promote school-based in-service training and to work as internal consultants and trainers.

The results of these projects, in terms of theories, experiences and materials, were disseminated to other schools in the districts, as the experimental schools were prepared to organise workshops, discussions and other activities with the help of the consultants.

Thus, step by step, democratic school development was rather successfully started and received a great deal of support from the teachers themselves, school administrators and local district school boards.

The main conclusions of the analysis of the outcomes and results of the projects are as follows:

- sustainable changes in teachers' qualifications and roles are possible if the whole school, as organisation, participates in the developmental work, and if the developmental work is based on principles of democracy and, therefore, creates opportunities for teachers' self-fulfilment, participation and innovative work;

- it is necessary to develop networks on various levels because the process of dissemination also contributes to changes in teachers' roles and teachers learn by sharing their experiences. The networks can be among teachers in several neighbouring schools, teachers of the same subject in the district, region or city, or schools in the same district or city or in several districts and regions of the country;
- education projects can stimulate new developments if education actors, from all levels, are involved in the same project on an equal basis: teachers, headmasters of the same school, education authorities of the municipality where the school is situated, ministry representatives and the staff of teacher education institutions;
- it is advisable to have several successive projects run on common guidelines so that at least some of the partners continue working together for a longer period of time, as the results, in fact, started to become visible after four years of regular purposeful work;
- the implementation of changes in education and in teachers' roles needs support, so the training and use of consultants has proved to be necessary.

Though there are positive trends in developments in the education system, it must be acknowledged that the teacher's new roles are not acquired if his/her personality does not change. New methods can be learnt theoretically, but they remain on the theoretical level if the teacher is not able to implement them because s/he does not have the necessary personality traits to do so, e.g. the ability to delegate responsibility to students, tolerance, openness to new ideas etc.

The above-mentioned phenomena refer to teachers in all kinds of schools: general education and vocational schools and teacher training institutions.

It is clear that changes in the teacher's role, as well as in the aims and concept of education, are taking place throughout Europe. Nevertheless, the background and context of these changes varies from one country to another. It is, therefore, necessary to understand and evaluate the particular background and context in order to determine what to change, why to change and how to change.

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The teacher as team worker within the vocational institutions

Jette Beck Harrebye

1 *Introduction*

One of the great dilemmas arising from the changing roles of teachers and trainers today is that the relations between teachers and students have been turned upside down: the teacher must transform him/herself from an individual into a collective team member, while the students change from classroom participants to individuals, requiring individual learning services. This is a big challenge in all Western countries and an even bigger challenge in Eastern Europe.

In the Danish-Latvian "DELATE"- project, which has developed a new vocational teacher training system in Latvia, a number of experienced teacher trainers have been trained in new pedagogical methods, including team-work and the application of the idea of the teacher as the organiser of student-activating learning processes. Our experience in this project gives rise to hope for future developments, but it has also allowed us to identify some critical issues which must be solved if the vocational teachers in Latvia are to play a new role in vocational schools.

During the last few years, "team" has become a key concept in the pedagogical debate in Denmark and the other Nordic countries. Vocational schools have witnessed the development of a new pedagogical scenario: the old situation where teachers had a central and performing role in teaching and instruction is being replaced with one where the focus is on the students' learning processes and on forms of organisation which provide optimal support for this kind of learning.

As a central part of creating the optimal learning environment, team organisation has been developed in many schools. But what is the rationale behind the organisation of teachers in teams in vocational education and training? What added value does this form of organisation have? What are the consequences for the school culture, if institutions decide to embark on creating an environment, where teachers are asked to become team workers and process owners of learning processes? What is pedagogical teamwork and what are the drawbacks in it that should be avoided? How can we develop teacher team-working so that the potential for team-learning is improved? Which methods are available and adequate for optimising the learning potential of teacher teams? What are the necessary conditions for establishing teams in schools? And how can we create linkages that ensure coherence between the learning teacher team and the school as a learning organisation? These questions will certainly be raised in the future development work in Western, as well as in Eastern, European countries. I will try to answer some of these questions in this article.

2 What is teamwork?

There are many forms of useful and valuable teacher *cooperation* already in place in vocational schools. Examples include teachers planning excursions together, teachers cooperating in interdisciplinary teaching in a class and two teachers teaching a class together for one or more lessons. The characteristics of these forms of teacher cooperation are:

- that cooperation takes place in the context of concrete activities and ad hoc tasks;
- that cooperation is of short duration; and
- that the focus is on the students and not on the teachers' own cooperation culture and interrelationships.

The characteristics of *teamwork* are:

- that it is of longer duration; and
- that the focus is on work with the students' subject-related and personal learning processes and on the teachers' own cooperation culture and interrelationships.

This distinction between cooperation and teamwork is not hair-splitting or pedantic. It is of significance because it provides a definition which enables one to discuss the framework and conditions for teamwork, including its implications for managerial tasks and functions, in a school.

3 Teacher development

Good teamwork focuses, not only on the students' learning environment but also on the teachers' own learning. Teachers and students must face the same demands and challenges with regard to cooperation, responsibility, self-reflection and evaluation. The basic principle of such teaching is: *"We must demand the same from ourselves as we demand from the students"*.

In practice, this means that the teachers must work on the culture of their meetings, their patterns of communication and their interrelationships. This is demanding, both mentally and in terms of the time it takes, but it gives the teachers a greater insight into their own roles and functions in the communication process. It also gives them greater credibility and confidence, both in interacting with the students and in observing the processes and communication which take place between students in different types of learning situation.

It is this duality, when both students and teachers find themselves in a learning process, which makes teamwork a very exciting and dynamic way of organising teaching.

4 The teacher team as a vehicle for the development of the role of the teacher and of teacher culture

For many teachers, the teamwork model has provided an opportunity to break with traditional teacher-controlled class teaching and to try out a broader spectrum of forms of organisation. It has also given teachers better opportunities to observe what it going on in the classroom and to develop a language to use in their own communication with students. As one teacher put it:

> *"When you find a way to do things, it requires a significant amount of energy to change your style because we have a relatively democratic system and the teacher does not have any modern tool corresponding to the power inherent in the old teacher authority. If you want to try to do things differently, you need an environment that is a source of both inspiration and support. This is when the importance attached to teacher teams is fully justified. It is only if teachers cooperate on the definition of a more fruitful and demanding student role, that it can gain the status of an offer that the students cannot refuse."*

Well-functioning team-work no doubt gives teachers the inspiration and confidence to expand their role and area of action, both with regard to the use of new teaching methods and in relation to greater openness to active student participation in the teaching process. The inspiration to develop in this way depends on the teachers' developing a dynamic and well-functioning meeting and work culture where both individualism and group spirit is respected.

The following are, therefore, important for successful teamwork:

- long-term and committed cooperation;
- clear targets and joint plans;
- the formulation of success criteria for the work of the team (what does it take to make the team satisfied with its work, and how will the team evaluate whether it has been successful or not);
- space and opportunity for everyone in the team to develop;
- ethical ground rules for cooperation; and
- a clear division of roles, i.e. precise agreements on who does what in relation to the chairing of meetings, the drawing up of agendas, minutes, observation of meetings etc.

The clarification of objectives for the team's work, the formulation of concrete tasks and activities, the development and maintenance of the meeting culture and the agreement of internal roles and ground rules thus become central fixed points and challenges for the teachers. It is equally important for both management and teachers to ensure:

- that the team has an appropriate dynamic and work capacity, i.e. that it is sufficiently broad and diverse in terms of composition and that it is neither too large nor too small. A group of four to six persons is a very good size;
- that teachers participate in only one teacher team at a time;
- that teachers have the necessary support for team-work in the school, i.e. that they have, among other things, fruitful interaction with the management, scheduled meetings, group rooms and facilities as well as the possibility of getting the necessary continuing education and training.

5 *Conditions for team-work and team learning*

Teamwork does not come about by itself. Converting a school culture so that it can support a reasonable amount of team organisation is, to a great extent, a question of whether the school, as an institution, is capable of functioning as a creator of frameworks and as a resource in such a development process.

If the team idea is to catch on, it is essential that the framework, within which individual teams function, is clear. The inner dynamics of the team are closely linked to a number of key factors, viz. liberty of choice, individuality and time. It is of central importance, not least with regard to these key factors, that the conditions underlying the structure and operation of the team are clearly defined.

Liberty of choice

It is a prerequisite for the viability of the team that the right balance is found between system requirements regarding the duty to participate in a team and the individual's decision to participate. If the decision to implement the team idea comes from management alone, it can have the unfortunate side effect of causing the creativity and motivation of the individual teacher to disappear. At the practical level, there is no way around having the discussions which are necessary to prepare the entire educational institution for working in teams.

A first condition for getting team-work and team learning to function, therefore, is that management and teachers together discuss the agreements and conditions that are a prerequisite of team building. Are all teachers to work in teams? Can a teacher say "no thanks" to participating? Is there a free choice about who one wants to build teams with? How often are new teams set up, and who decides this? These fundamental questions must be decided on before the team idea can be implemented in practice. When the discussions are concluded, it is appropriate to write down the results in the form of a "contract" which can subsequently function as a tool in the interaction process between management and teachers.

Individuality

It is just as important to clarify the relationship between the team and the individual. Teamwork must never take a form where it threatens the individual teacher's originality or his/her possibilities of development. It is, therefore, necessary for the implementation of the team idea that the basis of teamwork, and the conditions under which it operates, are decided in the course of a dialogue between management and teachers. Team building, in itself, creates the framework for the individual teacher joining the team. The question is, of course, what that framework will be.

It is not possible to give general guidelines in this regard. The balance between the needs of the team and the individual should always be formulated in the concrete situation. But that balance must be found, and it might be suggested that management and teachers discuss the following questions together:

- What obligations does the individual teacher have vis-à-vis the team?
- What obligations does the team have vis-à-vis the individual teacher?
- What degree of freedom can the individual teacher claim vis-à-vis the team?
- What previous degrees of freedom will be transformed into joint decision-making in the team?

It would be illusory to assume that a team can work properly before such question have been discussed and decided on.

Time

In this area too, the dialogue between management and the teacher group is essential for the deciding the conditions for teamwork. The dialogue must, at a minimum, lead to consensus on the following central issues:

- What efficiency requirements does management set for the team?
- What efficiency requirements does the team set for itself?
- What sanctions may be considered, when delays occur?
- How is a continuing dialogue between management and teachers in the course of the work assured?
- Are all teams subject to the same requirements or is it possible to have separate arrangements and agreements for individual teams?

A "consensus paper" in this area could supplement the tools developed in other areas. It is important that all teams - with a few exceptions - have the same basic conditions, i.e. the same financial conditions, the same degree of freedom and the same organisational relations vis-à-vis management and the day-to-day life of the school in general.

Resources and facilities

A teacher team must be understood as an independent body in the culture of the school. The team idea means that a group of teachers assumes specific tasks, and that it has a free hand in a great number of areas. A certain responsibility is delegated to the team, and the team can have agreed resources and facilities at its disposal.

If the team is to be ensured optimal conditions, it must have an independent budget for purchases relating to the learning processes for which it is responsible. The team must, therefore, have the authority to take financial decisions in the areas which concern its own operation.

Another important dimension is the practical facilities available to the team. A teacher team can function best if it has a number of facilities which give identity and direction to its work. A teacher team will typically need to have its own premises equipped with telephone, fax, computer with Internet connection etc. A well-functioning team must be able to see itself as being relatively independent of the common facilities available at the school. During periods of intensive work, the teacher team will have its own work rhythm and cannot let work efficiency depend on its access to, and the availability of, the school's common facilities.

6 *The ethical ground rules of the team*

A team is a social organism whose existence depends on its internal cohesion and consensus. Ensuring this cohesion and consensus is, therefore, of central importance for the team's possibilities for development. A team must base its activities on a common ethic, i.e. a set of ground rules, on which it is possible to reach a consensus, and which are central to the functioning of the group. There is no recipe for the creation of such an ethic though it is possible to identify some of the ethical challenges which a teacher team may face, when it starts to function.

