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The *European journal of vocational training* is provided for by Article 3 of the founding Regulation of Cedefop of 10 February 1975.

The journal is nevertheless independent. It has an editorial committee that evaluates articles following a double-blind procedure whereby the members of the Editorial Committee, and in particular its rapporteurs, do not know the identity of those they are evaluating and authors do not know the identity of those evaluating them. The committee is chaired by a recognised university researcher and composed of researchers as well as two Cedefop experts, an expert from the European Training Foundation (ETF) and a representative of Cedefop's Governing Board.

The *European journal of vocational training* has an editorial secretariat composed of experienced researchers.

The Journal is included in renowned bibliographical databases
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Editorial

Dear Readers,

The previous issue of the *European journal of vocational training* (No 42-43) was dedicated to the European qualifications framework [EQF], the paternity of which Cedefop is proud to claim both at the conceptual and meth-odological levels.

Through research and policy articles, also leaving some room for personal views and individual considerations, it presented the process which led to the creation of the EQF as well as the relation between the National Qualifications Frameworks in various countries and the EQF.

The ambition of the EJVT has always been to offer a pluralist forum on VET in Europe and pursuing this objective, we will continue to publish articles which further discuss the EQF.

In this edition of the EJVT you will find a short and focused reflection from Prof. Dr. Gerald Straka, from the Institute Technology and Education /LOS Research Group, of the University of Bremen, Germany. His contribution points to a more general and cultural posture, very specific to the German 'Societal' environment, very much attached to the notions of '*Beruf*' (i.e. trade or pro-

fession) and '*Bildung*' (education, including both personal and professional development), and very doubtful about a Qualifications Framework (European and/or national) which could endanger the holistic character of what makes a qualification suited to a determined profession.

Needless to say that the author's conception does not represent the Cedefop position on EQF/NQF, but his point of view may be of interest to you, our readers, and could contribute to the discussion.

Such critical reflections could indeed be useful for the further development of the EQF and its operational application. In consequence, the Journal will be glad to receive and publish also other reactions on the EQF/NQF (to which the issue No 42-43 has been devoted), including also those which reflect different sensibilities and 'societal' postures, that could contribute to the debate.

We, thus, invite you to also send us your contribution ([1]) to this debate.

Éric Fries Guggenheim
The Editor in Chief

([1]) At most 10 000 characters without spaces

Has Germany sacrificed its concept of competence at the altar of the EU?
(March 2007)

Prof. Dr. **Gerald A. Straka**
Universität Bremen, Forschungsgruppe LOS / ITB ([1])
http://www.los-forschung.de

Since 1996 – and as reiterated on 16 September 2004 by the German Standing Conference of Education Ministers, (KMK) – the development of 'competence to act' has been a central task of schooling under the dual system of vocational education. Competence to act is understood to mean 'the willingness and ability of the individual to behave in professional, social, and private situations in an appropriate and considered way, and to display individual and social responsibility. Competence to act is displayed in the dimensions of professional competence, human competence and social competence' (KMK 1996/2005, p. 9 ([2])).

Furthermore, the conference reports that: 'Professional competence describes the readiness and ability, on the basis of specialist knowledge and ability, to solve tasks and problems in a targeted, appropriate, methodical and independent manner and to evaluate the result.

Human competence describes the readinessand ability, as an individual personality, to clarify, think through and assess the development opportunities, demands and limitations within the family, at work and in public life, to display one's own talents and also to establish plans in life and to develop them further. It includes personal characteristics such as independence, critical faculties, self-belief, reliability, a sense of responsibility and a sense of obligation. It also includes in particular the development of a carefully considered moral code and self-determined allegiance to specific values.

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([2]) KMK (1996/2000). Recommendations for drawing up framework syllabuses from the German Standing Conference of Education Ministers (KMK) for vocational teaching at vocational colleges, and coordination of these recommendations with federal training regulations for recognised training professions. Date: 16 September 2004 (vorläufige Arbeitsfassung). http://www.kmk.org/doc/publ/handreich.pdf (Stand 15.9.2000)

Social competence is described as the readiness and ability to live and shape social relationships, to appreciate and understand cares and stresses, and to deal and get along with other people in a rational and responsible manner. This also includes in particular the development of a sense of social responsibility and solidarity (…)' (KMK 1996/2000, p. 10).

Observations and questions:

- According to the understanding of the German 'Standing Conference of Education Ministers' (KMK), 'competence to act' ([3]) is an overriding personal characteristic which itself consists of different types of competence.
- 'Competence to act' and its various forms comprise characteristics such as 'readiness/, 'ability', and 'knowledge' .
- Can the characteristic 'readiness' be given the same weighting as the personal characteristics of 'ability', and 'knowledge'?
- Are actions in the case of personal and social competence 'knowledge-free' because 'knowledge' is only listed explicitly with professional competence?
- Can 'behaving in an appropriate and considered way' be understood as 'knowledge-driven behaviour'? ([4])

As a result of the EU consultation process, which was launched on 8 July 2005, on the EQF and ECVET as at 5 September 2006 ([5]), 'skills' and 'competence' are defined as follows:

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[3] As being able to act is a constitutive part of 'competence' as a personal trait, there is in fact no need for the specification '(…) to act'.

[4] Differenzierter Straka, G. A. (2005). Die KMK-Handreichungen zur Erarbeitung von Rahmenlehrplänen – eine kritische Reflexion zum zehnten Jahrestag. [The recommendations from the KMK for drawing up framework syllabuses – a critical appraisal to mark the 10th anniversary.] In *bwp@*, 8/Juli 2005, 15 pages. http://www.bwpat.de /ausgabe8/straka_bwpat8.pdf

[5] COM(2006) 479 final version 2006/0163 (COD)

English (5.9.2006)	Deutsch (5.9.2006)
'Skills' means the ability to apply knowledge and use know-how to complete tasks and solve problems. In the European qualifications framework, skills are described as cognitive (use of logical, intuitive and creative thinking) and practical (involving manual dexterity and the use of methods, materials, tools and instruments). 'Competence' means the proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and/or personal development. In the European qualifications framework, competence is described in terms of responsibility and autonomy.	*'Fertigkeiten': die Fähigkeit, Kenntnisse anzuwenden und Know-how einzusetzen, um Aufgaben auszuführen und Probleme zu lösen. Im Europäischen Qualifikationsrahmen werden Fertigkeiten als kognitive Fertigkeiten (logisches, intuitives und kreatives Denken) und praktische Fertigkeiten beschrieben (Geschicklichkeit und Verwendung von Methoden, Materialien, Werkzeugen und Instrumenten). 'Kompetenz': die nachgewiesene Fähigkeit, Kenntnisse, Fertigkeiten sowie personale, soziale und/oder methodische Fähigkeiten in Arbeits- oder Lernsituationen und für die berufliche und/oder persönliche Entwicklung zu nutzen. Im Europäischen Qualifikationsrahmen wird Kompetenz im Sinne der Übernahme von Verantwortung und Selbstständigkeit beschrieben.*

Observations and questions:

• *Unexplained relationship between 'skills' and 'competence'*

'Skills' and 'competence' are listed in the EU Paper without any reference to one another. By contrast, according to the understanding of the KMK, 'competence' is the overriding term.

• *Unusual use of the 'skills concept' and 'ability concept'*

According to the understanding of the EU, 'skills' are 'the ability to apply knowledge (...) to solve problems'. An 'ability' is therefore an inherent part of a 'skill'.

If 'skill' and 'ability' are meant to be synonyms, then the definition is tautological; i.e. skill = ability.

If the intention is that 'skill' and 'ability' should denote different things, this interpretation contradicts that of the reference discipline under consideration. According to the explanations given in a relevant dictionary of psychology, the 14th edition of which was published in 2004, skill is defined 'as the antithesis of ability' as follows: 'skill is the act of performing a specific task which develops through practice against the background of personal abilities which transcend the task in question' (Dorsch 2004, 312f). Accordingly, in contrast to the EU definition, an ability is more comprehensive than a skill. The EU definition of 'skill' is therefore not 'appropriate and proper'.

• *Differences between 'skills' and 'competence'?*
According to the definitions given by the EU:
'skills' comprise the 'ability to apply knowledge' and 'use know-how (...)'.
'*competence*' means the 'ability to use knowledge, skills (...)'.

This raises the question of whether there is actually any difference between 'skill' and 'competence'.

- *Function of the second sentence in the definitions of 'skills' and 'competence'*
  The EU definitions of 'skills' and 'competence' are followed in each case by a second sentence starting: 'In the European qualifications framework (...)'. The function of the two sentences remains unclear. If this is intended to substantiate or clarify the sentence which precedes it in each case, this raises the question of whether this procedure is appropriate in the case of such fundamental definitions. Could the first sentence in each case not be worded in such precise terms that this explanation be rendered unnecessary?
  Conclusion: Is it possible on the basis of these confusing conceptual definitions even to consider implementing the EQF approach at this point in time? Should we not give, once more, thorough consideration to a concept such as the EQF, which has such far-reaching implications for education policy within the EU, and work out coherent terminology, instead of coming up with Leonardo projects for implementation such as '*TransEQFrame*'?

- *Careless mistake or deliberate intent in the German translation?*
  The wording of the second sentence of the 'competence definition' in English is: 'In the European qualifications framework, competence is described in terms of responsibility and autonomy', which is translated in the German version as: '*Im Europäischen Qualifikationsrahmen wird Kompetenz im Sinne der* Übernahme [6] *von Verantwortung und Selbständigkeit beschrieben*'.
  The first question is where exactly is the word '*Übernahme*' (takeover, adoption) to be found in the English version?
  The second question is whether the EU definition of competence is not based on the Anglo-Saxon understanding of 'competence' as meaning 'responsibility'. If so, the sentence 'competence is described in terms of responsibility and autonomy' would make sense. This suspicion is supported by wording such as 'work or study under direct supervision' or 'supervision with some autonomy' in the EQF version dated 5 September 2006. These clearly describe workplace attributes and not personal characteristics. The latter, however, do not correspond to the KMK understanding of competence. Did the German representatives spot this inconsistency with the KMK concept and therefore the German concept of 'competence' and for this reason 'smuggle in' the word '*Übernahme*' in the German version?
  To outsiders it seems incomprehensible why the German competence concept of 1996, whose terminology is more accurate than that of the EU, did not

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[6] Highlighted by the authors.

become the generic term for both 'EU skills' and 'EU knowledge' ([7]) . According to the understanding of the EU, skills and competence are used 'to complete tasks and solve problems' or are used 'in work and study situations and in professional and/or personal development'. If one considers that the 'EU competence' includes 'personal, social and/or methodological abilities', from the German perspective the EU competence concept could also include 'traces' of human and social competence. If appropriate efforts were made to reach clear definitions, the German competence concept could certainly become very useful at EU level. A German sacrifice at the altar of the EU would not then be necessary.

