European Training Foundation

Joint Cedefop-ETF Conference

Aalborg, 21-22 November 2002

Workshop Theme 2:
”Teacher and Trainer Training systems and quality”

The experience of the Nordic Countries and Germany

Søren P. Nielsen
European Training Foundation

November 2002

Introduction

The challenge of institutions and practices of vocational teacher and trainer training systems is solved in different ways in the Western (and Eastern) European countries. One cannot point out the best way to organise systems. When searching for a model, it becomes relatively clear that it is difficult to recognise the systemic logic behind the institutional layout in most of the countries. Institutions have normally been built up to solve the problems of the day – and major reforms of the institutional capacity appear to be hard to implement. This is not a surprise. The organisation of vocational education and training in the different educational systems varies considerably from country to country. There are differences in the length of compulsory education, the point at which young people have to choose between various options in the education sector, the options available, the length of the course of studies chosen (or chosen for them), and so on. The situation of vocational teachers and trainers of course reflects these differences in Europe. VET TT is every where closely linked to the development of the public education system, particularly the school system.

1. The search for the ´holy grail´ - the EU standard

Improving VET is intrinsically linked with the quality of teachers. Various patterns are emerging within the different national improvement strategies. First, a much greater emphasis is being placed on improving the quality of vocational teachers rather than workplace instructors; only in countries with a ‘dual system’ serious steps are being made to upgrade the qualifications of the latter. In England and Scotland, the focus on workplace ‘trainers’ is limited to their (students’ performance) assessment role. Second, general subject teachers in vocational schools are typically better qualified than vocational subject teachers (the dual system-based countries are again exceptions here). Most countries are trying to standardise qualifications and limit the traditional regional differences (like in Italy and Spain).

Most progress in terms of structural parity has been achieved in the three countries with a ‘dual system’ Germany, Austria and Denmark and more recently in Norway, where the qualifications for VET and general subject teachers are equivalent and programmes are shared. In England and Scotland, staff development and initial training of vocational teachers is left to individual institutions. Despite a steady increase in the numbers of qualified VET teachers, respective qualifications are still not a requirement for vocational subject teachers in schools, though they do have to pass a test if they want to assess students’ performance rather than just teach on certain types of VET courses. Steps are being taken to establish national standards. One important step taken by the government was not to introduce fees for the training of (would-be) VET (or further) education teachers. This places them in an equal position with general subject teachers at primary and secondary level.

So there is no ”EU standard” established in vocational teacher training; standards are national – and even in a federal state like Germany there are several competing standards reflecting traditions from the past.

2. Sources of information

For a good overview of the VET TT institutions in Western Europe the CEDEFOP series on ***"Teachers and trainers in vocational training"*** (Volume 1-4, 1995-98) is recommended. The series give a systematic presentation of information on the trainers and teachers involved in initial vocational training in 17 countries. There is a description of the different types of teachers and trainers, their training paths, access to the job market, and the opportunities available for continuing training. The information is presented within the context of VET in each country, its different branches and options, and public interest in it compared to other training opportunities available to young people. Planners of training programmes will here find useful information on existing systems and deliberations on changes in the training plans for teachers and trainers.

For an overview of the qualification standards, VET teacher training and institutions in the Central and East European Countries the reader is referred to the publication published by the European Training Foundation, ***"Reshaping the focus of vocational teacher and trainer training. A cross Country Review of needs, achievements and obstacles in Central and Eastern Europe"*** (ETF, 1999). This report contains short case descriptions of the TTT systems in 12 CEECs as well as a cross-country analysis which presents i) a comparative analysis of the current situation in TTT in the 12 countries, ii) a description of needs and obstacles in teacher training, and iii) a number of recommendations for TTT. A new, updated version of the situation of VET teachers in the Candidate Countries has been undertaken in 2002, ***"Teachers and Trainers in Vocational Education and Training in the Future Member States – An Overview"*** (ETF, November 2002). For an interesting study, which identifies examples of innovations in initial and in-service VET teacher and trainer training in selected EU, Phare and Tacis countries, see also the ETF publication, ***"Innovative practice in teacher and trainer training in vocational education and training"*** (ETF, 1999).

3. VET TT systems in the Nordic Countries and Germany

Here the ambition is to present and discuss the issue of "TT institutions and practices". This is a broad field, indeed, and in this paper I shall concentrate on presenting the situation in the Nordic countries – as well as the VET TT system(s) in Germany. We leave out Iceland for the sake of simplicity.