Ethical discussions must be held on a continuous basis, if the team is to retain its dynamic and integrity. The discussions may lead to the formulation of a set of "ethical ground rules" such as the following:

- absence from team meetings should be an exceptional occurrence;
- late arrival for meetings is frowned upon;

- participants are expected to prepare for meetings;
- the underlying tone of the meetings is that participants listen and respond to one another;
- participants speak openly to one another;
- decisions taken at the meetings are followed up; and
- every participant must be given opportunities to develop.

7 *Teamwork and the learning organisation*

The genuine development potential of the team organisation lies in the fact that the team structure can support developments which, for the time being, is taking place, in many vocational schools, at a broad organisational level. One example of this is the creation of a "learning organisation", which has been placed on the agenda by much of the literature and by many school development projects in recent years.

The concept "learning organisation" seems to cover much of what will be in demand in the future. A learning organisation is one which undergoes a continuous transformation and development process and which is able to systematise and evaluate its experience so that learning is an ongoing process in the widest sense of the word. If "the learning organisation" is to become a reality, forms of organisation which promote learning must be established. This can be done in several ways, but, in the team-based organisation, there is a direct connection between "the learning team" and the "learning organisation". The team represents a form of organisation which is able to compile, elaborate on and assess pedagogical experience in a far more subtle and complex way than would be possible for the individual teacher.

The teacher team has the dynamics and public visibility which make it possible to place pedagogical development features and experiments in a common context so that they can subsequently be seen in an institutional context, i.e. in the context of the need of the organisation to learn from the experience of teachers, as individuals and as cooperating team members. In this sense, the team can be said to be a connecting link between the learning of the students and the learning of the organisation.

By virtue of its organisation, the team can act as a channel for the dissemination of results between the learning processes at student level and the learning of the organisation as a whole. Such a task can be carried out, only to a limited extent, by the individual teacher on his/her own.

This interconnection between student learning, team learning and the learning of the organisation will be possible on the condition that the organisation is aware of the value of the team organisation.

8 *Management's role in relation to team building*

The management of teams must be based on democratic management principles, as team organisation requires a certain degree of self-determination or autonomy. This idea is the sine qua non of team building. Team management must, therefore, consist in accepting that the team has a free hand and see to it that there are optimal conditions for dialogue between team and management. Dialogue is the most important management tool. The team thrives on the energy and inspiration resulting from being responsible for its own actions. On the other hand, the obligation to

enter into a dialogue ensures that these actions are in accordance with the overall vision and development objectives of the school as an organisation.

The role of management in team building can be summarised as follows:

- to encourage and motivate;
- to listen, communicate and show consideration;
- to ensure good learning conditions for the team;
- to be willing to delegate authority to the team;
- to be willing to show openness and decision-making capacity vis-à-vis the team;
- to be able to accept mistakes;
- to be active in the compilation and dissemination of experience;
- to make demands on the team with regard to targets, action plans and evaluation;
- to have talks with the individual teams; and
- to offer relevant interaction with the team.

A management, who has decided to implement the team idea, must, therefore, as a minimum, have considered the following questions and discussed them in a dialogue with the staff:

- why is the task important for the organisation?
- how is the task to be integrated into the future work of the educational institution?
- who is to participate in the team?
- what resources are to be set aside for the work?
- are these resources available?
- how is the team's work to be followed up?
- what role does management assume in relation to the team?
- when is the team's work considered to have been concluded satisfactorily?
- how is the experience to be disseminated?

This aspect of team organisation will be new to many vocational schools, and one of the very great challenges in school development in the coming years will, no doubt, be to find forms of communication which can further the dialogue between team and management.

9 *Conclusion*

In the introduction to this article, I raised a number of problems and issues concerning the rationale behind team building. The article has reviewed the central prerequisites for work with the team idea in vocational schools. The conclusion is that, if teachers are to work more collectively and with self-activating and differentiated working methods in teaching and learning, then team building is, indeed, the answer to the question of how such learning processes can be organised. As already mentioned, many vocational schools in the Nordic countries are working on the development of this form of organisation, not as a ready-to-use concept, but as a means of orienting the school's development in the direction of "a learning organisation".

The Danish-Latvian "DELATE"-project has trained a number of experienced teacher trainers to work in teams and to organise student-activating learning processes.

Vocational teachers must be seen agents of change and have their activity supported accordingly. In Eastern European countries, it is particularly important to offer consultancy, teaching and creative new thinking to vocational schools and their teachers so as to avoid the danger of confusion and incoherence in the school system. A vocational school directed at the future in both Western and Eastern Europe must develop teachers who function as team workers and process owners.

My own experience from participation in large-scale cooperation projects with the Baltic countries, among other things in relation to teacher development, shows that, in these countries, there is a great willingness to develop the role of the teacher and new pedagogical practices. There is also great loyalty within the teaching profession. However, my experience as head of education at DEL, which is the national institution for the pedagogical training of vocational teachers in Denmark, also shows that a lot of resources are required to support this development. These resources are probably not readily available in Central and Eastern Europe for the time being.

I would, therefore, like to recommend - and this is a concrete proposal for a follow-up action to this conference - that the European Training Foundation give priority to this task in the coming years.

The teacher as networker across boundaries

(shortened version)

Rimantas Laupackas,
Kestutis Pukelis and Adela Rogojinaru[31]

One of the fundamental problems which both school and the teacher face in a situation of social and economic change is that the identity of the school and the role of the teacher have both changed. Neither party can continue to define itself as "self-sufficient", that is to say, as independent of the environment in which it operates. Both have, rather, to recognise that they are less and less able to perform their tasks on their own.

1 *Developing learning partnerships*

One strategy to develop vocational education and training accordingly could be partnerships between schools and other institutions, which are involved in vocational education and training. These could be alliances between institutions which provide the same kind of service and, even more so, between organisations which have complementary strengths. Finally, there could be partnerships between institutions in the partner countries and vocational education and training establishments in western countries. Cooperation could be directed either at long-term developments or concrete, short-term goals.

Learning partnership can be a useful tool in:

- developing joint projects on one or more common topics to fulfil a long-term mission or plan;
- assuring quality control (like measuring and comparing key indicators) over two or more vocational education and training systems that have developed in parallel (using, for instance, the same Phare Vocational Education and Training Programme approach);
- developing networks to monitor the (organisational) learning process and to facilitate reporting on discernible changes; and
- assuring a culturally correct approach to the transfer of professional models between western and eastern or northern and southern countries, as in, for example, the Lithuanian-Norwegian partnership programme "Advancement of Vocational Education and Training" which is organised by the Kaunas School for Building Trades and the Energi & Miljotecknikk AS, or the joint project "Mentor Training", which is organised by the Department for Vocational Teacher Training of Akershus College in Norway and the Centre for Vocational Education and Research at Kaunas Vytautas Magnus University in Lithuania.

31 With contributions from Bernhard Buck and Bertil Oskarsson.

Learning partnerships can usefully be developed between the following institutions:

- **Two or more schools or vocational institutions.** These partnerships are designed to give schools/vocational institutions a broader reach or access to a broader range of subjects/faculties. In particular, they enable those institutions, which may work in different fields but follow the same perspective, to learn from each other. For instance, the institutions involved might be encouraged to abolish the rigid division between initial vocational education on the one hand and continuing training on the other hand and to move in the direction of an integrated vocational educational institution, which incorporates both and which also offers training in setting up businesses.

- **Schools/vocational education and training institutions and companies.** The aim, in this case, is to open up school-based education to the world of work, the experience of, and reflection on, which could give the school a focus for the development of relevant content and methods. A first step in this direction would be in-company work experience for teachers. A second could be to send students into companies on fact-finding missions that could lead to training projects which involved both places of learning.

  The concept of a learning partnership could provide a framework for this idea, although the real challenge, as always in managing change, is in implementation. A first step could be to establish an informal personal rapport between teachers and business managers. The purpose would be to reduce mutual prejudice and to develop common interests that could, eventually, lead to cooperation. Some experiences (e.g. that of Romania) show that, most of the time, this process must be monitored through a local network or by the management of the schools. This could also happen in other countries that have retained a top down decision-making structure. A direct informal relationship between teachers and business managers could also be difficult if teachers have a lower status, as happens in societies in a state of crisis and anomie or in transition periods, like that currently underway in Eastern European countries.

  The next step would be to create structures between schools and companies within which cooperation could develop. These could take the form of round tables, committees and task forces, any of which could be a forum for establishing contacts between schools and businesses and for working out concrete cooperative measures. In addition, schools and companies should seek contact with other institutions such as technology centres and chambers of commerce as well as with members of the professions and use them to pursue the learning partnership systematically. They could provide a platform for workshops and seminars in which the participants work together to develop new forms of cooperation. The most beneficial outcome of cooperation of this kind would be the formal recognition and endorsement of school and education as valued actors in preparing students for working life.

- **Schools and research establishments.** These could work together on applied research into new ideas, tools and frameworks, which could then be incorporated into school-specific projects designed to ensure the rapid implementation of results. Curriculum innovation is an important aspect of this kind of learning partnership. It has, for instance, the crucial task (possibly involving teachers and company managers) of analysing work situations which are suitable starting points for learning processes. Any project that came out of this kind of partnership would have to be structured in such a way that the students could contribute their own knowledge, interpretations and experiences. It should be able to motivate them to reflect on their own personal and professional situations. Small pilot projects could help students to acquire both the systemic knowledge and the new technology-focused practice, which are pre-requisites for continuous vocational learning.

2 Set-up of networks

For teachers and schools, networking provides an opportunity to break with traditional identities and roles and to try out a broader spectrum of forms of organisation. It also gives them better opportunities to observe what it going on in other educational institutions and to interact with an environment that is a source of both inspiration and support.

There is no doubt that well-functioning networking gives the staff and the institution the inspiration and confidence to expand their roles and areas of action, with regard to both pedagogical and organisational learning. The inspiration to develop in this way depends on the teachers' and schools` developing a dynamic and well-functioning work culture where both innovation and cooperation are respected.

What is networking?

Partnership is cooperation with the outside world. It is common action from which two or more partners wish to draw certain benefits. Most of the time, good partnerships emerge and operate within existing networks, as a result of continuous contact and the exchange of ideas. On the other hand, partnership can have a serious interest in developing networks, for the reasons we have mentioned. "Networking is based on information exchange. It does not necessarily lead to joint activity, although it can greatly facilitate the search for partners and ultimately turn into active collaboration among members of the network. Networks are essentially channels connecting individuals and institutions in ways that facilitate communication." (Torino Group 1998, p 125) Networking, in this sense, is a working method that helps to bring about change through cooperation and the exchange of information.

What makes for successful networking?

As networks are, by definition, loosely structured and organised, they depend, for their existence, on the shared interests of their members and on continuous mobilisation. What makes networks successful? In the literature the following points are mentioned:

- a constant drive for innovation;
- partnership between representatives of the education and business world;
- members` control of and commitment to the network;
- an open-door approach and the perception of the network as a forum, not a closed club; and
- a "give and take" attitude.

Why do some networks fail to function?

What is the danger for networks? When networks fail to function, it is often because they are identified with a particular institution or, even worse, with a single individual who takes advantage of the network for his/her own career purposes. Also bad is the tendency to push one's own ideas and goals and to urge members of the network to follow them, rather than paying attention to the requirements of other members, which would bring added value to everyone. A common fault is that some members of networks offer services which can be better provided by others. Another danger to be avoided is doing everything for everyone. This can lead to a dilution and an expansion of the network, which, in turn, can result in a loss in substance and decreasing interest on the part of

network members. Networks, like other cooperative relations, have to concentrate on their "core business" and the common interest of their members. But the mortal enemy of networks is ineffective management. A good network needs to have a competent and committed "networker", who combines openness, organisational talent and good financial management.

How should a network be organised?