([7]) This understanding is evident, for example, in the passage 'focus on competence in German training' in the 'draft version of the German statement' (March 2007), in which the argument put forward uses the German understanding of competence.

Improving the quality of the supply-demand-match in vocational education and training by anticipation and 'matching policy'

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SUMMARY

This article discusses the implications of a framework to improve matching supply and demand in VET by a policy to improve quality by using anticipation and foresight approaches. Analysis of the Austrian anticipation system identified some basic aspects such as policy. The analysis focused on two issues: the observation and measurement of matching, and foresight as a strategy for anticipation of future needs.

Introduction: 'matching policy' and anticipation (¹)

Matching supply to demand for qualifications in vocational education and training is not only a result of the performance of VET, but also a process through which various actors in VET systems aim to bring supply in line with demand through a social system of knowledge production.

This article argues that matching needs a coherent policy framework in which the complex relationships between labour market(s) performance and VET institutions are governed collaboratively by the actors. A policy framework for matching requires analysis and evaluation of the status quo of the relationship between supply and demand, the formulation of goals and objectives, inputs, processes, outputs and outcomes of the policy process to be identified. A standard quality model of policy implementation such as the Common quality assurance framework (CQAF) can be applied to matching as it includes core dimensions of delivery (input, process, output, outcome), and the policy cycle (planning, implementation, evaluation, and review).

The paper looks at two problems which arise in this framework:
- how can the quality of matching be measured and observed?
- how can expectations of future development be brought into the process of matching policy by anticipation activities?

First, the article discusses conceptual and empirical problems of matching supply and demand, taking into account different structures of VET systems. Second, the time dimension in matching is considered by outlining different approaches of anticipation mechanisms (social systems which include the main groups interested in matching supply and demand at regional level) which take account of the timeframe of the expected impact of the VET programmes and foresight (a social process of knowledge management that goes beyond forecasting, bringing together informal knowledge and strategic plans of all those involved into the process). Third, a framework for 'matching policy' is developed based on the Austrian experience and the implications of quality assurance in matching policy and anticipation are discussed. It draws from an analysis of the Austrian anticipation system (Lassnigg and Markovitsch, 2004; Lassnigg, 2002), and an analysis of the quantitative dimension of matching (Lassnigg, 2003). Finally some conclusions about policy approaches are drawn.

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Limitations to existing measures of supply and demand in a VET system

Matching VET supply to demand, or the responsiveness of VET systems to demand, is a policy priority ([2]). However, assessing the quality of the matching process is seldom an explicit policy priority. Some attempts are outlined below.

There are different perspectives and levels of matching supply and demand in education and training (see Figure 1) and people speaking about mismatch in supply and demand do not necessarily mean the same thing.

Figure 1: **Different perspectives on the matching of supply and demand in the labour market**
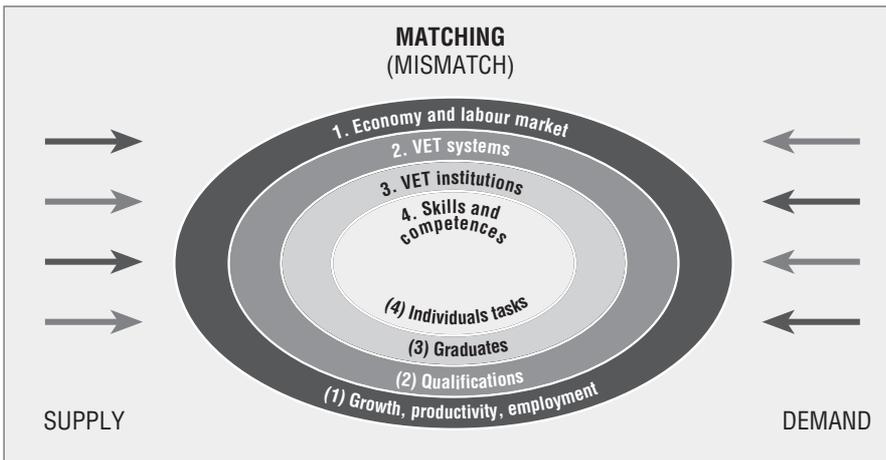
The central question is how the relationship of the supply of formal skills and qualifications in initial VET to demand can be governed (see level 2 in Figure 1). Two issues are important here, the interrelations between the levels, and the different structures of VET systems.

([2]) Several proposals have been made on this topic at European policy level (see Lassnigg, 2003). The employment guidelines have introduced the objectives of policies to develop job matching and to prevent and combat emerging bottlenecks in the labour markets; the skills and mobility action plan has proposed to develop indicators measuring skills deficits; the communication about the European area for lifelong learning has set the task of developing insight into the demand for learning from the perspectives of the different actors; in innovation policy the demand for skills in mathematics, science and technology (MST), as well as the broader skills demand for the purposes of diffusion of innovation, is at stake.

At the level of the economy and the labour market, analysis of the relation between supply of and demand for human resources concerns the performance and efficiency of the labour market. Various approaches assess labour market performance, ranging from macroeconomic concepts relating to GDP, to microlevel concepts of matching individual jobseekers to vacancies. Assessing labour market performance requires separating structural from cyclical and frictional components. Levels of structural unemployment have become increasingly important as the unemployment rate has persistently risen in many countries despite economic upturns (Employment and social affairs, 2002, p. 50). They give crude measures of mismatch between the supply and demand for skills in the economy and labour market, based on the non-accelerating inflation rate of unemployment (NAIRU), or the Beveridge curve (a measure of mismatch based on the relationship between unemployment and vacancies) [3]. If aggregate measures are favourable, it can be assumed that matching is functioning well at all levels. However, the reverse is not necessarily true. There can be many reasons for poor labour market performance. Mismatch at the aggregate level, consequently, provides no specific conclusions for VET policy.

At VET systems level, the main perception of the relation of supply and demand is the customer-supplier-model: 'businesses and their employees need qualifications, and the purpose of education and training systems satisfy their needs' Planas et al. (2001, p. 317). The assumption is that VET systems are pushed to function according to this model.

However, these assumptions are unrealistic. VET systems are differently structured due to the types of qualifications provided (Shavit and Müller, 1998). The greater the vocational specificity, standardisation (nationwide quality standards), and stratification (separation between vocational and general education streams and the mobility between them) the more formalised the VET system. On this basis, Austria, Germany, the Netherlands and Switzerland have the most formalised systems (Shavit and Müller, op. cit).

The more formalised a VET system, the more it is expected to follow the customer-supplier-model. At systems level, models of manpower forecasting and planning are based on statistical categories which refer to the formal qualifications the education and training system provides. The principal methods

[3] See: European Commission – DG Employment and social affairs, 2002, p. 71-72; ECB 2002, p. 15, 31-32. Estimates of the Beveridge curve normally rely on the statistical categories about supply and demand on the labour market (the demand data being notoriously problematic), with possible breakdowns by sectoral, occupational or educational categories.

[4] For an example of the 'objective' approach see Wolbers, 2002. The analysis of 'work skills in Britain' is an example for a study based on the 'subjective' concept (Ashton et al., 1999). Felstead, Gallie and Green (2002), Work skills in Britain 1986-2001. (http://www.hrm.strath. ac.uk/teaching/classes/full-time-41939/reports/Workskills.pdf).

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to measure matching at this level are based either on 'objective' concepts, comparing formal qualifications with job categories, or 'subjective' concepts based on the assessment of the qualification by the jobholder ([4]).

If demand for labour and skills/qualifications is static, it is relatively easy (at least in the short run) to assess labour market performance. However, a key problem of matching is that in dynamic economies, demand for skills/competences evolves through complex relationships.

Existing measures of matching often show unemployment among people with VET qualifications is lower than among those without. However, this gives limited information about the performance of VET systems or institutions. A main shortcoming is that only broad attainment levels can be used on a comparative basis.

At VET institutions level the consumer-supplier-model could apply, but is complicated because a twofold perspective of the consumer-producer-relationship arises, depending on whether the focus is on the labour market (employers as consumers), or the education market (students as consumers). The main focus of matching at this level is the successful transition of graduates into employment, a core dimension in quality assurance models in Europe (Lassnigg, 2006).

However, this too provides only limited information about matching at institution level, particularly if we take the dynamic view of an evolving and changing demand. Placement of graduates might depend on the local labour market conditions.

Planas et al. (2001) show the difference between looking at mismatch from a qualifications and consumer-supplier-model perspective compared to a skills and competences perspective. A key point is that skills and competences are traded in the labour market, rather than qualifications. Skills and competences are produced in complex ways that combine initial education and VET, experience, human resource development in enterprises, further education, different time perspectives and institutional frameworks of industrial relations which are built on qualifications.

Consequently, the role of enterprises and unpredictable environments are important to skills development. A new concept of mismatch has been developed focusing on adjustment to different kinds of imbalances (see Figure 2).

Figure 2: **Types of mismatch and adjustment**

	Cyclical imbalance (short-term)	Structural imbalance (longer term)
Skills demand growth	Type A: Adjustment of initial VET not feasible, too slow, causing future imbalance; Adjustment rather by internal labour markets, poaching, or further education and training. Policy solution: high general training as a base for adjustment of employees	Type B: Imbalance might concern general skills (e.g. language, ICT) or specific skills; Adjustment by developing VET programmes by combination of general foundation and ready-to-use skills. Policy solution: links of the different systems of skills production
Skills supply growth	Type C: Adjustment by innovation, reduction of benefits of education, new skills acquisition during entry period in labour market, increase of insecure jobs. Adjustment by work experience ambivalent, might devalue skills. Policy solution: further education and training, based on proper assessment of skills demands.	Type D: Adjustment by better educational choices of young people; Main causes of imbalances should be analysed properly. Policy solution: providing clear information about costs and benefits of education, the price mechanism through competition among providers.

Source: Planas et al., 2001, p. 358-362.

The type of mismatch considered in the consumer-supplier-model at qualifications level is similar to type B. However, where the policy solution in the consumer-supplier-model focuses on initial VET it is much broader in this extended concept about skills mismatch.