3.1 VET TT institutions and practices in Denmark

In Denmark no training requirements exist for "trainers", so it is only relevant to talk about the training of "teachers" (the same situation is found in Finland, Norway and Sweden). It should be stressed that there is no specific course of education leading to qualification as a vocational teacher in the general education system (i.e. unlike the case for teaching in elementary or academic secondary education).

Initial vocational teacher training in Denmark is organised in a consecutive model and is primarily a course in pedagogy and general didactics which supplements the technical skills and practical work experience of those who wish to become teachers in VET schools. This situation differs from

that in other countries, where one usually can study technical or commercial subjects and pedagogy (a parallel model) to qualify as a VET teacher after, say, four years. It is regarded as an intrinsic quality of the Danish TT system that teachers in VET schools have a genuine understanding and hands-on experience of production processes in industry and that the school-based component of IVET (1/3 of the 3-4 years' course) can be effectively integrated with the on-the-job component of training.

Vocational teacher training takes place at DEL – the Danish Institute for the Training of Vocational Teachers. DEL carries out not only teacher training but also consultancy work, research and development, etc. DEL has four regional departments so that the training can always be delivered close to or in the schools. Thus, there is in Denmark only one highly specialised institution that offers VET TT.

DEL is the national VET teacher training institute being also a permanent, institutionalised liaison between the Ministry of Education and the 115, local VET schools. The role and position of DEL within the educational system is unique in a European context. DEL is a nation-wide institution which interacts with the social partners, the authorities at national governance level and the VET schools and AMU centres at local level. This continuous communication makes it possible, in principle, to identify new requirements at an early stage and to update teachers' qualifications accordingly.

DEL's activities include training options for vocational teachers (initial, continuing and further training), consultancy services as well as research, innovation and development work to support educational reforms. Dissemination of R&D results to the users is given top priority; results are also incorporated into DEL's teacher education programmes. A co-operation is now emerging with the newly established Danish University of Education to strengthen links between fundamental research and development work.

The 1989 VET reform changed the organisation of continuing and in-service training for VET teachers. Most of the state grants previously awarded to DEL for this purpose were reallocated and channelled to the users (schools) to make teacher competency development demand-led: schools can now buy their training services from where they wish, choosing from a large number of training providers operating in a competitive market. DEL still plays a key role in providing career advancement programmes for VET teachers, but its previously dominant role in CVT has now been replaced by other forms of teacher qualification processes. A structural reorganisation has taken place with emphasis being shifted away from traditional courses in favour of school-based development and consultancy support. Continuing training of VET teachers is today seen as an integral part of a wider strategy for developing simultaneously the professional expertise of individual teachers and the profile of the vocational school as a whole. Teacher development is regarded as an overall competence-building strategy in modern schools, and learning is perceived as the result of many activities rather than merely being a function of formal training events.

3.2 VET TT institutions and practices in Finland

There seems to be a trend towards streamlining and concentration of the VET TT systems in many countries. This is also the case in Finland. In 1995/96 the government tabled five pieces of

educational legislation to reform and clarify the structure of education in the country and prepare for changes in vocational education and qualifications.

The fifth initiative was the Vocational Teacher Training Act (1996). The previously – for historical reasons – fragmented teacher training colleges and departments (more than 20 in number) were restructured into five VET teacher training colleges, *Ammantillinen opettajakorkeakoulu*, AOOK. All other teacher training had recently been shifted to the faculties of pedagogy of the universities, the rationale behind being closer contact with education research, the national importance of the teaching profession, the national financing of teacher training, and the wishes of the teacher unions. Vocational teachers are the only exception to this principle. The arguments for merging the TT function with the Polytechnics were to ensure closer links with industry and support for the new AMK (polytechnics) network.

The five vocational teacher training institutions, each affiliated to a polytechnics, are located in Jyväskylä, Hämeenlinna, Helsinki, Tampere and Oulu. Formerly, Finland had some 20 VET teacher training colleges, each of them specialising in one or two vocational sectors. This specialisation is still evident insofar as the AMKs associated with the AOKKs are also heavily engaged in a specific vocational sector. The AOKKs´ main specialities are as follows: Helsinki – business and administration; Hämeenlinna – technology and transport; Jyväskylä – tourism, catering, and social care; Tampere – technology; Oulo – health care. Each AOKK draws up its own teacher training programme subject to approval by the National Board of Education. Students are free, however, to apply to any college for a study place.