It is important that the members of staff of an institution, who want to join a network, are really involved and know what is proposed. As the competence to lead a successful institution is, normally, spread evenly over the entire organisation, the task of setting up a network should not be left to one little group, such as, for instance, one gathered around the school director. It is important, therefore, that the following guidelines should be observed:

- the group, assigned by the director, should represent the collective knowledge and experience of the institution;
- there should be agreement on goals;
- a priority list of essential questions should be formulated as a basis for the revision of current development plans;
- implementation should be regulated responsively;
- the outcome of the planning work should be communicated to all members of staff.

If such a procedure is followed, networking can become an integral part of the development strategy of a school or vocational institution. It becomes possible to fix priority questions, to decide on areas of cooperation, to select desirable partners and to decide on methods as well as on necessary resources. It is also true that if the impetus to start a professional network comes from above, from a person in a position of authority in the organisation, such as a school director, this could compromise the perception and operation of "peer working", which is essential in networking. The persons initiating networks should, therefore, try to ensure that the basis on which others are involved is one of equality. If the school director is involved in setting up the network, it should be from a professional, rather than a hierarchical position, unless the network includes the school management as a whole and he/she is part of a networks of school managers, at all levels. In the latter case, networking truly can become part of an integrated development strategy.

3 *Three examples*

Organisational networking - The Intranet work of AmuGruppen

In order for a large organisation to become a learning organisation in the true sense of the word, it needs to develop a system for the permanent internal exchange of experience. The main factor hampering the development and improved cost-efficiency of large organisations is, usually, the tendency to "reinvent the wheel" again and again because of a lack of internal coordination. This inevitably leads to increased costs and to uneven quality in the products offered to clients.

AmuGruppen is the main adult vocational education and training organisation in Sweden. It has a permanent staff of 2,500 persons and more than 100 training centres and units, distributed all over the country. During the last three years, considerable effort has been dedicated to setting up an internal computerised network, Intranet, the creation of which has meant a minor revolution in the internal work of the organisation.

The main achievements of the Intranet so far are:

- a more co-ordinated "product portfolio": all teachers and trainers have access to all training material, training curricula, modules, and other documentation, developed and used throughout the entire organisation and this allows them to avoid "reinventing the wheel" and to make use of best developed practices;
- more efficient information flows: all paper newsletters and news journals, video journals and other forms of information, which were previously in hard copy, have been replaced by newsletters and video sequences in electronic form;
- a more efficient administration: most internal administration, training and project documentation, employees time sheets, etc. are now filled in and approved electronically;
- more efficiency and a wider spread in the use of external resources: through the Intranet, best practices and experience from the many external networks of AmuGruppen at central, regional and local levels, including numerous relevant national and international institutions, companies and other organisations, can be disseminated to all employees of AmuGruppen; and
- a more efficient system for the continuous upgrading of staff skills: general and specific upgrading courses are continuously offered through the Intranet.

As this list indicates, all employees of AmuGruppen not only have the opportunity to use the Intranet but are, in fact, obliged to do so in the course of their day-to-day work. In 1998, all employees, who lacked sufficient skills, went through training and passed the ECDL (European Computer Drivers Licence) test. The Intranet was then used to provide training for general upgrading in quality matters. This was part of AmuGruppen's efforts to gain ISO-9001 certification, which was successfully achieved in December 1998. In 1999, the Intranet will be used for some other forms of training for general upgrading of all staff, for instance as one step in the attempt to achieve ISO-14000 certification for AmuGruppen as an environmental and ecological organisation.

The Intranet is, of course, also used for specific upgrading and for the training of different groups or individuals among AmuGruppen employees. As part of their individual development plans, teachers, trainers and other staff always have the option to participate in different internal training courses. As a rule, these combine distance education with real time training sessions and with practice. Of course, there is always also the option to be trained and upgraded with the help of external training providers.

Although the Intranet has been fully operational for less than a year, some conclusions about its impact can already be drawn. The main results achieved so far have been mentioned earlier. Internal co-ordination, information flows and administration and the efficiency and variety of upgrading opportunities offered to the staff have all, doubtlessly, been improved.

Some minor problems have also occurred and these have lead to a number of corrections to the system and to some changes in the approach to it.

- As soon as the system was fully operational, it quickly became evident that usage over time was fairly uneven: there were, and are, "rush hours" at certain times of the day and certain periods of the month. In its initial stages, the system was not prepared for this and had to be re-dimensioned so that it was able to meet the demands of peaks periods, without delays.
- It was decided that the creation of the Intranet should not set limits to the available opportunities for teleworking. All employees of AmuGruppen have, therefore, been offered either to change the computers they use at work for portable ones, or to buy home computers at considerably reduced prices.

- The initial investment both in manpower and in technical equipment for the development and launching of the system is relatively high. On the other hand, it is already clear, that the "break-even" period will be shorter than expected. In other words, the creation of the Intranet will further raise the quality of the services offered and, in this way, will become profitable for AmuGruppen earlier than expected.

National networking - the example of Romania

On the basis of the Romanian Phare Vocational Education and Training experience, networking can be conceptualised at three levels:

- *immediate networking*, meaning that network members are linked to each other by means of common issues and task-oriented activities, such as the contractual duties of schools towards the Phare Vocational Education and Training Programme;
- *intermediate networking*, meaning that network members are linked to each other by means of information-oriented activities - sharing data, spreading and monitoring news, using the media for raising awareness of the school related activities of the Phare Vocational Education and Training Programme and initiating exchanges; and
- *partnership networking*, meaning that network members are linked to each other by means of managerial tasks and business-connected activities, such as arranging student practice between schools and local enterprises.

In the Romanian experience, direct (immediate) networking was shown to be the most beneficial for the process of innovation and reform that was underway, partly because there were no computer networks in schools when the programme started. At the same time, using the media for networking purposes is a development that is, to an extent, conditioned by the professional capacity of journalists to offer balanced news - e.g. feature stories. Direct networking was aimed at empowering teachers who had a special "creative" mission, i.e. who, in a short period of time, had to develop vocational standards, curricula, teaching portfolios and examination tests and who were, in fact, obliged to create self-sustainable links for monitoring both developmental and revision activities.

At the regional and local (county) levels, partnership networking has been formalised in two structures:

- Regional Development Committees, formed by tri-partite structures (government authorities, unions and business associations);
- Local Development Committees, formed by tri- or multi-partite structures (government authorities, unions and employee associations, business organisations and also, in some cases, professional associations and NGOs).

Basically, both Committees stimulate the development of networking of the intermediate type, facilitating both the flow of information and the decision-making process at the local level. They also manage the vertical relations between local structures, school inspectorates and the Ministry's PMU and vocational education and training directorates.

Briefly, the Romanian experience has encouraged the development of direct networking and has reinforced personal responsibility and creativity in order to assist innovation in both curriculum development and teaching methodologies. Most of the difficulties that were encountered have been related to the development of authentic partnerships, the concern of Romanian institutions with maintaining the status quo and their own positions and the strength of bureaucracy. The development of managerial networks has also showed up the lack of business communication skills.

What the Phare Vocational Education and Training Programme has already been able to identify is the emerging potential of media partnership, providing that the schools are able to use computer facilities correctly.

Many teacher and trainer training programmes start with a two-step approach: a more experienced partner within the professional network provides a self-sustainable model and the less experienced partner adopts this and adapts it to its own needs and conditions. Sometimes, during the process of dissemination, the model is not able to create alternative internal structures which are suitable for the new environment. The Romanian experience proved that a multiple step approach is better in terms of teacher commitment and for creating internal structures. That means that, when a model or an idea is taken from one or more partners in the network, it is first piloted by core facilitators of the adoption system. This procedure allows informal leaders, who have credibility at the community level, to be deployed in the process of innovation.

Basically, the approach implies the following steps:

- the creation of a non-risk environment for teachers so that they can continue to perceive themselves as culture bearers and are not threatened by the idea of changing their own environment;
- the formulation of a common mission, which is attractive to all such as, for instance, "have more freedom in way you teach in your classroom", or "acquire skills in handling difficult youngsters, which is a measure of success". Teachers then become empowered by confronting issues, which are rooted in their previous experience, but which now need to be dealt with in a different way;
- structuring the network in terms of precise, non-hierarchical roles for the involved teachers; depending on local circumstances, teachers may choose to be either innovative leaders, mediators, disseminators, observers or evaluators;
- encouraging networking by initiating practices that serve the interests of all;
- defining, or engaging teachers to define, tasks which are equally divided among members;
- giving room and time for cooperation among members;
- launching the most workable ideas of the new model first and training a core training staff from among the involved teachers;
- piloting the new practices and asking the network to pool knowledge, understanding, comments and suggestions;
- leaving the network to work on the new ideas and asking for revision and further development;
- forming small partnerships on the issues that arise during networking; and
- using the network to disseminate the results of the partnership (which could deal with teaching materials, teaching methods, media development, evaluation and assessment or curriculum development).

European network of CEDEFOP

CEDEFOP has set up a network, called TTnet, which is concerned with the training of vocational education and training trainers in Western Europe. In its teacher/trainer project in Latvia and Lithuania, the European Training Foundation will use the experience gained in TTnet to start to build up national networks and, afterwards, to integrate them into the CEDEFOP network.

TTnet is based on national networks in the EU countries. Its aim is to provide a forum for communication in the form of discussions and exchanges of opinions and ideas. TTnet will also provide an opportunity for cooperation at both national and international levels. The network wants to link up people who have professional interests in the area of training, i.e. trainers, researchers, policy-makers etc. It is also intended to be a forum for expertise and aims to capitalise on collective experience and knowledge by making them available to anyone who needs them, on either national or Community levels. Services could, for instance, be provided for those carrying out scientific work, pilot project promoters, those responsible for training policies etc. The network will, therefore, be a forum for communication, co-operation and the sharing of expertise in the area of the training of trainers within the Community.

The network has three main aims:

- to be integrated into a system of relationships: TTnet and the national networks can survive only if they are linked to the wider system of relationships that operate in the broader field of vocational training;
- to be geared towards real needs: the network should work from a "market" perspective, i.e. those participating in it should gain from it and it should provide targeted answers to specific needs in terms of information or knowledge; and
- to be geared towards innovation: the network will provide opportunities for discussion, exchanges of ideas and cooperative initiatives in studies and research and in the planning, management and development of vocational education and training. In this context, the notion of innovation is related to problem solving - anything that helps to solve a problem is considered innovative.

Final remarks

The essential value of partnerships and networks lies in their potential to contribute effectively to the continuous further education of teachers. In-service training of teachers in the schools requires systematic cooperation among all institutions involved in vocational education and training. Partnerships and networks are instruments which are suitable for promoting the exchange of information between different partners. They could also make a contribution to the kind of organisational reform which is directed at facilitating the emergence of "learning organisations". A learning organisation is always undergoing change and development and, in this process, the experiences of its members are systematically taken into account. But before the learning organisation can become a reality, organisational forms, which support learning in the widest sense, have to be developed. To this end, partnerships and networks could help open the minds of teachers and loosen the structure of organisations. This would enable the actors involved in the process of change to identify, exchange, assess and disseminate pedagogical ideas, experiences and various aspects of organisational development in a much more far-reaching and complex way than would be possible if they were left to their own devices.

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PART III
DEVELOPMENT OF AN INNOVATIVE TEACHER/TRAINER TRAINING STRATEGY

Relevance of occupational subject areas for teacher training

G. Heidegger

1 *Characteristics of workers' knowledge – the dichotomy between theory and practice*

Especially during the last decade, the relationship between theory and practice with respect to occupational activity has become a major concern in vocational education and training research, as well as in the design of vocational education and training systems and teaching/learning environments.

On the one hand, work-based learning has been widely promoted, on a European as well as a local scale (Danau and Sommerlad, 1996). There is a consensus that vocational education and training based only on vocational schools suffers from some major limitations. Generally speaking, it is argued that the complexity of occupational tasks carried out at the actual workplace cannot be imitated in schools. Key qualifications or core competencies such as communicative skills for customer guidance, flexibility and the abilities required for trouble-shooting under time pressure are more or less beyond the scope of the well-structured teaching and learning processes typical of vocational schools. The main reason given for the growing importance of work-based learning is the increasing role uncertainty plays in the modern working world (Buck, 1997). Coping with uncertainty may become one of the most important aspects of one's abilities even in areas of work where repetitive fulfilment of tasks has, hitherto, been the main requirement.