Comparative and country-specific evidence about the relationship between supply and demand in Austria

The European competitiveness report (European Commission – DG Enterprise, 2002) measures matching supply and demand by broad education levels. Employment growth at the three education and training levels low, medium and high is compared with increases in educational attainment of 15-64 year olds between 1995 and 2000. Comparing growth rates and calculating differences give a rough indication whether supply and demand are in line. Figure 3 compares the growth rates in employment and educational attainment in the late 1990s. Austrian VET includes three tracks at the medium-level: apprenticeship at the bottom, intermediate full-time VET schools, and double qualifying VET colleges which provide qualifications opening access to higher education.

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The high proportion of medium-level education can be easily seen. The dynamic indicated by the length of columns 1 and 2 for each country shown in the upper part of Figure 3 is above average in Austria, Spain and Finland (growth rates of 10 to 15 % as compared to about 7 % in EU-15). A positive difference between demand growth (employment) and supply growth (educational attainment) in the third column signals demand is more dynamic than supply. A negative difference indicates oversupply. Most European countries show a positive difference, Austria and Sweden are exceptions. The low-skilled category shows falls in both demand and supply for the EU-15 (minus 3 to 5 %). Supply of low-skilled workers is falling in all countries except Denmark, but the demand for low-skilled workers shows small positive growth in five countries. Some main observations are:

- in Austria the strongest trend is indications of a small oversupply in high qualifications. In most countries demand for high qualifications has outgrown supply;
- medium-level qualification trends are stronger in EU-15 than Austria. There seems to be an inverse relationship: the higher the stock of medium-level qualifications, the smaller the positive difference which indicates a supply shortage;
- at low levels of qualification, the Austrian pattern is similar to Sweden, Greece and Italy with an average decline of demand and supply. Austria, the UK, Sweden, and Greece have a negative difference at this level which signals oversupply of low qualifications.

Overall, Austria lies at extremes and at variance with the EU average development.

The cross-sectional pattern of supply and demand of Austrian VET was analysed for a similar period in a national study of the main streams of education and training and by broad occupational groups (Lassnigg, 2004; Lassnigg, 2002; Lassnigg, Prenner and Steiner, 1999). The results show a similar pattern:

- estimates for formal qualification levels clearly indicate upgrading of the workforce. Higher education graduates and those from the VET colleges show high growth rates, medium-level qualifications grow slowly, while the unskilled are in marked decline;
- a shift-share analysis shows that for the medium-level qualifications, apprenticeship employment is shrinking, whereas medium-level full-time VET schools are increasing. This means apprenticeship is losing importance in an expanding employment field.

Figure 3: **Growth rates of employment compared to growth rates of edu-
cational attainment by levels, 1995-2000**

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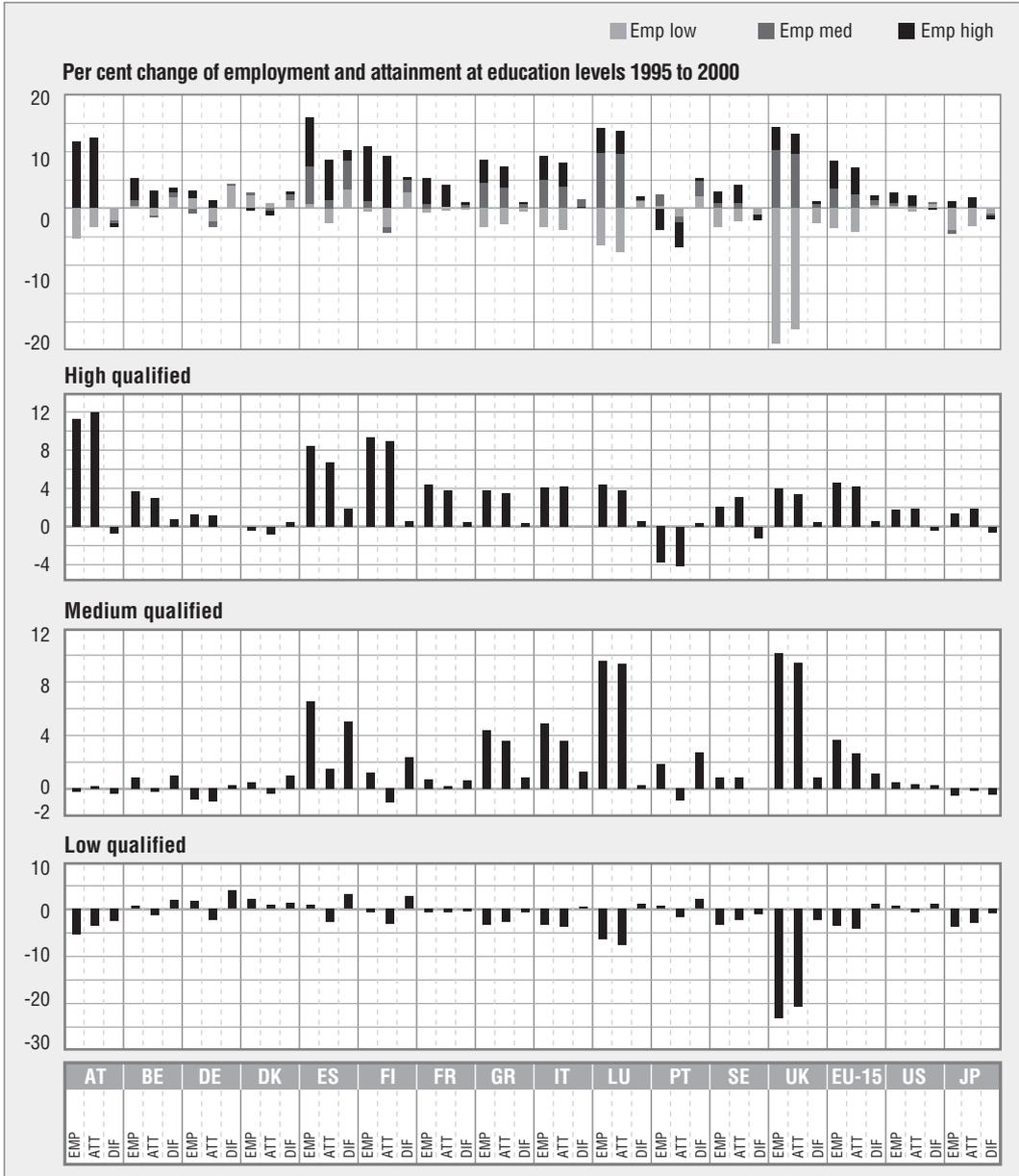
Another analysis based on the comparison of rates of change in certain qualification categories tried to obtain the matching pattern between the supply of qualifications and employment trends ([5]). That exercise projected the future supply from the education and training system and compared the results to employment indicators. This comparison comprised 10 occupational categories for each of the four levels of specialised programmes at the upper secondary or higher education level. The results indicated some structural traits of the Austrian system:

- a low level of correspondence between employment and education and training especially given the speed of change. VET and employment are diverging as changes in VET supply are slower than changes in employment;
- falling younger cohorts compared to the medium and older cohorts. Generally, positive growth rates are more frequent on the employment side, compared to the education and training supply side.

Another measure of mismatch between supply of and demand for qualifications used in the EU competitiveness report is the dissimilarity of the educational structure of the three levels between different sectors. Measures indicate an increasing mismatch for Austria between the employed and the 15 to 65 year old population overall. Unemployed people have a different educational structure than those in work. Compared to EU-15, the relative position of young people is better than the overall matching situation in 2000 in Austria. This fits the European trend. Young people entering the labour market might improve the match in countries where the overall mismatch is large, but the incentives for improvement among the young might also be weak where the situation is relatively in line.

([5]) The results were based on a set of indicators, which were calculated for the two periods 1991-95 (past) and 1996-2000 (projection): (1) the proportion of the estimated yearly absolute supply (flow) from education and training to the stock of employment in each specialisation (ET-supply/EMPL-stock); (2) the proportion of (a) the growth/decline of the estimated yearly supply to the stock of employment in each specialisation as compared to the overall growth/decline of employment in this specialisation (b); (3) the cross-sectional distribution of qualification levels within occupational specialisations and vice versa.

Figure 4: **Summarised mismatch index in Austria, 1994–2002**

	1994	1995	1996	1997	1998	1999	2000	2001	2002
	0.30	**0.30**	**0.27**	**0.29**	**0.32**	**0.32**	**0.40**	**0.40**	**0.41**
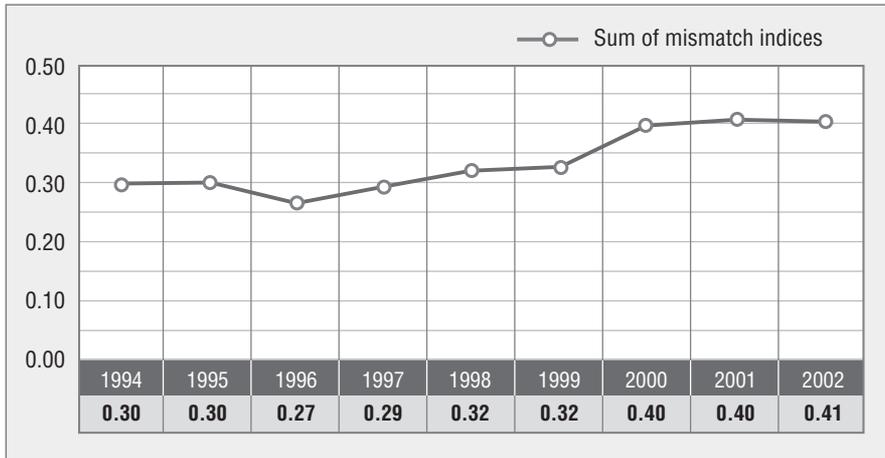
Figure 5: **Mismatch indices for education, occupation, economic sectors, regions, age and gender, 1994, 2002, average 1994-2002**
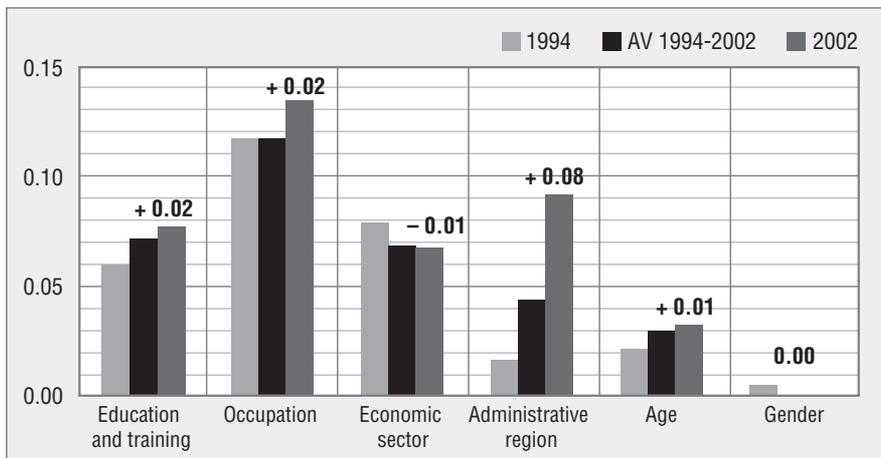
Source: Lassnigg and Markovitsch, 2004, p. 199-200

The mismatch indicator developed by Layard, Nickell and Jackman (1991) calculated from the variation of unemployment at the six variables ([6]) in Figure 4 shows an increase for Austria from 0.3 to 0.4 during the 1994-2002

([6]) Education, occupation, economic sectors, regions, age, and gender. The mismatch indicator is a measure of variation calculated from the unemployment rates in the categories of the variables (ui) and the overall rate (u) (Layard, Nickell and Jackman, 1991, p. 310): MM = 0.5 * var (ui / u) = log(u / umin).