It is difficult to describe in greater detail how the teacher training curriculum is implemented due to the fact that it is essentially a very individual curriculum, developed to respond to the individual´s personal history, future plans, preferences and personality. Some students choose more class-type courses, others prefer more self-tuition.

Because vocational education is very school-centred in Finland, teachers work with classes on a full-time basis. A teaching career is usually for life, and excursions into the extra-school working environment are rare. VET schools have two main categories of teachers: vocational subject teachers and academic subject teachers. Schools have only teaching posts, and the teacher is responsible for all the training, including student supervision during periods of work practice in enterprises.

Finland is the only country with a statutory in-service training requirement: five days a year. The AOKKs operate continuing education centres which offer courses meeting requirements of brushing up teaching competence and of preparing for more advanced teaching qualifications leading to career advancement. The National Board of Education also delivers CVT courses in competition with the AOKKs. The NBE also runs a continuing training centre in Heinola from which courses are delivered nation-wide. A continuing education college has been established in Tampere, AK-KK, which specialises in educational administration and offers courses in educational leadership and management catering for teachers, school directors, college staff, and education planners. Formerly a state-run institution, AK-KK is now a private continuing education company.

3.3 VET TT institutions and practices in Norway

Norway has experienced a vast institutional reform in the provision of VET TT. Until 1993, teacher training for vocational specialisation was provided at several colleges, more than 100. In 1993, a reorganisation reduced the activities of the former ´NCEVTT´ network to 10 colleges. Initial teacher training programmes for vocational teachers are today offered by 10 colleges which are affiliated to a network operated by the former NCEVTT, now Akershus College, Department of Education for Technical Teachers. As the network operator, this institution runs initial teacher training courses, further education programmes, master degree courses and in-service courses, all specifically designed for vocational teachers. Being a higher education institution it is also required to make high-quality contributions to research and innovation in the field of VET.

Each TT institution develops its own study programmes within the framework of ”National Curriculum Guidelines”, which provide guidance on course structure and content. The study programmes have to be approved by the Institutional Board of the Teacher Training Department.

A three-year VET TT education (parallel model) has been implemented and replaces the former ”Pædagogikum” (a consecutive model) as the principal model for training teachers for vocational education and training. The course provides the necessary background in vocational theory for teaching in upper secondary education and training in the post-Reform´94 setting, i.e. develops the competence for teaching on both the broad-based foundation courses and the more specialised advanced courses. This three-year education also includes a one-year teaching certificate programme with an extended (8-12 week) period of supervised teaching practice.

A central body within the Ministry of Education, the Continuing Teacher Training Section (*Statens Lærerkurs*), is primarily responsible for ensuring that all teachers have the opportunity to participate in continuing education, which is defined in Norway as comprising in-service training and further education, including courses leading to the master´s degree, intended to upgrade professional competence. Responsibility for organising continuing education for teachers rests largely with the authorities at regional (*Fylke*) level and the various college departments engaged in teacher training.

3.4 VET TT institutions and practices in Sweden

The Swedish Government is responsible for initial VET teacher training provision. Initial training for aspiring vocational teachers is dispensed at university level and is available at four universities: Göteborg University, Lund University, the University of Umeå, and Stockholm University. The universities hold local responsibility for admission procedures, curricula, syllabuses and diplomas.

As opposed to Denmark, no pre-existing school affiliation is required of persons applying for initial teacher training, and teaching practice is arranged jointly by the university and municipality concerned. VET schools are under the jurisdiction of the municipalities in Sweden. The teacher training for core subjects, vocational subjects and nursing subjects has been amalgamated – the 1993 Degree Ordinance provides for a single professional teacher qualification: the University Diploma in Upper Secondary Education. Most applicants for vocational teacher training must have at least four years of occupational experience before embarking on the university course, although variations in formal educational requirements do exist, depending on the occupation concerned.

There are no general regulations governing the qualifications of trainers in public or private organisations outside the school system. Many municipalities run a very short introduction to teaching course for trainers providing workplace instruction. This ”tutors”´ course is usually planned in co-operation with commerce and industry and in some cases with universities. Stringent demands on trainers´ qualifications are common in many companies, e.g. those operating in the process industry or the nuclear power industry.