On the other hand, there is much talk about the "information society", which is emerging as a result of the ever-increasing importance of information and communication technologies (ICT). A corollary of this development is the movement "towards a learning society", as described in the White Paper of the European Commission (1995), where knowledge is increasingly relevant and important for the majority of workers. Although there will continue to be a considerable number of jobs which do not require a large amount of specific knowledge, it is, nevertheless, generally assumed that, in this "knowledge-based society", the intellectual demands made on many workers will rise. For most jobs, it is often believed, it will be necessary, to have at one's disposal not only the much-discussed key competencies, but also some knowledge of the concrete work process involved

(here tentatively called "work process knowledge") in addition to basic theoretical knowledge. This type of structured knowledge cannot be acquired only through learning by doing. It will often require learning through systematic instruction, even if the latter is more guided by students' learning than by textbook-driven teaching.

Therefore, the ideal solution for vocational education and training seems to be some kind of "alternance", where school- and work-based learning are integrated or, at least, combined. The challenge for enterprises, then, is to ensure that the educative potential of work is realised. This means that trainees should be given ample opportunity to reflect on their work practices as they work. Vocational schools, on the other hand, should be brought "closer to the work place" (Raynaud, 1997). There are, of course, many important organisational aspects to be considered (Kutscha, 1997). The aim is to foster cooperation between the different "learning sites" (schools, training centres and enterprises) so that teaching and learning in schools are more closely related to the actual work tasks carried out in enterprises. With regard to the teaching and learning process, the schools should deal with real tasks that arise in the world of work, by creating "complex teaching and learning arrangements" (Diepold, 1991) or "combined learning and working assignments" (Heidegger, 1997a). In Germany, for instance, these schemes are summed up under the heading of "action-oriented learning" which is, to some degree, similar to the concept of "situated learning" (Lave, 1991).

Important as practical learning is, the question of teaching and learning theoretical knowledge remains. Even if the problems to be dealt with during the learning process are taken from real tasks in enterprises, the learning has to be guided by the teacher so that important aspects of the problems involved are brought into focus. But what are these important aspects? In the case of technical occupations, for instance, it is usually assumed that some basic knowledge of the technology that is used is indispensable. But there is ample evidence (Fischer, 1997) that this kind of knowledge is, in fact, not extensively applied when experienced workers solve a real-life problem at their work place. This also seems to be the reason why beginners find it difficult to see the connections between basic technological knowledge and their working tasks or the problems related to them which they try to solve in vocational school.

This does not mean, of course, that skilled workers do not apply systematic knowledge when solving a problem, i.e. that they use only the knowledge they have acquired from past experience. It has been concluded (Fischer, 1997) that what they use is a special mixture, combination or rather integration of subject-specific knowledge and experience. This integration of different kinds of knowledge is called "work process knowledge", that is, knowledge about the whole work process. The challenge, then, consists in fostering this work process knowledge right from the beginning of vocational education and training in order to help young workers to do their job efficiently and in a way that they allows them to build up self-confidence and self-esteem. This is preferable to encouraging reliance on supervisors and should help trainees to transcend just "doing their job", that is, fulfilling prescribed tasks. They should become able to reflect on the way the whole work process is organised and, in this way, to develop skills to "shape" the work process, their working tasks and the way work is organised. These "shaping activities" may improve the efficiency of the work process and, therefore, the economic performance of the enterprise. At the same time, from a pedagogical point of view, i.e. from the perspective of fostering personal development, shaping activities can contribute also to improvement in performance, by fostering self-reliance and independence (Heidegger, 1997b).

Work process knowledge represents a way of bridging the gap between theory and practice. But because there is an epistemological dichotomy between the two, this is by no means an easy endeavour and bridging will remain a constant problem to be solved anew in each teaching/learning situation. Nevertheless, it seems to be an approach that renders this task more

feasible. Obviously, to further work process knowledge, an "alternance" between school-based and work-based learning is indispensable. Whilst work-based learning stresses work experience, the school-based part should accentuate the "concomitant" or related theory even if the school-based learning process is itself "action-oriented". The question, mentioned above, can now be posed in a clearer fashion: What is the theoretical "part" of work process knowledge"? ("Part" means here not a discrete element but rather a special emphasis, in this case, on theoretical aspects.) I would like to argue here that the usual way of assuming that this theoretical knowledge is grounded, for the most part, in traditional scientific disciplines is not appropriate. (Normally, these disciplines are, for instance, electrical and mechanical engineering for technical occupations, anatomy and physiology for nursing and economics for occupations in the business area, that is, accountancy etc.) This new kind of knowledge has, rather, to be "extracted" from the process of the actual performance of the concrete tasks which are typical of the occupation in question.

2 *Different types of knowledge which are relevant for excellence at work*

In order to better understand what this knowledge is, it is useful to go back to a distinction made by Dreyfus and Dreyfus (1986) when they analysed the difference between human and "artificial" intelligence, the latter being represented by computers. As an example, they tried to establish what constitutes an excellent chess player, in comparison with a novice. The inexperienced player, having learnt the basic rules, relies on an ever-expanding set of rules and guidelines which he or she has studied through textbooks explaining different strategies. This is what Dreyfus and Dreyfus call "know-that" - the knowledge of rules. The expert player, however, does not cling to these prefabricated strategies although, of course, he or she still follows the basic rules and knows all the textbook strategies. But the expert, in addition, employs, in an "integrated" fashion, his or her experiential knowledge of former games, which he or she has played himself/herself or has studied through reflecting on other chess-masters' games. The important point is that the master player usually is not able to explain clearly why he is doing what he does. Rather, he relies heavily on intuition or implicit, and even "tacit, knowledge" (Polanyi, 1966), which Dreyfus and Dreyfus call "know-how".

This distinction can be partly transferred to the work performance of skilled workers, at least in cases where the task is difficult to accomplish and the solution of the problem is not obvious. Such a case is represented, for instance, by trouble shooting in the maintenance sector for technical occupations. Although there is nothing supernatural about a machine, it is very often extremely difficult to spot the reason for a fault in its functioning. There are well known cases where it was not possible to detect such hidden faults, for instance, in some automobiles. Even engineers from the manufacturing company could not solve the problems: the defect seemed, indeed, "supernatural", and this had consequences for liability. This is just an extreme, although not rare, example of the fact that detecting faults in a machine requires more than just the application of rule-led knowledge, that is of "know-that". Indeed, very often the "know-how" of an experienced skilled worker proves more successful than the theoretical knowledge of an engineer.

It is assumed that an experienced worker acts, in his or her field of activity, similarly to a chess master, i.e. relying on experience, intuition and implicit, or even tacit, knowledge. At the same time, however, he applies systematic knowledge and, in this way, integrates "know-how" and "know-that". This integration actually represents a dialectic between "know-that" and "know-how", meaning that neither of the two can be applied - or even defined - without taking the other into account. This, of course, makes it difficult to tell what the more theoretical "part" of this integrated

knowledge is, although this is precisely what the main content of teaching and learning in the more systematic, theoretically oriented courses in vocational schools should be.

The different types of knowledge have been discussed, with respect to vocational education and training, amongst others, by Lundvall and Johnson (1994) and Vickstroem and Normann (1994). On the basis of these discussions, one can differentiate, within the "theoretical" area, between "know-that" and "know-why". Whilst

- "know-that" refers to a set of information which, however, has to be structured so that it is not just information but knowledge,
- "know-why" refers to the act of thinking through possible explanations of the facts.

"Know how" is, then, sometimes restricted to the domain of "doing", that is, it is conceived more as the sensomotor aspect of acting. Whilst this might be appropriate for riding a bicycle, for instance, it represents much too narrow a view of what is involved in carrying out complex occupational tasks. I propose here to use a much wider definition which includes the implicit knowledge applied while acting.

There are also two other aspects of knowledge that should be mentioned.

One is understanding, which refers to insight into explanations which themselves transcend pure "know-why" by taking into account situational circumstances. In the case of occupational activity, these should also encompass societal conditions that impinge on the organisation of work and the division of labour, including "productive chains" of suppliers and customers etc.

The other is "know-who", which refers to the ability to identify the people who can tell you what you need to know, that is – in a reciprocal way – to be able to communicate knowledge. This draws attention to the fact that, particularly in the performance of occupational tasks, it is becoming more and more important not to work on one's own but, rather, as a team. Knowledge then consists, not only of individual knowledge, but rather of the integrated knowledge of the team, which is assumed to grow out of learning processes within "communities of practice". This has important consequences for vocational education and training, especially as far as the connection between more theoretical learning in schools and work-based learning is concerned. Learning in the classroom – even "action-oriented" learning – tends to favour individual knowledge. This tendency has to be counteracted by learning in groups although the better situation to experience the power of "communities of practice" is the workplace itself. But this holds true only if the workplace provides ample opportunities for learning and this is often not the case.

3 *"Vocational sciences" for "occupational areas"*

If we keep to the distinction between vocational teachers and trainers, then the teachers are the ones who are responsible for the more theoretical aspects of vocational education and training. Bearing in mind the distinction between the various types of knowledge, we can say that teaching in vocational schools aims at "know-that" and "know-why", supplemented by the overarching aspects of understanding and "know-who". The question, then, is to determine what the "know-what" and the "know-why", aiming at understanding in communities of practice, is in relation to the "know-how", which is acquired, mainly, at the work place.

To find answers to this question and to arrive at results which can be applied to concrete cases, is the task of what, for some time, have been called the "vocational sciences" (Rauner, 1993). The idea is that the subject matter which is taught to student vocational teacher should be based, mainly, on the

outcomes of research in these disciplines. This is not as strange as it may sound at first sight. Let us take "nursing sciences" as an example. This is a rather well established discipline, which is more than just a combination of some sub-themes of medical sciences, such as anatomy and physiology, with the addition of some basic rules of practical nursing. The actual aim of nursing sciences is to find out what makes a good nurse and an effective nursing system. This includes identifying the common knowledge produced in communities of practice. Of course, there are still elements of anatomy and physiology to be considered. But the question now with respect to all these sub-disciplines always is: what is necessary for good nursing and what can specific knowledge contribute to it?
In addition, there are other subjects to be taken into account, like leadership in a team with flattened hierarchies, human resources development etc. But here, too, the perspective is always from the point of view of good nursing. Obviously, ethical questions like "what does good nursing mean?" come to the fore, as does an assessment of the relationship between costs and benefits.

It goes without saying that such a science is multidisciplinary. One should strive to make it a real interdisciplinary science although this will certainly be difficult to achieve. Usually, there will still be some separation of the various disciplines and the student will have to integrate them in his or her own mind. Probably this situation will always prevail to a certain degree because scientific investigation is based on making distinctions which do not fully reflect the complex situation of a real-life working task. The same has to be said about teaching which has to try to stress systematic knowledge, at least to a certain extent, in order to help students put some order on the wealth of the information they gather while working on a complex task. Emphasising systematic structure, however, always obscures some of the relationships between the various aspects of such a task.

This type of "vocational science" needs to be further developed. Even for the well-analysed cases of technical and business-related occupations, for instance, only a limited body of knowledge about the necessary and useful "know-that" and "know-why" has been established. The reason is that it is very difficult to "extract" these aspects from the actual performance of a complex working task. Important methods for doing this are semi-structured interviews and "participant observation", as practised in the humanities. Imagine a researcher standing besides a worker and continually asking him what he is actually doing (from his perspective) and why he does it - for example in searching for a fault in a machine. It has been established that workers find it difficult to answer these questions at first because, as has been said, much of what they do is based on intuition and implicit knowledge. The aim of this kind of research is to make this implicit knowledge explicit, that is, accessible to scientific investigation. There are examples (Fischer et al. 1996) that show that this is indeed possible. When it comes to tacit knowledge in the true sense, then of course it is not feasible because tacit knowledge is, by definition, inaccessible to explicit knowledge. So there will always remain a rather large area of abilities which can only be acquired by real experience, that is, through work-based learning.