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period. The variation of unemployment rates is biggest for occupational groups, medium for the educational streams and economic sectors, and lowest for regions, age and gender. Mismatch has strongly increased for regions, increased for education, occupation and age, and slightly decreased for economic sectors (Figure 5). For the same period, however, the Beveridge curve, (used as a measure for mismatch based on the relationship between unemployment and vacancies) did not indicate an increase in structural unemployment.

In sum, existing research about matching supply and demand for skills and competences on the labour market gives at best a general picture about past trends and the current situation. Methods of measuring mismatch are rudimentary. They give some indications about structural problems on the labour market, but the contribution of the VET system is far from sufficiently covered by them.

The timeframe of matching: anticipation and foresight

Foresight as a type of policy-making

VET systems provide qualifications for an increasingly unpredictable future. Perceptions differ on timeframes for both demand and supply. Students want qualifications for a medium or longer term perspective. Employers need human resources according to a demand which can change quickly. VET systems have to deal with this problem. However, timeframes to provide qualifications are seldom given. To some extent there is a relationship between the expected timeframe of the use of qualifications and the degree of formalisation of the system. Qualifications planned to provide the full skill range for a certain occupation or profession are expected to last longer, not least because of the large investment necessary to provide the 'right' qualification.

Foresight is a method of knowledge production and policy-making to relate the present to the future systematically. It combines information about trends and forecasting with the strategic plans of key actors, and their structures of communication and networking.

Foresight includes three basic elements, the time horizon, knowledge, and shaping. The further into the future, the more the shaping influences events at the expense of knowledge and information and the more results are determined by the assumptions made. Rather than be shaped by the assumptions ([7]), it is better to consider the shaping mechanisms explicitly, by involving

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([7]) This point seems to be strongly related to the complexity of the forecasting methods. The more I try to be realistic, the more complex gets the model, and the less transparent becomes the relationship between real inputs and assumptions. Simple methodologies might be more apart from reality, however, the factors which produce the results are more transparent.

the actors to try to understand how VET system development might be deliberately shaped.

In education and training, the relation of supply and demand is very much shaped by the past. The qualification structure of the workforce has been built up over three decades, partly using structures from earlier periods. The relationship of supply and demand changes slowly through the annual supply from initial education and training. Short-term changes come from continuing education and training, but for them to be substantial, considerable resources are required. It is also difficult to provide incentives for policy action, for long-term improvement with few visible results in the short run.

Key issues shaping the relationship between supply and demand are reasonable time horizons for using qualifications, and a reasonable combination of skills needed in the short and long term. Developing long-term skills and establishing a good relationship between initial and continuing education are key to improving the relationship between supply and demand and are central to the foresight approach.

Foresight is based on the following elements (Keenan et al., 2003, p. 6, p. 11):

• structured anticipation and projections of long-term developments and needs;
• an examination of a wide range of factors, using an interdisciplinary approach, pooling and sharing of expertise;
• formal techniques, based on eliciting expertise, structuring the approach, summarising information and the outcomes generated;
• interactive and participative methods of exploratory debate, analysis and study, involving a wide variety of stakeholders;
• forging new social networks, equally, if not more, important than formal reports and action points;
• systematic networks and channels of communication between different actors;
• products beyond scenarios and plans. A guiding strategic vision with a shared sense of commitment is crucial;
• explicit recognition and explanation of the implications for present day decisions and actions;
• long-term orientation (generally a period of 10 years, but with the objective to inform current decisions).

In sum, foresight combines applying formal procedures with actors, to promote a system that supports the communication of results and their integration with decision-making procedures.

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Medium- and longer-term projections of supply in Austrian VET

Assuming the basic structure of the VET system is stable, supply can be more easily projected than demand, considering changing patterns of educational choice. A key question for the future is how the long-term demographic downturn in the number of young people will be absorbed by the education and training system.

The educational infrastructure has been developed for age cohorts markedly larger than those expected in the future. To obtain some idea of the scope of possible development, two extreme scenarios were calculated some years ago. The first is a status quo scenario applying the transition rates of the last year before the projection (1983) to the demographic forecast. The second is a trend scenario applying the linear increase in the change of transition rates between 1983 and 1993 to the demographic forecast. Figure 6 compares the result of those scenarios to current student numbers. It shows how it fits between the extreme scenarios, and how behaviour on choosing education and training options changed in the 1990s as compared to the 1980s.

Figure 6: **Long-term projections of student numbers at upper secondary level, 1985-2030, relative, 1993 = 100 %**
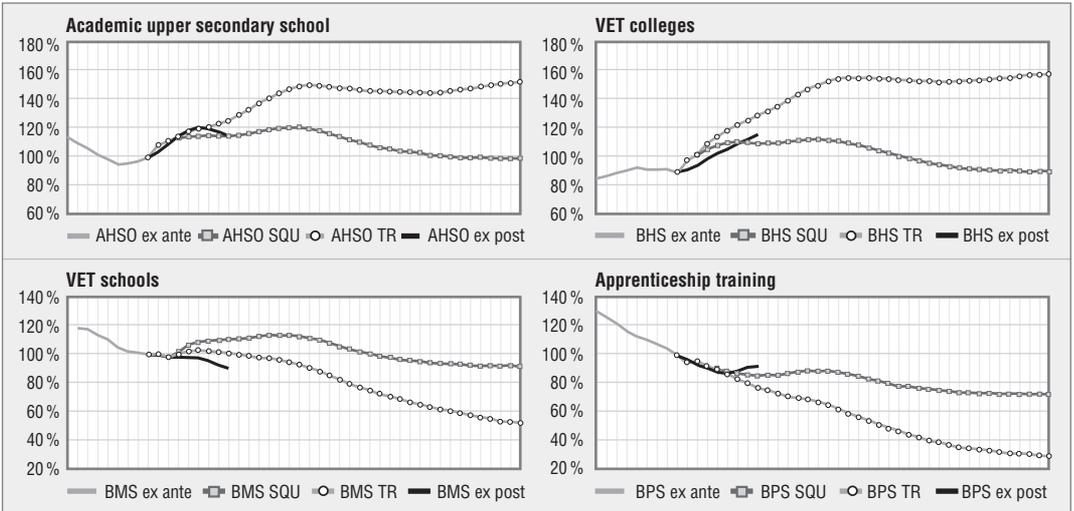
Source: equi-IHS

Despite the demographic downturn, the trend scenario forecasts considerable growth in the upper level schools and the continued decline of apprenticeship training. The status quo scenario gives an increase at upper secondary level until 2005-10, followed by a long-term decrease by 20 %.

Current figures show the choices of students about which course to follow to be very different from the continuation of the 1980s trend. Only the technical and professional colleges follow closely the trend scenario. Technical and vocational schools fall even more strongly than predicted by the trend scenario. The two remaining streams show marked differences. The upper secondary academic stream followed the trend scenario for some years before declining in the second half of the 1990s. Apprenticeship training has broadly followed the status quo scenario.

Developments in choices about education and training are largely in line with demand projections from the labour market. The biggest challenge is the rising demand from young people for places in VET colleges. The apprenticeship system needs more or less to hold the status quo.

Those projections indicate possible futures, which influence the shape of VET, and VET policy (such as the pattern of supply of qualifications, or resource allocation), which might, in turn, be influenced by policies. Anticipation, social systems including the main groups interested in matching supply and demand at regional level, might give a basis for respective policy decisions.

Forecasting, anticipation and issues of application

In traditional forecasting of skills demand, the reasoning is that the economy (or demand side) will need a certain quantity of certain kinds of empirically classified skill profiles, over certain time period. In this 'objective observation', the main tasks are the development of skill descriptors and a methodology based on observation and forecasting. This oversimplified view is a starting point for many exercises in the 'early identification' of skill needs.

How forecasts are used is also an issue and involves the institutional frameworks. Stability and change, and its dynamic over time, is a major concern. In an institutional interpretation, skill profiles provide an institutional structure that guides and simplifies matching processes and relates the different actors (social partners, education and training providers) to employment, and to education and training systems. However, the stabilising function of those structures is limited by economic and social change. Consequently, institutional structures need to provide stability and yet be adaptable to change. Over the last two or three decades, a mismatch between existing structures and new developments has emerged. A strong trend to abandon structures and replace them with 'the market' has developed. More recently, debate has fo-

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cused on the need to build new structures founded on new kinds of descriptors, for example competences ([8]).

Anticipation in the foresight paradigm means placing forecasting procedures in a framework that includes the institutional structures that coordinate supply and demand ([9]). In an anticipation framework, results of forecasting are part of a communication and knowledge generating process with objectives to:

- combine formal knowledge from forecasts with informal knowledge from other sources;
- use the results as an element of institution building by incorporating them into the structures and using them to guide adaptation.

Systematic combination of forecasting results with informal knowledge from others involved is a precondition for diffusing the results. Examining the action plans of actors generates new knowledge. Communication among actors about solutions should relate to existing institutional structures which, in turn, might be adapted as a result ([10]).

Anticipation procedures should not only aim to detect specific skill needs, but also address the institutional framework for the construction of skills, as well as broader issues affecting skill supply and demand (such as demographics, gender, economic and innovation policy, or regional development).