National priorities are under discussion on the education of VET teachers. It is clear that the standards to be met in subject theory are becoming more demanding for teachers of both general and vocational subjects. In Sweden there is also a discussion about the appropriate way to train teachers for the VET system. Some employers´ organisations have doubts whether adequate teaching and training competencies can be developed only through a university education. By contrast, the Swedish Teachers´ Union argues that an academic study programme is of vital importance to develop full competence among VET teachers. Other key actors claim that corporate human resource development departments should plan company operations in such a way that the skills necessary to keep pace with technological and organisational change are generated in-house.

The VET teacher training is currently under review to respond to the need for a higher general education standard among vocational teachers in the upper secondary VET school system. Also a further specialisation in narrow vocational subjects is a challenge which the national education system will have to cope with.

In Sweden a teaching career in vocational education does not currently offer career development opportunities comparable to those available in out-of-school working life, and there is some doubt whether the conventional teacher training formats are sufficiently attractive to persons with the necessary qualifications and the best aptitude for teaching.

3.5 VET TT institutions and practices in Germany[1]

Due to the fact that VET schooling and vocational teacher training is governed by the Länder in the Federal Republic of Germany, it is not so simple to formulate a general presentation of VET TT. In the German dual VET system, the company part is governed federally – the Bundesinstitut für Berufsbildung is active in this field – whereas the school part is a Länder responsibility, and school systems differ. To achieve parity of esteem, in Germany VET schools are perceived as schools at the level of upper secondary education. Consequently, VET teacher training is structurally equal to the education of gymnasium teachers and since the 1960s takes place as long university studies. Many universities offer vocational teacher training.

Since 1973 a VET teacher training programme encompasses 160 semester week/hours. Entrance requirements are upper secondary education and relevant occupational experience. The teacher training programme is two-phased and with training for two teaching subjects: first a university study lasting 4-5 years with 3 ’blocks’ of study – vocational subject (50%), pedagogy, didactics,

[1] All information on the German VET TT systems has been based on the theme number of ’Profesinis Rengimas, Tyrimai ir Realijos’, 2000:3 (Vocational Education, Research and Reality), published by the Center for Vocational Education and Research, Vytautas Magnus University, Kaunas, Lithuania (prsc@fc.vdu.lt)

psychology and sociology (25%), and a general subject (25%) – followed by a state examination. To become a VET teacher, the second phase ('Referendariat') lasting 1,5-2 years combines study seminars with practical teaching under guidance in VET schools. This is followed by a second state examination. In VET university programmes teachers are educated for vocational sectors ('Berufsfelder') which are a cluster of different occupations (up to 20); teacher education is structured around a vocational field, not a subject as in general education. Since 1995 there have been defined 16 'Berufsfelder' within 3 overarching areas: technical, commercial and social/health. The teacher training must concentrate on (i) the vocational sector, (ii) the occupations/job profiles within the sector, and (iii) the subjects to be taught. However, there are considerable differences from university to university of how the 3 'blocks' are configurated due to university autonomy as well as Länder priorities.

The basic principle in VET teacher training is 'duality': first theory at university, then application in practice afterwards. A continuing discussion has for long being - and is still - going on about the sharp division between theory and practice. There are tensions between the two phases; in the former DDR until 1990, there was an integrated model, and today the VET TT programme in Baden-Württenberg has integrated a practice-semester in its university programme.

The main variants/models of university VET TT programmes existing at universities today are:

- the "teacher model" (with an emphasis on pedagogics and didactics)
- the "engineer model" (with an emphasis on disciplines of science and with marginal pedagogy)
- the "Berufswissenschaftsmodell" (which integrates a knowledge-based understanding of technology, work processes and didactics)

At some universities, especially in the south-western part of Germany, occupational specific content is basically derived from the corresponding engineering curricula (the engineering model), whereas at a number of northern German universities the occupational specific content is based on the idea of exploring the specific knowledge which is inherent to work-processes on the level of skilled work, so called work-process knowledge. There is no scientific, academic discipline behind this 'Berufsfelder' *perspective* – it is a study field which requires continuous empirical research and theoretical constructs to be able to follow changes in technology, work processes, and developments in work organisation in companies, and on this basis analyse the impact of these changes on new competencies required of skilled workers in production.