Nevertheless, vocational sciences can identify the basis of what can be learned by the vocational students themselves in the more theoretical realm and which can be taught by vocational teachers. (Of course, customary systematic knowledge of elements of traditional scientific subject matter will always be included, too.) Therefore, these sciences should establish the core of what student vocational teachers should study with regard to the content of work in the occupations they are specialising in. They will also, of course, have to study subjects like vocational pedagogy, educational psychology and sociology or methods of learning. But, even here, closer connections to the way workers combine acting, thinking and learning - individually as well as in teams - should be sought for.

4 Consequences for curricula for the education of vocational teachers

For practical reasons, it will not be possible to design courses for every single existing occupation. Rather, occupational "fields" or "families", which involve similar work processes, have to be constructed. In most European countries, groups of occupations have already been introduced and, indeed, these tend to encompass more or less the same bunch of occupations. Here again, nursing sciences present an evident example in as much as they comprise very different kinds of nursing, covering a whole spectrum from the care of babies and infants to care of the elderly and all sorts of nursing for sick people. Vocational sciences, therefore, refer, in fact, to sciences of vocational areas or groups of occupations.

Vocational sciences should also deal with the problem of how workers can learn the relevant work process knowledge. This knowledge, as it has been defined so far, is obviously closely connected to the process of learning because it is always changing and, hopefully, expanding. Additionally, because of the intense interaction between "know-that and why" and "know-how", it does not seem appropriate to follow the usual distinction between subject matter, on the one hand, and methods of teaching this subject matter (didactics), on the other. Research about work process knowledge, therefore, always has to examine, not only the nature of this knowledge, but also the way it is - or can be - acquired. Indeed, because the kind of knowledge we are talking about here is the personal knowledge of workers, albeit scientifically clarified and structured, it does not seem possible to make a clear distinction between the knowledge itself and the way it is acquired. The subject matter student teachers should learn about during their course of studies, therefore, should also represent the combination of work process knowledge and the way it can be acquired. This means that it should include the problem of constructing a sensible curricular structure for teaching or for designing suitable teaching-learning arrangements with regard to the occupational area in question. The task of combining these aspects, which together represent the results of ongoing research, is a difficult one. It is, however, an indispensable part of designing a good curriculum for student vocational teachers.

Rauner (1993, pp.30-34) has developed an obvious structure for technical occupations. He suggests three main areas of study for vocational teachers, always with regard to a specific occupational field. They encompass the analysis, shaping and evaluation of:

- the process of vocational education and training (constructing curricula in view of the former and future development of the occupations in question);
- the development of the respective area of occupational work (with regard to possibilities of acquiring the relevant work process knowledge); and
- the interaction between work and the concomitant technology (for instance, with regard to user-friendly programming for computer control of milling machines etc.).

The University of Flensburg, in Germany has introduced a course of study for future vocational teachers which is based on the ideas that have been developed so far. The students, having passed the school examination for access to university (Abitur in the Gymnasium) and having gained substantial work experience, aim at a degree at master's level. Afterwards, they have to carry out two years of practical teacher training, some of which is in the form of in service training.

In addition to a "general subject" such as German, English, mathematics or politics/economics, the curriculum covers "vocational pedagogics", which encompasses several sub-themes. These include the theory of the development of "vocational areas", the theory and history of vocational education

and training and vocational pedagogics, human resources development and continuing training etc. All these subject areas should be closely connected to the development of work process knowledge, with special regard to communities of practice. Although this aspect is of great importance, I will not go further into it in order to focus on the "vocational sciences" part of the curriculum.

The "vocational areas" involved are mechanical and electrical occupations. The curriculum here is structured according to the above-mentioned domains of analysis, shaping and evaluating

- curricula and learning,
- occupational work, and
- concomitant technology.

In contrast to this structure, the usual course of study, in Germany, would consist, mainly, of

- technology, in this case mechanical or electrical engineering, and
- didactics of teaching these fields in vocational schools.

A comparison of these two approaches may clarify what is meant by using "vocational sciences" as the basis for developing a curriculum for the training of vocational teachers.

5 *Conclusion*

It has been argued that a key question in vocational teacher training is the nature of the knowledge which good, experienced workers apply while doing their job. This knowledge, which, in general terms, is called "work process knowledge", can be understood as the integration of "know-what" and "know-why", on the one hand, and "know-how", on the other, an integration which is embedded in understanding and communicating in "communities of practice". "Know what" and "know-why", including understanding, represent the more theoretical aspects of work process knowledge. This is what the more systematic learning and teaching in vocational schools aims at. The content of the more theoretically oriented courses is intended to present this knowledge. Customarily, this content is taken from "related" sciences like, for instance, mechanical engineering in the case of occupations in the metal work sector. But it has been shown that this kind of knowledge is only of limited use for doing skilled work in this area. Therefore, research has to identify the nature of the "know-what" and "know-why" which skilled workers apply. Recent research of this kind, although still not very common, has already produced valuable results. These can contribute to the gradual transformation of the content of curricula for vocational schools. The perspective has important consequences for vocational teacher training because it implies that this training should no longer focus so much on the above-mentioned "related" sciences. As far as the subject matter related to occupational work is concerned, it should, rather, be based more on research into relevant work process knowledge and, as far as the theoretical aspects are concerned, should stress "know-what", "know-why" and understanding. The results of this kind of research have to be structured in such a way that a systematic body of knowledge grows out of it. In this way, a new scientific discipline, "vocational sciences", separated into sub-disciplines called "sciences of an occupational area", is emerging. A prominent, well-established and internationally respected example is provided by "nursing sciences". Vocational teacher training, based on these new scientific disciplines, should greatly improve teaching and learning in vocational schools.

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The image of teacher training in a lifelong learning process – New requirements in the in-service teacher training

Éva Tót

1 *The concept of lifelong learning*

Lifelong learning is a term that has become extremely fashionable and is being used in an increasingly broad – sometimes unreasonably broad – sense. For teachers, the concept of lifelong learning means that they, being professionals in the training market, must also constantly upgrade their skills and cannot spend a lifetime teaching in the exactly same way.

International surveys show that job-related training has a special role in lifelong learning.

This is a particularly topical issue at the moment, when new regulations have been introduced with regard to the further training of teachers working in public education. The focus of the issue is the legislative, financial and institutional environment of the learning and retraining process, and the extent to which this environment is an integral and recognised part of the working activity of teachers.

This paper concentrates, primarily, on the issues of job-related training and in-service teacher training. It includes a description of the tasks that motivate, and, sometimes, compel, teachers to fulfil new roles in the changing school system. In the course of this description, I will refer to certain conclusions of a recently conducted empirical research. The topic is discussed within the Hungarian context but it has more general implications as well.

2 *The transformation of the scope of school duties*

The fundamental changes affecting public education represent a serious challenge for teachers. Four specific areas should be mentioned in connection with this:

2.1 *Increasing school autonomy*

Schools in the Hungarian public education system gained extensive professional autonomy in the nineties. Schools may determine what educational structure they apply, what kind of new training programmes they launch and how they develop the pedagogical methods used in the school.

The performance of schools providing vocational training is evaluated directly in relation to the labour market. Consequently, schools are compelled to follow changes in the economic situation and the demands of the labour market with some attention. In vocational schools, there is an increasing emphasis on the servicing function and these schools are becoming quasi-enterprises providing training services and actors to the training market. Vocational schools compete for resources and

clients with the training enterprises and state-run retraining centres in the vocational training market. Accommodation to changes in the labour market affects, not only the management of the schools, but also the majority of teachers. Competition requires the schools, which, during the previous decades, enrolled their students on the basis of centrally determined target-figures, to develop the ability to analyse the demands of the labour market and to keep changing and improving their own training activity.

The adaptation of the national core curriculum at school level and the drafting of individual institutional training programmes, in which almost one third of teachers are said to have been actively involved, have been a recent development of Hungarian education. Previously, the process of curriculum development was separated from the schools and was considered the task of specially trained experts. In recent years, a very significant number of those working in the public education sector had to learn, by self-education or in the framework of special short-time courses, the methods and requirements of curriculum development. It seems that schools will have to continue, albeit with decreasing intensity, to use this expertise, which is also an instrument that allows for continuous adaptation and compliance with the changing requirements of training. Programme development is something that has to be learned by teachers themselves.

2.2 *Pedagogical implications of social changes*

Statistics show that there has been a significant increase in school attendance. The secondary school attendance of the children of the social groups that, previously, could not afford longer schooling or were compelled to send their children to work as early as possible, is higher than ever before. As a result, the composition of the secondary school population has changed significantly and has become more diverse and varied. One side-effect of this is that children whose school performance is inferior, i.e., children who were not qualified to attend secondary schools previously, are in the same classes as their more able companions. The co-education of children with different levels of aptitude, the assistance provided to help slower students to catch up and the provision of solutions for their learning difficulties require special skills from the teachers.

The process of intensified social differentiation that has occurred in the nineties has also affected schools. The proportion of dysfunctional families with financial difficulties and internal conflicts has increased. Children from such families have various kinds of learning problems. The majority of teachers have not been trained or prepared to tackle such problems. This challenge is not specific to Hungary. Teachers in almost all industrial countries have to deal, using pedagogical means, with various manifestations of social transformation and disintegration (aggression, violence, drugs, etc.). This requires the development of particular methods, individual preparation and closer co-operation within and between teams of teachers at school level.

2.3 *New regulation of in-service training*

The provision of in-service training of teachers is regulated by a Government Order of 1997.

The introduction of the new regulation was necessary because the activity of the centralised organisation, which had dealt with in-service training in the previous decades, had lost its coherence and was becoming more and more confused. The new tasks of public education, which were, primarily, restructuring on the basis of the national core curriculum, the introduction of new subjects and the expansion of information technology, necessitated the institutional preparation of large numbers of teachers. The Government Order lays down that practising teachers are obliged to participate in training at certain intervals.

The Government allocated significant funds for the purpose of developing the further training system that ensures the regularity of training. The Government Order guarantees that 3% of expenditure on public education is spent for this purpose. The subsidy is distributed on a standard basis, depending on the number of teachers, through the municipalities in charge of running schools. Teachers leaving the initial training system may, and should, prepare a plan for the regular improvement and updating of their professional knowledge.

2.4 *The expansion of information technology*

The Hungarian Ministry of Education has launched a major programme to provide Internet access for all secondary schools and a significant number of primary schools.

Learning to cope with this form of communication and knowledge resource is a major challenge for schoolteachers. The older generations were not introduced to this facility in the course of their initial training and, even the younger generations, know personal computers only as individual working tools.

The integration of the Internet into the education process is a task that will affect all teachers in the near future and that will require a great deal of learning.

On the basis of the foregoing, it may be concluded that the factors encouraging teachers to obtain new knowledge and skills include social change, changes in educational policy and changes arising from the development of technology. Changes in these areas resulted in a kind of expansion of in-service training during the last two years.

3 *Conclusions of an empirical research*

The introduction of the new in-service training system triggered this research, which was financed by the Ministry of Education. In the framework of the research, interviews were held with school principals and case studies were prepared about the further training practice of various types of schools and the related opinions, habits and attitudes of teachers. The (rather few) statistics relating to in-service training were analysed. A questionnaire-based survey, involving more than one thousand teachers from a total of fifty institutions (primary schools, grammar schools and vocational secondary schools) in rural and urban areas all over the country, was also carried out.

The findings of the survey, and the draft conclusions we have drawn from them, are presented below. Data from the survey allows the following trends in the characteristics of in-service teacher training to be identified.

3.1 *Typical disparities in attendance*

Only a minority of teachers participates regularly and actively in institutional in-service training. The size of this minority is rather varied, depending on school type and age but, in general, it is 15-20% of the teaching staff.