A specific and more far-reaching question concerning the qualitative nature of skill needs is the relationship between emerging processes that change skill needs compared to policies that change them. A great deal of research has followed Finegold and Soskice (1998) who showed that, overall, a high skill trajectory only emerges if appropriate policies towards innovation are followed. Following this argument, and taking into account the results on the broad range of economic returns from education, the notion of 'objective skill needs' becomes more relative, since skill needs are also conditional on policy decisions.

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[8] See the OECD project on the definition and selection of competences: Rychen and Salganik, 2003; see also OECD-Executive summary: http://www.pisa.oecd.org/dataoecd/47/61/35070367.pdf (12.12.2005); more recently the European Union is developing a European qualifications framework (EQF) which also tries to define common descriptors for competences which might function as signals on the education and labour markets (Internet: http://europa.eu.int/comm/education/policies/2010/consultations_en.html (12.12.2005).

[9] This question might be understood as an answer to the question about the difference between the manpower planning approach and the new concept of 'early identification' which Cedefop, Psacharopoulos (2005, p. 32) asked rhetorically in his sceptical comment to these issues.

[10] Lindley (2002, p. 135) has pointed to the problems of communicating the results of forecasting to broader user communities, and of using them for elaborating a process of reflective practice.

Anticipation system and quality of matching

A framework of 'matching policy'

There are at least two broad approaches to matching VET supply and demand for qualifications in initial VET. First, broader supply profiles to absorb change by increasing flexibility of individuals and enterprises (the flexibility approach). Second, the specific supply profiles linked to demand (the specificity approach).

The first approach avoids the problem of visible mismatch but makes the quality of matching difficult to judge. The latter solution poses the problem of adaptation to changing demands. In reality, most systems mix flexibility and specificity. Whatever the approach, the main dimensions of matching practice are discussed below.

Production and dissemination of information and knowledge

This includes how mismatches are detected (informally, formally), the time perspective and approaches involved (short-, mid- or long-term; reactive, proactive). It also includes the areas of mismatches to be improved and how information is communicated. The study of the Austrian anticipation system shows that mainly informal information is used to take decisions about changes in supply.

Action responding to perceived mismatches

The types of action taken to improve matching include new strategies to make the process more flexible and broad, or as appropriate more specific, and more up to date. The actions involved individuals, enterprises, education sector, policy and public sector, research having implicit or explicit responsibilities in matching practices can be renewed as well as how and what information is disseminated between them. In the Austrian anticipation system, the issue of broadening profiles was discussed, but it proved difficult to change the traditional path of specificity. Consequently, action in response to mismatches focused on updating profiles and processes in teaching practice, and the choice of programmes by students. The changes have to be made against the background of little formal information about matching.

Relationships between initial VET and continuing VET with respect to matching.

Often IVET is considered to be supply-oriented and CVET demand-oriented. Therefore, in terms of matching, IVET is seen as providing for more general and long-term tasks, and CVET more specific and adaptation tasks. Consequently matching in IVET would be more strongly driven by anticipation and foresight of longer-term trends, and matching in CVET more by short-term labour market demand and supply. A policy aim to improve matching would be co-

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ordinating IVET and CVET. However, more recently, strategies of lifelong learning have blurred these sectors. Both are expected to respond to demand, and consider the general and specific aspects of longer-term trends. In the Austrian system, this division is present to some extent. However, there is no systematic coordination of the sectors, and belief that CVET will take over specialised training, relieving IVET from specialisation is rather low.

The Austrian anticipation system
Analysis of the Austrian anticipation system focused on four aspects:
• communication structure among the main actors;
• practice and state of the art of forecasting;
• cases of regional and sectoral anticipation practice;
• instruments available to measure matching.

Analysis of the communication structure (Henkel and Markowitsch, 2005) shows the flow of information and knowledge among the main actors is processed in different parts of the IVET and CVET system. Different patterns were observed, but all have strongly emphasised informal knowledge. Different actors have the main role in the communications process in different sectors. In terms of structure, inclusiveness, openness, and adaptability, communication in the apprenticeship and polytechnic were the most developed. CVET focused on adaptability. The anticipation system in VET schools is less developed, with a low level of openness and adaptability.

The anticipation system is built mainly on informal knowledge, because formal forecasting does not exist on a regular basis (Markowitsch et al., 2005; Lassnigg, 2002). Informal practices of anticipation are established in several areas of Austrian VET. Three cases were analysed more specifically (Steiner, 2005): apprenticeship and full-time VET schooling as sectoral cases, and labour market training in an Austrian province as a regional case. The analysis showed that a comprehensive perspective is missing. Sectoral cases focus on their internal structure without reference to overall developments. Here the differences in the perspective on matching comes through, as the anticipation procedures are situated at the level of institutions which compete against one another. Procedures at the system level are missing so far.

Regular measurement of the supply and demand match is missing. A systematic analysis of matching indicators and their application to the Austrian situation as illustrated above was made for the first time in the study.

An innovative regional approach for anticipation
A specific anticipation approach was developed in Lower Austria, near Vienna, stemming from an initiative to coordinate the polytechnic sector at regional level.

It began in 2000 with regional projections of supply and demand, and a scenario project to identify the main factors of educational development as perceived by the main regional actors. After testing the acceptance and interest of the regional actors, the project was set up, aiming to:
- develop a qualitative mechanism of anticipation of skill needs in addition to forecasts;
- create a regional 'think tank' of actors from employment innovation systems;
- analyse relevant issues in a framework combining research and practice;
- provide feedback to the polytechnics and regional education and training system.

A structure was set up (summarised in Figure 7). Key enterprises were selected and the model discussed with participants. The core activities were 'anticipation workshops' on selected topics with employment/innovation actors held twice a year, followed by 'feedback workshops' with the education and training actors. Preparation and monitoring of the process was done by the coordinating organisation with scientific advisers. Members were connected by an Internet platform giving access to results and room for discussion and exchange.

Figure 7: **Structure of Lower Austria anticipation project**
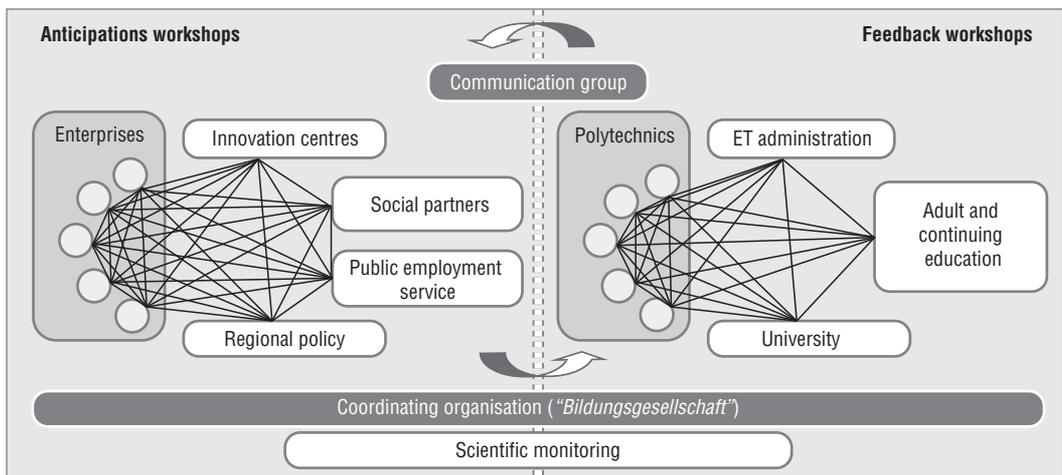
About 60 people from the indicated sectors were selected (two thirds strategic enterprises from different sectors and of mixed size representing about 5 % of employees of the region). Six anticipation workshops took place on ICT skill demands, cooperation between enterprises and education and training institutions, key qualifications, lifelong learning, R&D and innovation, specialised

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professional competence. Problem definitions and solutions from the point of view of the different actors were developed.

Participants appreciated the results, and exchanges of experience and a process of community building is underway. The feedback workshops with the education and training providers were set up after consolidating the anticipation workshops. Building trust is a main issue. A concern of the education providers was to develop forecasting of demand for skills and competences. Discussion of R&D and innovation has uncovered basic information problems among the different actors, and brought many proposals for improvement, for example to set up an information base about research topics of institutions in the region.

The project can be seen as a step to building a learning region, by first figuring out aggregate needs of the economy from education and training provision. This must consider what the different actors can do by themselves, and their expectations from education and training institutions and policy-makers. Working to improve R&D and innovation structures in the region is envisaged as a first project. Thus the project moves towards developing a local network for action learning among diverse actors, the type of learning region approached by the Cedra project (Nyhan, 2005).

Conclusions

Current strategies are too crude to observe the quality of matching in specialised VET systems. General statements can be made about the quality of matching in Austria. A quality strategy to improve the quality of matching requires operational objectives for the different sectors of VET. The level of aspired matching between supply and demand, and the timeframe are key aspects in setting those objectives. For example, does a programme aim to immediate productivity in certain workplaces, or is an extended period of learning expected? Which elements of a programme should be lasting, which will need updating after a short period? The formulation of objectives of this kind provide benchmarks to assess progress.

A more general outcome of formulating objectives would be to decide the level of aggregation or specialisation to analyse the matching quality. Attainment levels are too crude to assess the matching quality of VET, however, the expectation of a one-to-one relationship between a programme and a job category – the famous 'pilot analogy' formulated by Mark Blaug – is unrealistic. Specifying an expected match somewhere in between would make the aims of VET and decisions to invest in a certain degree of VET specialisation clearer than they are now. Objectives of VET programmes should be more clearly specified, e.g. in terms of the aspired level of matching between qualifications and jobs, and of the expected timeframe of usability.

Anticipation of future needs has been formulated in the paradigm of foresight, defined as a social process of knowledge management combining recognition with shaping and decision-making. This task goes beyond mere forecasting. Bringing the informal knowledge of actors, and their strategic plans into the process is an essential part of anticipation. The following ingredients are needed to build an anticipation system:
•   knowledge about the status-quo of matching;
•   foresight about supply, demand, and matching;
•   a comprehensive system to share knowledge among all key actors including deliberation about objectives and their measurement;
•   monitoring mechanisms along the quality cycle;
•   inclusive communication flows in the system.

Experiences in Austria have been used as examples for steps towards a more comprehensive anticipation system.

The future match between the supply of skills from education and training is strongly influenced by the demographic trend towards an ageing population. The skills supply from initial VET is affected in terms of quantity and enrolment in different programmes. The relationship between inflows into the system and outflows from the labour market as people retire, and the replacement rate need more analysis, considering the sectoral and occupational changes of employment.