There are long historical lines in the German policy to establish VET teacher education in universities. Thus a university-level education was established in Dresden already in 1923/24. With the industrial revolution a need was created to transcend the experience-based knowledge, skills and attitudes of the craftsman – where learning was made through imitation of the "Meister" and included social values and ethics – and to acquire more science-based mastering of technology and at the same time learn another form of societal socialisation. The dilemma was from the start how to develop a new type of VET teacher while avoiding teaching being too academic, and how to ensure that the education still had strong practice links. In the 1920s three models emerged, each of which are still dominating today in German University VET TT programmes:

(i) the 'Fachmann' - with a technical-scientific emphasis ('Engineer knowledge'), based on an academic discipline logic, taught at Technische Hochschulen and found e.g. in Baden, Württenberg, Sachsen;

(ii) the 'Pedagogue' - with an emphasis on humanistic values and based on an educational logic, taught at educational university faculties and found in e.g. Thüringen, Hamburg;

(iii) the "Berufspädagoge" - with an integrated approach combining the vocational and pedagogic elements and based on a logic of practice around a concept of vocational pedagogics, taught at middle-level (not so academic) 'Berufspädagogische' Institutes, and found in e.g. Bayern and Preussen.

Institutions established in the 1920s still play a role today. German VET teacher training is under continuous debate, and an increasing academisation of teacher education in VET is reportedly having negative effects. Professor Felix Rauner, IT-B Bremen University, points to the following 5 structural problems in existing VET teacher education: a lack of practice linkages, a lack of work-place experience, applied vocational knowledge having no reference to corresponding university research, lack of work process knowledge, and the low prestige of VET teacher training at universities due to too little technical knowledge compared to engineers and too weak educational knowledge compared to specialised general pedagogues.

However, there is a lot of innovation and research & development going on in German VET. An important instrument for research-based development work of VET concepts and methodologies since the 1970s has been the 'Modellversuche mit Begleitforschung', which have been a joint development and planning tool for Federation, Länder, academia, schools and companies. Since 1971 more than 700 Modellversuche have been carried out, each normally lasting for 3-4 years; this has become a highly important research field for German universities and has yielded a lot of spur to teacher reform also.

At the moment 3 main renewal approaches to VET teacher training are discussed in Germany:

A: The "engineer-model" with higher pedagogic-didactic emphasis with a view to enhance pedagogical professionalism but still being a highly scientific 'discipline' model stressing enhanced subject knowledge to empower new teachers to adequately cope with the knowledge explosion;

B: VET TT education based on the science of 'Berufsfelder' – criticising the discipline model for its lack of convergence between abstract engineer disciplines and actual vocational practice. It is based on a concept of vocational study fields, which combines work, technology and education, and which have to be studied empirically in the work place – observing and conceptualising *"what is a skilled worker actually doing?"* Its focus is on developing action competencies and how to train for these through didactic 'shaping' of learning environments.

C: Modularised education based on inter-disciplinarity – criticising the 'Berufsfelder' model for its difficulties with integrating new job profiles: the boundaries of 'Berufsfelder' are changing perpetually under the pressures of 4 'megatrends': globalisation, individualisation, ICT and knowledge explosion. This model replaces the second subject in existing VET TT programmes with a number of modules to choose from for students. It is more flexible, integrates innovations rapidly without having to change the full programme, and increases individual study competence. It also allows for more specialised studies after the teacher student's own choice.

Structurally, the dominant university education model is threatened by some pilot projects in which the occupational specific part of the university teacher education is "outsourced" to the Fachhochschulen (as for example in Münster, Northrhine-Westphalia).

4. Concluding remarks on the trends in VET TT systems in North Western Europe

It is being currently discussed in the Nordic countries whether the institutional structure and the content of VET TTT is the optimal one. This is parallel to the discussions and reforms which have been undertaken in the Baltic States. In all countries (the exception being Denmark with only one institution, historically) there has been a reduction in the number of VET TT institutions, a professionalisation of those institutions which survived, and a configuration which to a higher degree reflects pedagogic expertise and geographical considerations than having been based on vocational expertise. The intense discussion in Germany on vocational teacher training also demonstrates that actual discussions have long lines back in time and is bound by national cultures and societal institutions. The VET TT discussions can only be enriched by the Candidate Countries now sharing their own experiences with us.