The level of initial training of teachers is inversely proportional to their willingness to participate in further training. The higher the educational level of a person commencing a teaching career, the less willing the person is to attend institutional training courses. This kind of attitude is closely related to the notions about the role of a teacher that are basically developed during initial training.

The willingness of male and female teachers to participate in further training is different. Data on average attendance over the last five years show that a smaller proportion of men have participated in all types of in-service training than women. Further training in universities and colleges and obtaining a second degree is more typical of male teachers, who are over-represented in school principal positions, than women.

3.2 *Obvious differences between generations*

Young teachers are less likely to stay in their schools than older ones. The acquisition of marketable skills is frequently connected to the intention to leave the school and even the teaching profession. In today's labour market and in the training market too, foreign languages and information technology are particularly important. The opportunities open to language teachers and teachers who are adept in the area of information technology, which is highly valued outside the school, can give rise to a significant brain drain, particularly in a situation where teachers' wages are low wages.

3.3 *In-service training reflects initial teacher training*

The characteristics of initial teacher training are reflected in in-service training. Three such characteristics may be mentioned in this context:

- The distinct hierarchy among Hungarian teacher training institutions (with regard to level of training and the relative status of the diplomas granted) reflects the structure of the school system: teachers in lower level educational institutions are trained in institutions providing shorter courses and less prestigious diplomas.
- Another characteristic is the emphasis on a cognitive concept of learning (the idea that learning is a cognitive process, and aims to develop fact-knowledge). This emphasis is reinforced by international recognition of the achievements of the Hungarian school system. International surveys focusing on the assessment of students' performance have placed Hungarian students in leading positions with regard to cognition-centred subjects for years. This confirms and further strengthens the belief that one of the assets of the Hungarian schooling system is the conveyance of the cognition of facts.
- The third significant characteristic of teacher training is the separation, during the training process, of professional knowledge in a narrow sense (the scientific facts of a given subject) from pedagogical skills. This separation is reinforced by the fact that pedagogical departments, traditionally, have rather limited prestige in teacher training faculties at university level. All this suggests to the students that the primary duty of a teacher is to be familiar with his/her specific subject area. This is why the updating of specialist subject-knowledge has dominated in-service teacher training courses for so long.

The attitude that characterises initial teacher training affects the attendance rate at in-service training where the dominant concern is with knowledge of the special subject. This is confirmed by the results of the survey.

Table 1 shows that subject-related programmes predominate. Efforts to acquire pedagogical knowledge are, however, also significant. It is encouraging that an analysis of the data collected during the past five years shows that this trend is becoming more definite. Teachers are interested in expanding their store of pedagogical instruments and in learning new pedagogical methods. They also emphasise the importance of self-knowledge and development.

Table 1
Type of training programmes attended in the last 5 years

Type of program	%
Subject related	62.7
Pedagogical	15.3
Development of personality	7.5
Management	4.3
Evaluation	2.2
Other	8.0
Total	100.0

4 *Informal learning and self-education*

Informal learning has always played a significant role in facilitating accommodation to social change. It has been of special importance in the wake of the change of the political system in the Eastern and Central European countries. Informal learning has a particular part to play in obtaining new knowledge about both the life of the citizen and the world of work.

The expansion of information technology provides a good example of widespread informal learning. A significant part of those using computers today have obtained the basic skills, not in the framework of institutional training courses, but by self-education and by learning from one another. This type of learning is suitable for obtaining knowledge in this specific area because it is an accumulation of partial knowledge items that can be separated from one another.

The information obtained through the research, in particular through the interviews, throws some light on the attitude of teachers towards the various forms of institutional learning. Obviously, it is not only the attitude of teachers that is represented in the figures. There are other factors that must be taken into consideration, such as the training supply, the experience obtained with regard to training courses, the quality and institutional background of the training supply, etc.

Further training programmes must conform to the living conditions and time schedule of the participants. The organisation of further training is a delicate issue because harmonisation with schoolwork and adaptation to individual commitments can be achieved only by settling conflicts of interest.

The willingness to participate in training courses is influenced by the fact that a significant proportion of the teachers of all school types are women who also have a series of family-related responsibilities to fulfil.

In addition, the wage level of teachers in Hungary has been low for decades and, as a result, a significant proportion of teachers works overtime out of school.

It is, therefore, extremely difficult to include learning and regular or long-term training courses in the "normal" time schedule. On the other hand, if it cannot be fitted into normal schedule, attendance at training courses can disrupt the normal course of life, infringe on other interests and significantly reduce willingness to participate.

With regard to learning and in-service training, teachers have various "ideologies", which may be fitted in two major categories that reflect two distinctive attitudes.

A. The first attitude is based on the idea that continuing training includes anything we do in connection with learning, obtaining new experience and developing our aptitudes. Therefore, it is not only attendance at formal training courses, but also all types of self-education activities (reading, cultural consumption or activity), that should be recognised as in-service training.

   The implication of this attitude is that the teacher's work is a kind of art, an activity that is very difficult to define, or that cannot be defined at all; in this sense, it is not possible to determine what makes a teacher's work good. Therefore, the essence of pedagogical knowledge cannot be taught; it is an aptitude that can be grasped at the level of the personality. Teaching is a complex interaction between personalities. The essential elements of a teacher's work cannot be taught at all; the standard of education can be raised by helping the individual to enrich and develop his/her own personality.

B. The starting point of the other attitude is that teachers are public service employees and that the teacher's work is, therefore, a professional activity aimed at implementing the programmes of educational institutions. The professional parameters of a teacher's work may be identified, specified and even inspected and the teachers may be called to account in terms of these parameters. The status of teachers makes it possible and necessary that they regularly render an account of their professional knowledge. The new regulation on in-service teacher training is closer to this latter attitude, which is represented rather by school principles and policy-makers.

The empirical survey provides only indirect information about this issue. The questionnaire included a question on the opinion of teachers about whether various types of institutional and non-institutional learning have had a role in their own professional development.

With regard to the question on obtaining teacher competencies, the respondents' replies indicate that they attach a higher priority to informal, spontaneous, non-institutional learning methods and a lower priority to institutional training. The table shows that the scores given by teachers in all three school types to individual experience, self-education and life experience have been higher than the scores given to in-service training, the least valued form of the institutional training (which includes secondary school education, teacher training and further training).

Table 2
How did different factors affect the obtaining of your teacher competencies?
Indicate on a ten-degree scale the importance of each factor
N= 818

Factors	Primary school N= 401	Grammar school N= 249	Vocational secondary school N=168
Secondary school education	6.56	6.61	6.59
Teacher training	7.62	7.23	7.08
Formal further training	5.15	3.90	4.12
Teacher's own teaching experiences	8.79	8.43	8.29
Self-education	7.80	7.86	8.03
Colleagues' advice	6.46	6.22	6.40
General life experience	7.27	6.98	7.11
Travelling, visits in other schools	4.36	4.19	4.32
Other:	0.67	0.82	0.82

The breakdown of the figures by sex shows that women attach somewhat higher importance to attendance at institutional further training programmes than men.

There is an interesting contrast between the above statement and the figures from other surveys, which have focused only on the rate of satisfaction with further training. A significant part, more than 50% of teachers, say they think further training opportunities and the experience obtained from further training are good or excellent. However, in response to an open question about the weaknesses of the further training system, the system is harshly criticised.

The limited recognition that is given to further learning among workers in the educational system seems to be a crucial problem and a key issue in lifelong learning. A teacher's career provides relatively few possibilities of advancement; the career opportunities are restricted because of the narrow hierarchical structure. In addition, the wage system is currently not enough to make investment in learning attractive. The reasons for acquiring further training have little to do with recognition in terms of financial or professional advancement. This raises the question of whether motivation to acquire further learning/training can be fostered in another way: by compulsory attendance.

There is another important factor that should be mentioned as a motive and incentive with regard to the participation in further training: in addition to the providing contributing to the expansion of knowledge, further training has provided, and still provides, an opportunity for inter-professional communication and, in a certain sense, also for social life. This applies, in particular, to the staff of smaller schools (where there are fewer teachers of the same subjects and less opportunity to exchange views, make comparisons and get acquainted with the work of other teachers).

By making individual further training obligatory and by emphasising the market elements of training, the new regulation has introduced a new system of interests within the further training system. It is supposed that obligatory participation will strengthen the trend towards individualising further training.

The new system of in-service training emphasises the importance of formal training courses and financing applies to participation in accredited programmes. As a result, a definite separation will take place between the roles of participants in training and of training providers.

However, in the previous system of in-service training of teachers, a significant role was given to forms of training, other than courses and workshop type activities, where development and learning were not separated (e.g. in the course of preparing a new training programme for schools). Conferences and study tours, which contribute to the enrichment of the professional experience of teachers at least as much as participation in long-term training courses or series of lectures, are also direct forms of learning.

In summary, the strengthening of the market elements of further training may result in the decline of autodynamic, group-training forms where the roles related to learning are flexible and interchangeable.

5 *The further training market*

In Hungary, the emergence of the training market has been an important development in the nineties.

One of the special features of teacher training is that it is organised in a quasi-market environment. It is financed, basically, by state resources. The obligation of accrediting the programmes further

restricts the scope of training providers. According to surveys and statistical data, the main providers have not changed. The major participants in this market have been universities and colleges dealing with initial training and regional pedagogical institutes. Although public opinion sometimes overestimates the role of private firms, their market share has not yet reached 10%.

The catalogue published by the Ministry of Education in 1997 included 4,800 training programmes – and it was not even a complete list. Table 3 shows the breakdown of the programmes by training providers.

Table 3
Distribution of training supply by providers

Training providers	Proportion of programmes offered %
Universities and colleges	38.9
National or local methodological centres	36.8
Schools (public education institutions)	6.4
Other institutions	17.8
Foundations, associations	
Professional organisations	
Profit oriented training enterprises	
Total	100.0

With regard to training methods, the economic implications of training and a profit-oriented attitude give rise to a kind of conservatism. Lectures and less intensive, less individualised forms of training require much less investment. The proportion of intensive training methods in the published programme list is very low. In 1997, less than 3% of the 4,800 courses were hands-on training or interactive courses. Distance learning is practically non-existent in the further training of teachers, despite the fact that teachers are professionals of learning and that in schools, which are increasingly equipped with devices of information technology, this time-efficient learning method could have a significant role.

The consideration of training as a market-oriented activity is a new phenomenon. A different attitude prevails in public education and, as a result, many are against the idea of training being provided by profit-oriented players.

However, teachers, too, have to learn how to act as consumers in the training market, and this has various implications.

The interviews, which were carried out as part of the empirical research, and which were referred to above, unambiguously indicated that an accurate analysis of one's own training needs is an essential precondition of regular participation in training.

In my view, the proper identification of competencies required for more efficient and more successful working activity is a key factor of lifelong learning. The teachers, as subjects of training, have to learn how to formulate the aptitudes they intend to develop through certain training programmes and what their expectations of such programmes are. If this is not done, the subsequent evaluation of a programme is nothing but subjective opinion.

Now that they are also obliged to participate in programmes, teachers have to be able to formulate how they intend to shape their own professional career paths.

Teachers should be aware of what competencies they do not yet have. They have to be able to select from what is on offer in the training market the training programme most suitable for them, having regard to their future professional activity. In order to do this, they have to be able to enter the training market, which is currently new to them, as expert consumers.

Vocational teacher training institutions as learning organisations

Jittie Brandsma

1 *Vocational teacher training institutions as learning organisations?*

Organisational learning depends, to a certain extent, on the learning of individual employees. However, organisational learning or becoming a learning organisation requires more than the learning of individuals. It requires a reorganisation of organisational, management and work processes, so that not only are individuals stimulated to learn and given opportunities to do so, but learning also becomes part of day-to-day work and individual and collective learning take place simultaneously.

Turning organisations into learning organisations asks for a different approach to training and learning than off-the-job training and instruction-led learning which is still dominant. Implementing learning organisations entails de-emphasising individual learning and instruction-led learning in favour of collective team learning and experience-led learning.