Concerning VET in the short run, the overall impact on the labour market performance will be – at least potentially – greater from CVET than from IVET, because inflow to the labour market from IVET is limited to one age cohort per year. CVET potentially, depending on participation rates, may have a broader immediate impact on the flows and transactions on the labour market. IVET serves for the renewal of the human resources stock gradually and year by year. If an ongoing structural mismatch occurs, that will lead to substantial problems in the medium and longer term. The increasing dynamic of changing demand, in combination with the ageing of the population, leads to a double squeeze on the renewal of skills and competences.

Anticipation should be an essential part of matching policy. Bringing matching and anticipation into the quality cycle means we can ask two questions. How can the improvement of matching be part of the quality cycle? What role can anticipation play?

Quality in terms of policy-making requires the steering and decision-making mechanisms to be assessed to identify the preconditions to improve matching practice. Analysis of anticipation practice has shown how different actors relate to one another. A quality strategy to improve matching first requires setting up a communication system among the actors that produces and circulates the necessary knowledge to assess the status quo. Second, actors from

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the employment sector must have the opportunity to bring informal knowledge and action plans into the process. Third, use of the results of the foresight procedure in decision making must be guaranteed. Fourth, a regular process monitoring the relationship between supply and demand must be set in place.

In addition, matching might be specified as an objective along the whole quality cycle. At each stage, appropriate measures should be developed (input: acquisition and production of information; process: availability and distribution of information; output: responsiveness of VET supply to demand; outcome: adaptation and innovation of VET supply). There are several processes of anticipation activities at different levels and in different areas of VET systems, similar to the Austrian case. Those activities should be identified, interlinked, and provided with the necessary knowledge and resources.

A final message concerns the complexity of the matching problem. We have discussed the different perspectives, from the aggregate macro-economic to the individual skills level, and the co-production of skills in the different systems of education and training, including enterprises. Those different perspectives are to a large extent separate from each other in today's education and training systems, and in policy-making. A main cause for this separation is often based on historical institutional structures. Anticipation and foresight, and developing a proper understanding of the interrelations of supply and demand across the levels and subsystems among actors through the building of an anticipation system, with the help of formal knowledge, might contribute to an integration of those often fragmented VET structures. Concerning the two approaches to the matching problem, the flexibility approach and the specificity approach, the difference concerning the matching problem might be smaller than it may at first seem.

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Forms of continuing training in the workplace: a result of social meanings?

A comparison between Austria and France

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SUMMARY

Starting from the CVTS-2 survey in which responses by Austrian and French employers revealed their very limited use of 'non-school' types of training (on-the-job training, self-learning, job rotation, apprenticeship and quality circles, etc.), the author searches for the reasons for these two European exceptions. Although certain national institutional and structural characteristics common to both countries may explain this particular vision of continuing training, they only account for part of the similarities between Austria and France in terms of training practices. The cultural dimension therefore assumes an interest as a possible explanation for this behaviour. The assumption of a common social notion of training can therefore be advanced to explain the responses of employers in these two countries.

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Whether the issue is harmonisation, cooperation, comparison or more specifically the desire to develop a common benchmark, educational problems have been at the forefront of the European debate for several years. A special edition of the *European journal of vocational training* (No 32-2004) covered the history of vocational training in Europe, while Jourdan (2005) examined the institutional stages in '*the development of this Community policy from the Lisbon Council (2000) to Copenhagen (2002), Maastricht (2004) and shortly Helsinki (2006)*' (page 167). These debates tend to focus particularly on [initial] vocational training, and to a much lesser extent on one other aspect of education, namely continuing training. Jourdan (*op.cit.*) has noted that one of the important issues covered in Helsinki in December 2006 concerns the project for a European professional certification framework for life-long learning, the main obstacle to which is the mutual recognition of skills and qualifications across the various Member States. The author's view is that it is vital to have common instruments if convergence is to be achieved. But having such instruments would imply that the different countries share a prior conception. This is, in fact, one of the first problems facing any attempt to set up a project of this sort. To show that social concepts determine training practices in European companies is the focal point of this paper, which takes its cue from the conclusions of Théry *et al.* (2002).

The authors observed that 'lifelong training remains to be developed', such is the astonishing diversity of continuing training practices. However, one of the observations which appears particularly enigmatic concerns the types of training which enterprises in the various countries claim to have used in their continuing training processes (otherwise referred to as 'lifelong learning'). Table 1 shows the percentage of companies in each country reporting the use of at least one type of training, broken down by the type of training.

Table 1: **Percentage of enterprises by country reporting the use of at least one type of training in 1999**

Country	Continuing training courses ([1])	All other types of training	Gap between school and non school training	Country	Continuing training courses ([1])	All other types of training	Gap between school and non school training
Austria	**71 %**	**27 %**	**44**	Italy	23 %	22 %	1
France	**71 %**	**41 %**	**30**	Germany	67 %	72 %	-5
Netherlands	82 %	70 %	12	Greece	9 %	15 %	-6
Norway	81 %	75 %	6	Great Britain	76 %	83 %	-7
Sweden	83 %	78 %	5	Portugal	11 %	20 %	-9
Finland	75 %	72 %	3	Ireland	56 %	75 %	-19
Denmark	88 %	87 %	1	Belgium	48 %	67 %	-19
Spain	28 %	27 %	1				

([1]) See box for definitions.

Source: Eurostat CVTS-2 Survey

Continuing training practices in companies differ widely from one country to another. Those in southern European countries (Spain, Italy, Portugal and Greece) are typified by a limited recourse to training. Responses from enterprises in those countries did not exceed a maximum of 36 % (Spain). Companies in northern Europe, by contrast, make a far higher use of training, from the lowest figures in Belgium, where 70 % of companies reported using at least one type of training, to the highest – Denmark – where the figure was 96 %.

The differing intensity in the use of training between these two groups of countries reveals different usages but also probably reflects different concepts of training. While the behaviour of Greek or Portuguese enterprises may be explained by the lower level of technical and technological sophistication of their production infrastructure – which is known to be a crucial factor in the use of training (Géhin, 1989; Margirier, 1991; Zamora, 2003) – the same cannot be said for either Spain or Italy. Thus, it is difficult to explain away the different training practices of companies by reference solely to this cause.

European companies also differ as regards the type of training. Table 1 shows three groups of countries which can be distinguished from one another: those in which training courses are overwhelmingly used (Austria, France and the Netherlands); those whose practices reveal a balanced use of both forms of training with a tendency to favour courses (Norway, Sweden, Finland, Denmark, Spain and Italy); and lastly, countries in which the majority of enterprises place the emphasis on 'other forms of training' – such as Germany, Greece, Great Britain, Portugal, and to an even more marked extent Ireland and Belgium. These differences highlight the phenomena of the mutual substitutability

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or complementarity of different types of training. Countries in the first and third group are in a process of substitutability, while the second group reflects complementarity. We should also note that this group comprises the Scandinavian countries, where adult education is particularly well developed, institutionalised and accessible to a large proportion of the population. Sweden is emblematic here, with an equal proportion of adults and students at university.

Among the countries where substitutability predominates, with courses tending to be the dominant medium, Austria and France display their own particular features. These two countries both show the widest gaps between the proportion of enterprises carrying out training through 'courses' (71 %) and those stating that they have undertaken 'other types' of training (27 % and 41 % respectively). These findings are surprising. How can we explain such wide differences? What are the features of these two countries that could explain the use of such a differentiated approach to continuing training compared with others countries?

To look for the reasons, we will follow the suggestions made by Greinert (2004), quoting Georg (1997) to explain the social differences in responses from enterprises concerning their continuing training practices. *'Georg believes that the model for explaining specific national differences in job training for the masses must be expanded to incorporate the constellations of the prevailing cultural and functional-structural relations within a society, that is culture and structure'* (Greinert, *op.cit.* p.20). Against this background, we shall look for common structural and cultural factors shared by Austria and France which could explain the particular preference of their companies for the 'course' approach to continuing training. The results will therefore be presented in two parts. In the first, supported by data from the CVTS-2 survey, we shall see that certain national institutional and structural specificities may explain the different forms of continuing training used. However, because this first aspect only takes a partial account of the similarities between Austria and France, we shall introduce the cultural dimension in the second part. Thus we shall look at these two countries in parallel, drawing the contrast with the other Member States insofar as they are relevant to the aspect being examined.

The CVTS-2 Survey

Data used in this article are taken from the second European survey, CVTS-2, carried out at the initiative of Eurostat, the European statistics office. The survey looked at continuing training among company employees in 1999 financed either wholly or in part by their employer. It covers all EU Member States as well as the accession countries – almost 25 in total. In France, the survey was carried out by Céreq and DARES, the research, studies and statistics directorate of the Ministry of Labour.

CVTS-2 was based on a standardised questionnaire sent to private-sector companies with more than 10 staff, excluding the health and agriculture sectors. It enables an analysis to be made of the methods of continuing training used and provides quantitative information on trainees and numbers of training hours, as well as the content and cost of training.

The survey firstly covered 'courses' – i.e. training in which vocational teaching is delivered by teachers, tutors or lecturers, organised by the companies themselves or by an external supplier, lasting for a pre-defined period, and taking place outside the workplace. The survey also provides information on less formalised techniques such as self-learning, on-the-job training, instruction at conferences or seminars, job rotation or learning circles / quality circles. Here we shall refer to them as 'other forms of training' to distinguish them from training courses.

All the survey data and the calculations given here are available on the Eurostat website.

Institutional and structural factors which partly explain the preference for courses

When looking at structural effects, we shall cover three points which appear to have influenced the responses of enterprises: the degree of institutional coercion exercised through the policy for financing continuing training, the size of the enterprise, and the opportunities available to enterprises nationally to outsource continuing training.

The importance of the degree of institutional coercion and its links with companies' responses: a relationship specific to France

Institutional constraints could explain the differences between the types of training in the various European countries. Looking at the case of France, Cam et al. (1995) noted the importance of 'external demands' in the process of formalising training in companies. The authors argue that it is firstly the lack of a precise legal definition of training and secondly the fact that it is a legal obligation that explain why companies only use and report certain types of training. The result of this is an under- or over-emphasis on certain training types.

On this basis, we have suggested that the different ways of organising continuing training systems may reflect differing levels of coercion, which would lead to a greater or lesser degree of formalisation of training events. In other words, the greater the coercion, the more the training would be formalised, and hence the greater the positive gap between courses and other forms. As a result, Austria and France should be the countries where the method of organising continuing training is most coercive.