It is argued increasingly that both vocational education and training institutions and vocational teacher training institutions should become learning organisations themselves in order to facilitate and support the transformation of enterprises into learning organisations directly or indirectly (that is by "delivering" workers that have been trained to learn continuously). The question is the extent to which vocational education and training institutions and vocational teacher training institutions are ready for this organisational change.

What is the importance of the concept of 'learning organisations' for vocational teacher training institutions or vocational education and training institutions in general? Vocational education and training systems and institutions are, to a large extent, confronted with the same kinds of challenges and pressures that make it important for business and industry to become learning organisations. Vocational education and training systems and institutions are also confronted with an increasing emphasis on performance criteria, new forms of funding, the necessity to seek for innovative forms of income generation and the pressure to improve the provision of training in terms of both quantity and quality. Likewise, concepts like quality, responsiveness and flexibility are as familiar to vocational education and training providers as they are to their corporate counterparts (Kelleher & Griffey, 1997). There is, however, one fundamental difference between private enterprises and vocational education and training providers, as Kelleher and Griffey (1997) point out. Vocational education and training providers are specialist learning organisations and the facilitation of learning and learning processes is the prime reason for their existence (Young & Guile, 1996). This not only differentiates vocational education and training providers from learning 'companies' in the sense that, in the former, learning will be even more in the foreground, but might also differentiate them in the sense that the key areas for learning pertinent for vocational education and training providers might be slightly different from those pertinent for enterprises.

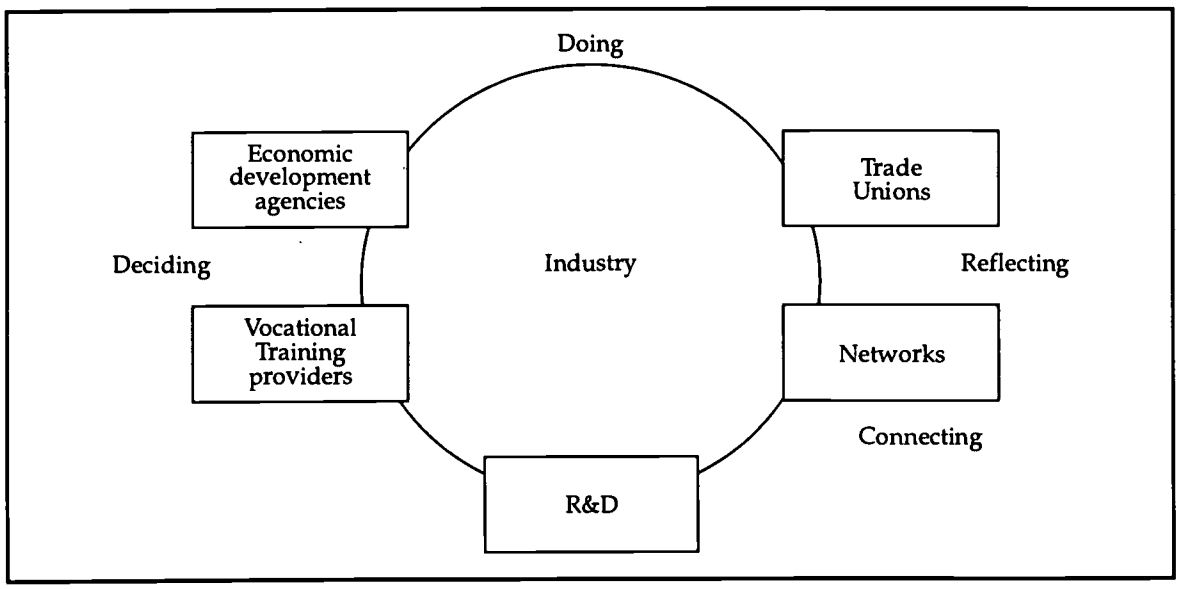
2 Vocational teacher training institutions as learning organisation: contributing to (regional) economic development and to innovation of learning

In order to turn enterprises into learning organisations, innovation in learning is necessary. In order to be able to stimulate and implement innovations in learning, it seems to be even more necessary for vocational teacher training institutions and vocational education and training institutions to turn themselves into learning organisations.

Vocational teacher training institutions as learning organisations in regional development

Related to the idea that vocational teacher training institutions and vocational education and training institutions should support enterprises in becoming learning organisations, by actually fulfilling a consultancy role, it is argued that vocational education and training providers should become centres of knowledge or of knowledge transfer in their region, thus contributing to the development of regional learning. The idea of creating learning regions is based mainly on linkages between various 'knowledge' and 'change' agencies, which allow effective and efficient use of existing provisions in order to boost economic development (cf. Stahl, Nyhan & D'Aloja, 1993). This is reflected in the graphic representation of the regional learning model developed by Kelleher and Griffey (1997), on the basis of the 'learning wheel' previously put forward by Senge and his colleagues (1994) (see figure 1). The learning wheel distinguishes four key stages in the process of learning: reflecting, connecting, deciding and doing. The regional learning model places industry in the centre with vocational education and training providers (including vocational teacher training institutions) being one link in the chain. It could be argued, however, that vocational teacher training institutions might actually be a double link in the chain, given their position as specialist learning organisations but also their potential R&D function where learning matters are concerned. Vocational teacher training institutions in particular should be considered as institutions potentially equipped for developing and innovating teaching and learning models and strategies.

Figure 1: The regional learning model -Kelleher & Griffey, 1997



The learning wheel as represented in the model for regional learning, primarily gives learning a double link position and sees vocational teacher training institutions as (double) specialist learning organisations with an instrumental role. Notwithstanding the importance of regional and economic development, it is questionable whether such an instrumental approach to the idea of vocational teacher training institutions as learning organisations does full justice to the meaning and potential power of this idea.

Vocational teacher training institutions as learning organisations in innovation of learning

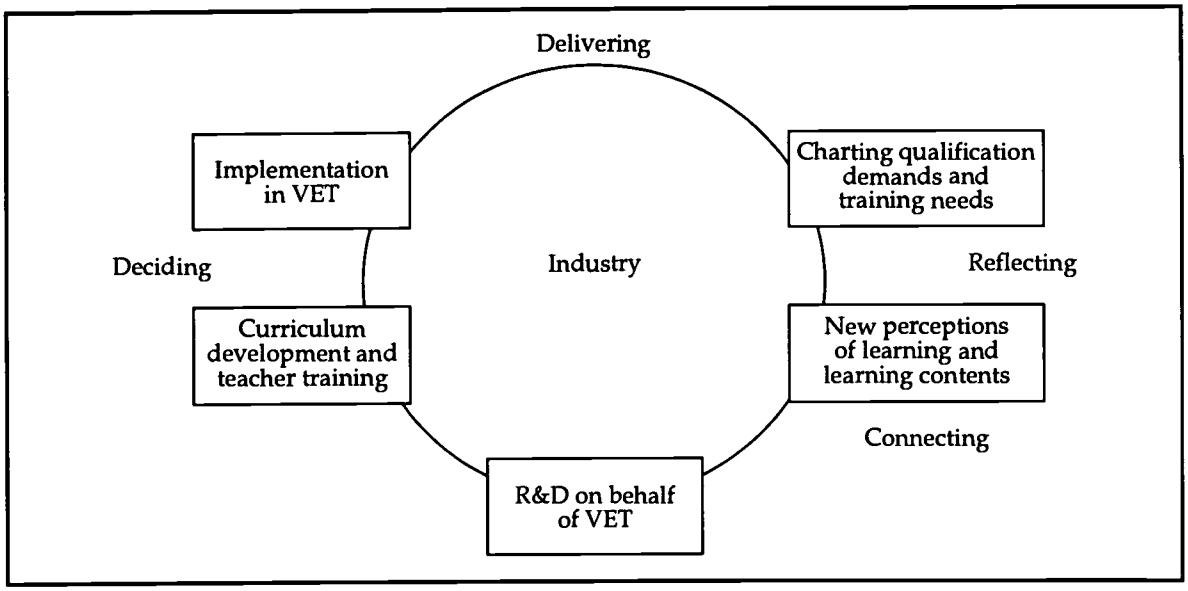
Due to various developments in the world of education and training, thoughts on training and learning have changed over the last decades. On the one hand, work-based learning has long been considered as one of the best ways of delivering vocational training. However, the effectiveness of work-based learning has been scrutinised over the last years. Though work-based learning or on-the-job training still is considered as an important model in vocational education and training, it is increasingly acknowledged that not all work places are effective learning places and that effective work-based learning needs to build upon well-designed learning and instructional models (Raizen, 1994). It is in this context that concepts like 'cognitive apprenticeships', 'complex learning situations', 'communities of practice' and 'learner independence' have been developed as alternatives to the more traditional models of either school-based or work-based learning (cf. Attwell & Brown, 1998). On the other hand, there is, at present, renewed interest in lifelong learning, on a European-wide basis (cf. Brandsma, 1998). Lifelong learning is considered as one of the most important strategies for ensuring European economic competitiveness. Lifelong learning, as such, requires something other than the traditional knowledge, skills and attitudes which, up to now, were bestowed on individuals learning for an occupation or job. It requires at least an aptitude for learning and the ability to 'learn to learn'. In addition to this, it requires that individuals are capable of transferring knowledge and skills from one context to another and are capable of engaging in knowledge development.

Both the new perspectives on effective (vocational) learning and the requirements of lifelong learning have major implications for teaching and teachers. The focus should shift from education and teaching, to learning. Though this might sound somewhat odd in the context of vocational teacher training institutions, the necessity of such a shift in orientation does apply to vocational teacher training institutions as well.

Innovation in learning is needed in order to ensure that learning takes place, but should not become too driven by a concern about issues only indirectly related to learning, such as a precise an assessment as possible of the new skill and qualification demands (Brandsma, 1993). At the same time, innovation in learning cannot be decontextualised and should be embedded in the changing requirements of individual and learning capacities.

The following model of institutional learning in vocational education and training attempts to reverse the model of regional learning presented earlier and to apply it to innovation in learning. In this model, the key stage of 'doing' (from Senge's learning wheel) has been replaced by the key stage of delivering.

Figure 2: The vocational education and training institutional learning model



This revised learning model (or learning wheel) places vocational teacher training institutions at the centre of the innovation cycle. Moreover, the model presents a learning cycle for continuous change and improvement of learning, in which vocational education and training providers and enterprises can play as important a role as they do in regional learning.

Vocational teacher training institutions can fulfil such a central role in the innovation cycle on condition that they become learning organisations themselves and train student-teachers to become learning professionals that, in their turn, can contribute towards changing vocational education and training colleges into learning organisations. Whereas the regional learning model more or less presumes that vocational education and training providers can fulfil the task of being consultants for enterprises that want to become learning organisations, this model of institutional learning in vocational education and training shifts the focus onto the issue of vocational education and training providers becoming learning organisations themselves. As has been argued before, this seems to be a necessary prerequisite both for ensuring learning takes place and for vocational education and training providers being able to support other organisations in their learning.

3 *Characteristics of vocational teacher training institutions as learning organisations*

Tjepkema (1998) distinguishes nine characteristics of learning organisations (cf. Tjepkema, 1993). Though developed in the context of corporate learning organisations, these nine characteristics appear to be adequate for characterising vocational teacher training institutions as learning organisations as well.

1. A learning organisation operates in a changing and unpredictable environment. It is clear that this holds true for vocational teacher training institutions. On the one hand, there are the changing ideas about effective teaching and learning and about the need for teachers to become more facilitators of learning processes. On the other hand, vocational teachers are confronted with continuous change in occupational contents and requirements, which have to be

incorporated into the curriculum as well as the teaching. A characteristic of a learning organisation is that it accepts that its environment is continuously changing and that these changes are unpredictable. A characteristic of vocational teacher training institutions as learning organisations would be not only the acceptance of this unpredictability, but also the development of pro-active and innovative teaching and learning models that both prepare student-teachers for handling changing perspectives on teaching and teach them how to teach their students to adapt acquired knowledge and skills to changing occupational situations.

2. A learning organisation has a strong target orientation, not so much in the sense of a precisely defined final goal, as in the sense of having a general direction it is heading for. For vocational teacher training institutions, it is clear that it is difficult to define the final goal precisely. One could say that the goal is to 'deliver' good teachers, but what a good teacher is is difficult to define in general and will depend on the capability of teacher to handle new and unexpected situations. In this sense, it could be stated that the general direction for vocational teacher training institutions as a learning organisation might be to train student-teachers to become learning professionals.

3. Against the background of the former two characteristics, a learning organisation employs an explicit strategy to increase its own learning potential. This is a crucial issue for vocational education and training institutions and vocational teacher training institutions. Though many will associate learning organisations typically with this type of institutions, the fact that learning is the prime reason for their existence does not guarantee that learning actually takes place (Pearn, 1996). Certainly, where learning of their own staff is concerned, it has to be acknowledged that, in many vocational education and training institutions and vocational teacher training institutions, little attention is paid to human resource development and increasing the value of human capital (Brandsma, c.s., 1995; Brandsma c.s., 1998).

4. A learning organisation anticipates change either by employing improvement-oriented or innovation-oriented learning, depending on the specific nature of the change. This characteristic has, of course, a clear link to the previous one. If the learning of one's own staff is not valued, supported and stimulated, anticipatory learning, both from an improvement and an innovative perspective, is unlikely to occur. On top of this, in order to foster such anticipatory learning, it is important to integrate developmental tasks and teaching tasks. In other words, the R&D function of vocational teacher training institutions should not be isolated in a separate department or left to separate staff, but be integrated as much as possible into the day-to-day tasks of the teacher-trainers

5. A learning organisation is capable of preserving its continuity and its own direction (or identity) in changing circumstances. Though this at first sight seems to be somewhat contradictory to the first characteristic of being able to handle and anticipate changing ideas on teaching and learning and changing occupational realities, this is not necessarily the case. If adaptability and flexibility are considered to be part of professional and occupational identity, than the direction could be to train student-teachers to be learning professionals who, in their turn, are capable of teaching young people to be learning professionals in their occupations. A precondition is that there is general and mutual agreement at all levels of a vocational teacher training institution on such a shared mission or identity.

6. Everyone, at all levels of the organisation, learns. Apart from the implication that learning and doing should be integrated (see also point 4), this also indicates that learning should involve all staff and students. Learning should not be restricted to managerial staff or teaching staff. The learning of the managerial staff and the teaching staff should be connected and, in its turn, should influence the learning of student-teachers (see also section 6).

7. Individuals learn together. This emphasises once more the importance of collective learning and of learning as a team. This appears to be a point of particular importance for vocational teacher training institutions (and vocational education and training colleges as well). Educational institutions are often characterised as "loosely coupled organisations" (cf. Scheerens, 1990; Weick, 1982), with those working in them having a high degree of autonomy. Though at the shop-floor of vocational education institutions, various forms of consultation might appear to have been established, such consultation is often of a rather non-committal nature. Moreover, linkages between the various levels within the vocational education institutions appears to be weak, with quite a few misconceptions arising between levels with regard to tasks, operation, priorities etc. (Brandsma c.s., 1998). Mutual learning or learning together is most certainly not enhanced in this situation.
8. Learning takes place continuously. This refers back directly to the third and fourth characteristics. In order to establish continuous learning, vocational teacher training institutions need to establish a learning strategy and a human resource development policy that values informal, in-house learning as much as the more traditional off-the-job learning and that stimulates learning at both the individual and the collective levels. The latter should encompass all levels, including that of student-teachers (see also section 6).
9. Individual learning takes place spontaneously and is based on a strong learning aptitude. Learning aptitude (or attitude) is an issue that requires particular attention in vocational teacher training institutions. The characterisation of this type of organisation as being "loosely coupled" or as professional bureaucracies (cf. Brandsma c.s., 1988; Mintzberg, 1979) indicates indirectly the position professionals in them tend to take. As has been alleged in various studies and reflections, teachers (whether in primary or vocational education or in vocational teacher training institutes) regard themselves as autonomous professionals; and are regarded as such by other parties as well. They do not like interference with their 'domain', i.e. the classroom or the specific group they are teaching. This attitude of professional autonomy does not stimulate a learning aptitude or attitude. On the contrary, it denies the possibility of learning from others as it also denies the possibility of learning together.

4 *Becoming a learning organisation as a vocational teacher training institution: implications for learning capabilities*

No organisation will become a learning organisation overnight. This also holds for vocational teacher training institutions. Nevertheless, some factors can be identified that may be crucial for developing the capability of vocational teacher training institutions for learning. It concerns factors at the organisational level as well as factors at an individual level.

In order to develop the capability for learning at an organisational level, the following work place characteristics are important (Tjepkema, 1996, 1998):

- *Variation:* this concerns mainly the opportunity to learn from colleagues with a different disciplinary expertise and orientation. Such opportunities will not occur if teacher-trainers stick to their professional autonomy and do not involve themselves in teamwork.
- *Support:* learning and development of the teaching staff should be supported by management at all levels of vocational teacher training institutions. This is a matter not only of material support (in terms of an adequate material learning infrastructure or time set aside for learning), but also of immaterial or social support in the sense that management makes it clear that learning is considered important and valuable (cf. Winslow & Bramer, 1994).

- *Learning culture:* the issue of support indirectly refers to a learning culture. But a learning culture entails more than valuing learning. A learning culture implies an open attitude to learning, with space for reflection, experimentation and for making 'mistakes'. It also involves willingness to give and receive feedback from others and to unlearn standard routines.
- *Motivating organisational context:* a job, even a teaching job, should trigger learning. If a job is too standardised or can be performed on the basis solely of routine, this will not trigger learning. As is known from teaching practices, it is quite easy to deliver the same programme (using the same books and material) year after year. In order to prevent this and to stimulate learning, it is important that, at an organisational level, there are clear expectations with regard to improvement and innovation in teaching and learning as well as a 'job design' integrating different tasks (e.g. teaching, tutoring, developmental and innovation tasks).
- *Opportunity to learn:* in creating opportunities, to learn the role of the management is quite important. Too directive a management style, which more or less obliges staff to learn, e.g. by sending them off to courses, will not stimulate learning. Management should be aware of staff's learning needs, and should not only create learning sites and opportunities, but should also stimulate staff to create and develop their own learning and learning opportunities (cf. Senge, 1993).

Factors influencing the capability for learning at an individual level, in the sense of learning as an (integral) part of working, are (Tjepkema, 1996, 1998):

- *Ability to innovate:* first of all, this involves the capacity to handle change. Certainly if they are linked to a motivating organisational context, staff should be capable of handling varying tasks. Though this might seem at odds with the primary function of vocational teacher training institutions, this is not necessarily the case. Development, improvement and innovation of teaching and learning are as much primary functions of vocational teacher training institutions as teaching. The standard repertoire of teachers does not necessarily turn them into good improvers or innovators. Multi-skilling is something that should be developed and learned.
- *Capacity to learn:* this actually deals with the issue of learning to learn. Learning to learn, either in the sense of developing meta-cognitive skills, a positive attitude towards learning, developing broad professional skills or developing so-called coping skills (or life skills) (cf. Brandsma, 1998; Thijssen, 1997). Developing learning skills requires that staff is aware of the different learning strategies, is capable of choosing the most adequate learning strategy (given the situation and specific problem) and is also aware of factors that can inhibit (or stimulate) learning (cf. Pearn c.s., 1995).

5 *Developing vocational teacher training institutions as learning organisations: practical implications*

As has been said, an organisation will not turn into learning organisations overnight. It is an innovation, similar to educational innovations in general, that requires time and investment as well as a willingness to accept that such innovation processes do not always run smoothly. At the same time, it should be acknowledged that there is no one recipe of how to become a learning organisation, nor one standard blueprint of what a vocational teacher training institution, as a learning organisation, should look like. Existing organisational structures and cultures, as well as personal preferences, will have an influence as well. Nevertheless, some (more or less) practical implications with regard to the design of the teaching and learning processes, student-student and student-teacher relations and organisational preconditions can be mentioned and these can, to a certain extent, serve as guidelines.

Design of the teaching and learning processes

- *Focus on learning:* the focus should not be restricted to learning to teach, but has also to include (if not primarily) the acquisition of an aptitude and the meta-cognitive skills that are necessary for (continuous) learning. Student-teachers should not only learn to learn themselves, but also learn to 'teach' their students in vocational institutions to acquire both the necessary occupational skills and learning skills.
- *Learner independence:* in order to become learning professionals, student-teachers should learn (and be taught) to take responsibility for their own learning processes, in terms of both design and control (cf. Attwell & Brown, 1998).
- *Developing practice, expertise and research capacities:* the development of practice and expertise, including research capacities, is related to the concept of the 'reflective practitioner' as well as to that of the 'learning professional'. As has been stated before, it is not that difficult to teach on a routine basis. This, however, has nothing to do with reflection on one's own performance in order to improve teaching and learning processes. Some studies show that, in the day-to-day practice of teaching, the crucial tasks of setting goals for each lesson, choosing teaching and evaluation methods to match these goals and evaluating the extent to which goals have been met and methods have been appropriate, receives relatively little attention (Doornekamp c.s., 1998). In order to support such reflection and to build up teachers' skills in this area, acquiring some basic research skills might be crucial. Developing the research capacities of teachers does not imply that they should become researchers. It does, however, mean that they should develop the capacity to analyse and reflect upon the effectiveness of teaching and learning in all its aspects and to improve both teaching and learning, as well as the capacity to adapt teaching and instruction to students with different learning styles and learning capacities.

Student-student and student-teacher relations

- *Novice-expert and expert-expert models:* in order to train student-teachers as learning professionals that develop their own expertise, the emphasis should shift, as learning progresses, from a novice-expert model, where the teacher-trainer is the expert initiating the novice in the profession, to an expert-expert model, where students and trainers learn from each other, i.e. where student-teachers learn from the expertise of the teacher-trainers and teacher-trainers learn from the (first) teaching experiences of the student-teachers.
- *Teamwork and collaborative learning:* one of the major characteristics of learning organisations is collaborative learning, which can be enhanced by teamwork. Such collaborative learning should not be restricted to the vocational teacher training institution staff (though it is of major importance that it should be developed there first), but should also be stimulated among students. If the expert-expert model is taken seriously, collaborative learning will also involve collaborative and mutual learning between students and trainers.
- *Open communication:* the former two issues require open communication among staff and students, based on mutual trust and a willingness to at least listen to others. This is a basic precondition for establishing learning processes.

Organisational preconditions

- *The whole organisation as a focal point:* innovation processes, like trying to establish learning organisations, will stand a chance only if the whole organisation is involved. Focusing on individuals or teaching staff only might bring about some change in learning individuals, but will not lead to a learning organisation. Commitment at all levels of the organisation, beginning with the management, is a necessary precondition.
- *Human resource development:* a first step towards a learning organisation is to incorporate training measures and human resource development -policies into the personnel policy of a vocational teacher training institution and to link this to organisational development. In order to make training and human resource development an integrated part of overall organisational development, it is, likewise, important that training and human resource development is not the responsibility of a single person within the organisation or the exclusive responsibility of a specific department. The management of a vocational teacher training institution has to value human resource development and to perceive it as part of its responsibility as well.
- *Establishing a learning infrastructure:* a practical step towards a learning organisation is developing a learning infrastructure including various learning sites and opportunities for teachers. This can range from practical issues like developing a library into an open learning centre (e.g. with various computer and Internet facilities), organising seminars and forms of internal (informal) exchange of knowledge and experience, to more structured training initiatives, such as offering possibilities for retraining courses, periods of educational leave or (practical) training in other institutions or enterprises. The latter might be of particular relevance for training staff teaching particular occupational subjects (in order to prevent isolation from occupational practice and loss of contact with what is happening in business and industry).

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