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Data making it possible to characterise the type of organisation of continuing training systems is provided by Aventur and Möbus (1998, 1999) and Aventur et al. (1999). These authors believe there are four possible ways of organising continuing vocational training systems in European countries. The first is by obliging employers to provide the finance. This applies specifically to France and Greece. At the other end of the scale is the system of 'freedom of choice' for employers. This is the case in Germany, Finland, Sweden and Portugal. Between these two extremes are two other approaches, the first of which is closer to the 'freedom of choice' for employers. Here the State provides incentives for continuing training, such as tax benefits. This applies in Great Britain, Austria and Norway. The second intermediate type of organisation of continuing training is closer to the system in which employers are obliged to finance it. This is a system of 'limited constraints' imposed on employers through collective bargaining agreements. Italy, the Netherlands, Denmark, Belgium, Ireland and Spain (tripartite agreements) use this approach. Table 2 cross-refers the types of organisation of training policy with the responses given on the forms of continuing training used.

Table 2: **Link between the degree of coercive financing of continuing training by enterprises and forms of continuing training used**

	Obligation to finance	Limited constraints	Free choice with incentives	Freedom of choice
Overwhelming predominance of courses	France	Netherlands	Austria	
Small differences between training types but a majority of courses		Denmark Spain Italy	Norway	Sweden Finland
Predominance of 'other types' of training	Greece	Ireland Belgium	Great Britain	Portugal Germany

As regards Austria, the relationship between the degree of coercion and the responses from enterprises is inconclusive, because this is a country where the financing and organisation of continuing training takes place in a system of 'free choice with incentives'. Conversely, the case of France appears to support the view that a relationship exists between the degree of coercion and the formalisation of training. The financing obligations imposed on French companies could have the result of skewing responses towards a particular form of continuing training. Verdier (1990) points out that the 1971 law is based on a highly formalised concept of continuing training: Training must be undertaken *'in accordance with a programme which, having been drawn up on the basis of pre-determined aims, sets out the educational and organisational tools to be used and defines a system to monitor the implementation of the programme and assess its results […]'*, and the author concludes that *'the archetype is therefore the training course delivered outside the workplace'*. By contrast, however, other European countries do not support this view, with Belgium and Greece in particular being at the other end of the scale from the expected results. Thus, although the responses from French enterprises are influenced by their legal obligation (reiterated in the Law of May 2004), this argument is not transferable to other countries.

The effect of the size of the enterprise and opportunities for outsourcing

Blumberger et al. (2000), referring specifically to Austria, provide an explanation for the approach to continuing training in that country: *'The importance of cooperation with adult education and training establishments in improving qualifications throughout the economy is clearly apparent if we bear in mind that out of the two million people employed by industrial and commercial enterprises, 52 % work in firms with fewer than 50 staff'* (p.78). The authors' conclusions highlight the cooperation between Austrian enterprises and adult training establishments, and offer an explanation for the overwhelming predominance of 'school' types of adult education over other possible forms. SMEs therefore have a particularly extensive and well-organised platform of training bodies available to them, which facilitates access by their staff to continuing training. This platform makes it easier to outsource continuing training and therefore encourages the use of training courses. We shall test this view as a possible explanation.

The SME effect: an argument with some validity for Austria

One characteristic feature of Austria, according to Blumberger et al. (op. cit.) or Aventur and Möbus (*op.cit.)* is that its production infrastructure includes a large number of SMEs. Company size is one important factor in the intensity of training use, with a consistent parallel between the increase in training

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events (of all types) and the size of the enterprise. That being the case, if Austria has a high percentage of SMEs, it should show a lower use of training than European countries with a higher proportion of large enterprises. The preferred explanation for this is that the structure of SMEs makes it harder for them to use formalised types of internal continuing training than for large enterprises. Table 3 shows the percentage of employees in enterprises of between 10 and 49 staff in 2002 in each European country.

Table 3: **Percentage of enterprises by country reporting the use of at least one type of training in 1999**

Country	All types of vocational training	Percentage of staff working in an SME (²) in 2002	Country	All types of vocational training	Percentage of staff working in an SME (²) in 2002
Great Britain	87 %	13 %	Belgium	70 %	29 %
Netherlands	88 %	17 %	Denmark	96 %	30 %
Ireland	79 %	18 %	Norway	86 %	31 %
Finland	82 %	22 %	Greece	18 %	32 %
France	**76 %**	**25 %**	Italy	24 %	34 %
Sweden	91 %	25 %	Spain	36 %	35 %
Germany	75 %	26 %	Portugal	22 %	41 %
Austria	**72 %**	**29 %**	**Average**	**66 %**	**28 %**

Source: Eurostat

With 29 % of the active Austrian population working in an enterprise with fewer than 50 staff, this country is slightly above the European average. This could be one of the explanations for the preference for training courses in continuing training, although the proportions are not overwhelming. Conversely, this argument does not apply to France, where the proportion of SMEs is below the average for the countries presented here.

The argument that the size of enterprise has an effect on types of training therefore appears to work to a limited extent in the case of Austria, whereas it does not apply to the other European countries. The four countries leading this ranking are the southern Europeans, in which over 30 % of the active population are employed in SMEs. We have already noted that these countries make relatively scarce use of training in comparison to their European counterparts. If we leave these southern European countries aside, Austria is then in the leading group of countries in which a high percentage of

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(²) Defined here as an enterprise with between 10 and 49 staff.

people are employed by SMEs and where, in parallel, extensive use is made of training. However, the fact that this group comprises Norway, Denmark and Belgium suggests that there is very little causal link between the size of the enterprise and the use of a particular type of training. Table 1 showed that Belgium had a difference (of -19 points) between 'school' and 'non-school' types of training, compared with 1 point for Denmark and 6 for Norway. As with the proposition of Blumberger et al. (op.cit.), the argument on the effect of the size of enterprises has to be linked to the outsourcing opportunities available to SMEs.

The outsourcing effect: a more conclusive reason for the French case

We should bear in mind that the use of courses can be linked to the specific nature of bodies offering continuing training. The outsourcing of training would suggest an emphasis on a 'school' approach to continuing training (courses) because outsourcing would not apply to self-learning, on-the-job training or apprenticeships at the workplace – to name but three. On this basis, Table 4 shows the enterprises, by country, which used at least one training course in 1999. This form of company training is broken down into two types: in-house or external. The total is not 100 because companies may use both forms, as they are not necessarily mutually exclusive.

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Table 4: **Percentage of enterprises providing continuing vocational training (courses), by type of course and size of enterprise in 1999**

In-house courses			External courses		
Country	Percentage of all enterprises	Enterprises with staff of between 10 and 49	Country	Percentage of all enterprises	Enterprises with staff of between 10 and 49
Spain	33 %	25 %	Greece	76 %	66 %
Netherlands	32 %	26 %	Portugal	81 %	80 %
Belgium	42 %	38 %	Italy	85 %	83 %
Finland	47 %	41 %	Great Britain	89 %	87 %
France	**49 %**	**42 %**	Ireland	88 %	89 %
Denmark	55 %	47 %	Germany	91 %	90 %
Portugal	55 %	48 %	Sweden	91 %	90 %
Ireland	58 %	51 %	Spain	92 %	92 %
Austria	**57 %**	**52 %**	Norway	93 %	92 %
Germany	59 %	53 %	Belgium	93 %	93 %
Greece	60 %	54 %	Finland	95 %	93 %
Norway	60 %	55 %	**France**	**95 %**	**94 %**
Sweden	63 %	56 %	Denmark	95 %	95 %
Italy	64 %	60 %	**Austria**	**97 %**	**97 %**
Great Britain	68 %	62 %	Netherlands	97 %	97 %
Average	**53 %**	**47 %**	**Average**	**91 %**	**89 %**

Source: Eurostat
Interpretation: Of Austrian enterprises providing training courses in 1999, 57 % said they delivered at least one in-house course.

This table shows that while undoubtedly a large proportion of Austrian enterprises said they had provided external courses, the figure did not differ significantly from the practice in other countries. Of the 15 countries, 10 had a percentage in excess of 91 % of enterprises. Thus it appears that, in Europe, when enterprises provide courses for their staff these are, in the vast majority of cases, delivered externally. The outsourcing indicated by the study previously cited would be encouraged by the organisation of training supply in Austria, but it is also the case in a large number of other countries. In that sense, we cannot point to it as a distinctive feature of Austria – particularly because Austrian enterprises are not distinguished by using small numbers of internal courses, which should be one of the consequences of outsourcing. It is even above the European average in this regard. That means that even if it is true that outsourcing is slightly more widespread than in other countries (apart from the Netherlands), in-house courses are also used by enterprises to an extent well above the European average (57 % for Austrian enterprises com-

pared with 53 % on average). Here, the size of the enterprise does not appear to be an obstacle because 52 % of SMEs said they had delivered at least one 'in-house course'.

French enterprises are not typified by higher levels of outsourcing (they are similar to their Austrian counterparts), but are notable for the low level of in-house training, a practice which is even more marked for SMEs. Thus, the assumption of greater use of training courses for continuing training as a result of the possibility (or necessity) of outsourcing appears a convincing argument in the case of French enterprises. An explanation which should have applied to Austria appears to work better in the case of France.

Thus structural factors common to Austria and France may account for the more intensive use of courses for continuing training. Some of these factors can apply to either country. We shall now turn to a more 'cultural' approach to assessing behaviour.

An identical formal concept of education

Heikkinen (2004) correctly pointed to the need to have an historical and contextual approach to the understanding of social models of education in order to understand their contemporary workings. It is from these two points of view that we shall approach the cultural analysis. Once again, Austria and France will be examined separately.

Austrian 'formalism' in education as an explanation for its enterprises' preference for training courses

Although continuing training is not strictly covered by the legislative framework, it has consistently been a source of interest to the various stakeholders on the Austrian public stage. This began with adult education at the start of the 19th century, under pressure from social groups such as the Church, employers' associations, unions and political parties – despite the fact that the Federal Constitution makes no explicit reference to adult training.

The whole of the Austrian system of continuing training is therefore focused on the notion of adult education, but also on the concept of a second chance, as expressly stated in the training system set up by the State. The avowed aim is the social promotion of the individual, which is achieved by obtaining qualifications confirming the level of attainment. This concept of education, at the heart of the organisation and construction of the training system, may have had such an impact on public attitudes that the term 'training' is instinctively associated with a specific, academically based approach, i.e. courses. In other words, one effect of the concept (and portrayal) of training is that a large part of training activities are not necessarily considered as training at all by

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those concerned in Austrian society – or at least that a more formalised type of training is consistently preferred.

The hypothesis of an over-representation of course-based training is also found in the observations of the Austrian system by Bjørnåvold (Cedefop, 2000). Compared with other European countries, Austria is finding it difficult, in the author's view, to develop a real debate on the recognition of non-formal training. Among the reasons advanced for this, four appear to be fundamental: the place and the operation of the initial training system, which is highly formalised; a very marked specialisation effect, which is reflected in very narrow professional profiles; an extremely hierarchical system, in which 'capitalisable units' are unknown, which means that an incomplete training segment is not recognised; and finally, the specialised nature of the training system, which leads to 'professional lock-out', making horizontal or vertical transition particularly difficult.

Like the author, we can repeat the conclusions of the social partners' representatives (Mayer et al., 1999) and in particular those of the employers' representative who stated: *'I am sorry to have to say that we are highly formalistic and start from the belief that everything which is not certified has not been formally learnt and therefore does not exist'* (p. 67). The reasons why partial and informal skills are not recognised are to be found in the *'loftiness and legitimacy of the initial training system'* (p. 67). The conclusion of this work supports our theory, providing an explanation for the high level of use of training courses by Austrian enterprises. The organisation, legitimacy and 'loftiness' of the Austrian education system, and hence its formalism, extend beyond the frontiers of initial education and into continuing training. This is quite consistent with the figures on the practices of Austrian enterprises (who use a high proportion of in-house and external courses).

This formalisation has consequences for the way training is portrayed. Training practices are the product of a specific portrayal of training and, in return, contribute to the identification of a specific training type. If we apply this view to our argument, the formalisation of training (both initial and continuing) in Austria could lead to practices focused solely on formal training and eliminate any that do not have these characteristics. Statements made by enterprises could be the echo of a particular concept of training, a scholarly notion of education. Through habits developed as a result of a social conception, the training course is preferred to, for example, learning by experience. We shall now see a similar phenomenon in France.

Continuing training à la française: the heritage of a school-based concept of education

Continuing training in France is based on the notion of social promotion and the idea of a 'second chance' (Dubar 2000, 1999a, etc.) as in the case of Austria. Work by Tanguy (2001) shows how continuing training has become *'publicly portrayed as a shared asset, because it is simultaneously a way of increasing professional adaptability (in the interests of the enterprise), a source of professional promotion and mobility (in the interests of the employee) and a way to boost the economy (in the national interest)'*. As the author points out, *'after a period of persuasion, the idea of training as synonymous with universal wellbeing finally gained acceptance'*. Work by Dubar (1999b) also supports this view, but adds that the French concept of training is still that of a model *'which systematically gives preference to initial training over continuing training, school training over other forms of learning and State action over specific social innovation'*.

If we define the 'school' model of education using the criteria of Fusulier and Maroy (1994) (based on a definition proposed by Perrenouf in 1990) as a didactic contract between a teacher and a learner, and a social practice distinct and separate from other social practices, we can show that once the French education system lost one of these characteristics, that branch of education was devalued in comparison with a 'purer' form. This applies specifically to vocational education and training.

In this part of the French education system, more or less close links have been developed between the educational and the professional spheres. Apprenticeships or sandwich courses, which are one component of this type of training, are based on placements in companies, contrary to the practices used in general education. In this case there is no distinction between the educational and the professional spheres. However, Gégin and Méhaut (1993) point out that in France the social and economic status of professional training has been heavily devalued: *'Policy was set on the negative basis of a failure in the 'long route'; the 'short route' made it very difficult for students to re-enter the long one; children from the upper social strata were hardly represented at all in these areas'.* They also emphasise that apprenticeships are relegated to certain business sectors (construction, catering, hairdressing, etc.) made up primarily of small enterprises. Apprenticeship appears as a *'minority and marginal option in a vocational training system dominated by the academic approach'*, a view also supported in studies by Tanguy (1991) and Verdier (1997). Thus, once teaching in France broke away from its initial academic form it became a devalued part of the education system.

As in the case of Austria, there is a French notion of education that seeks to give preference to the academic form over all others. Thus, it is perfectly plausible that this particular portrayal should re-appear in post-school train-

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ing practices. The fact that in these two countries enterprises give precedence to academic forms of education and training is linked equally to specific structural factors in each country (degrees of coercion, size of enterprises and opportunities for outsourcing) and to cultural factors common to both. The definition of education as a social characteristic is one of the factors which is not only most helpful in explaining the predominance of the training course, but which also strongly suggests that a principle of under-representation of the other forms may be at work. We therefore favour the idea that there is an academic portrayal of training which would tend to restrict the act of training to courses and nothing else, ignoring other approaches entirely. We shall see that once the questions asked about post-school education practice widen the training spectrum, the number of responses referring to 'other forms' also increases.

Responses proportionate to the breadth of the concept of training

It is interesting to compare four different surveys into training practices as this shows that the wider the definition of training used, the more the surveys report non-academic training practices. Judging by the responses to FQP93 [3], non-academic training types do not exist, because the survey does not enquire about them. However, in 'Formation Continue' 2000 [4], 19.4 % of those receiving training responded that they had received on-the-job training [5] while 5.5 % had undertaken self-learning, giving a total of 24.9 % in the period from January 1999 to March 2000. Compared with the first survey, almost 25 % of training had 'appeared'. The CVTS-2 survey reveals that 41 % of French enterprises claim to have used at least one 'other type of training' in 1999. Finally, the Eurostat Lifelong Learning 2003 survey distinguished informal training [6] from other types, revealing that 53.8 % of French employees said they had experienced at least one type of informal training in 2003. Clearly it is difficult to compare these surveys because they did not cover the same populations; however, it is clear that, at similar points in time, the use of a broader definition of training in the questionnaires revealed the existence of a wider range of training practices.

What applies to France also applies to Austria, because (once again according to 'Lifelong Learning 2003') 82.2 % of Austrian employees said they had undertaken informal training during that period. A few years earlier, em-

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[3] Enquête Formation Qualification Professionnelle / Training Professional Qualification Survey 1993.
[4] FC 2000 is a complementary survey to the employment survey which specifically tries to give an insight into employees' continuing training in France.
[5] Training in the workplace.
[6] Apprenticeship based on fortuitous circumstances or linked to everyday activities.

ployers had reported that in 27 % of cases they had delivered 'other types of training' rather than course-based training in 1999.

Thus, basing our thinking on this approach according to social definition, we can put forward a possible explanation of the differences in responses by employers (CVTS-2) and employees (Lifelong Learning 2003). It could be due to a failure to expand the training spectrum in the CVTS-2 survey, and to the fact that a sector of the population was consulted (employers) whose concept of continuing training is often limited to a 'formal' one – two parameters which did not apply with the employees in 'Lifelong Learning 2003'.

Finally, we could suggest that future surveys into the training practices of employers could benefit if the spectrum of training was widened, as it was for employees in 'Lifelong Learning 2003'. Only then would we be able to assess any discrepancy between the responses of employers and those of employees. That would also allow for an unquestionably more precise measurement of the different concepts of training. Like Jourdan *(op.cit.),* who recommends the establishment of a common skills benchmark in European Community Member States, we could argue in favour of a common benchmark for training types to be used in surveys covering these areas.

We could not end without pointing out the limitations of a quantitative approach as set out above. The use – a fairly traditional one in our view – of more qualitative approaches appears to be necessary. There is no doubt that surveys by interview give interviewees the opportunity to introduce wider definitions of training, and also allow a comparison of different notions of training between the various groups within the enterprise. Different concepts could therefore explain the lack of 'inclination' shown by certain employees to take up the training opportunities offered by their employers.

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How to cope with different and convergent business cultural values in Europe?

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SUMMARY

Rapid developments in how international enterprises cooperate raise many problems, when business partners apply attitudes, aspirations, and behaviour shaped in their own cultural environment. Business partners often do not take into account management traditions and value systems of countries in which they set up business. Business development is very much dependent on cultural awareness. This requires knowledge of cultural values and their distinctions for international co-operation.

The article presents a comparative analysis of business cultural values in four European countries (Greece, Spain, Lithuania and Austria). It is based on the outcomes of the Leonardo da Vinci pilot project 'Training methodology of European cross-cultural business values (No. LT/03/B/F/PP-171000).

Introduction

Cultural values are characteristics of a long-run enterprise development comprising the way staff see their tasks, their solutions, colleagues, enterprise management and their reactions as well as attitudes towards events and expansion. Cultural differentiation often causes misunderstanding in international cooperation (Czinkota, Ronkainen and Moffett, 2003; Søderberg and Holden, 2002; Lewis, 2002; Krieger, 2001; Mathur, Zhang and Neelankavil, 2001; Kreikebaum, 1998; Jewell, 1998). Cross-cultural differences are due not only to national peculiarities, but to countries' different histories and economic systems. All these factors influence the principles of organising enterprise activity and form various cultural values and imperatives. Jackson states that Europe, especially compared to Japan and the USA, shows different divergent cultural values in business. There is no other region in the world where so many different histories, cultures and languages exist in such a relatively small space (Jackson, 2002). There is no national identity, no common language or culture across the EU. For more than 70 years there were two totally different economic systems with unequal cultural values.

This article presents a comparative analysis of business cultural values in four European countries (Austria, Greece, Spain and Lithuania). The first chapter introduces a theoretical model of cultural business values in Europe. The second describes the research methodology of the survey and the analysis. The third presents the most important results of the comparative analysis. The last chapter discusses the possibilities to solve problems posed by different business cultural values.

1. Theoretical business cultural values model

Organisational culture is a multifaceted phenomenon involving different aspects. It is not possible to embrace them all. However, it is worth trying to choose the main aspects and so concentrate on the main cultural values of business. The business cultural values model was developed from theoretical and empirical research following two principles:

(1) the dimensions selected represent the most evident cultural differences mentioned in organisational culture typologies;

(2) polarities are distinguished not by contrasting the different aspects, but by analysing their peculiarities.

The dimensions of the model (1)

Cultural values are presented mostly as pairs of dimensions or poles.

While evaluating the importance of the human factor, the dilemma of the *relationship orientation or business-like efficiency orientation* arises. Kotter and Heskett (1992) maintain that in a culture oriented towards business-like effi-

ciency the main attention is on the task. The basic things are efficient work, aim and task fulfilment. In a culture oriented to interrelationship, not only task performance but quality of life and human relations within the organisation are also important. Most scientists consider a business-like efficiency culture to be results-oriented. They neither deny nor emphasise the importance of relationships. Having formulated the typology of the culture oriented to value increase, Pümpin, Kobi, and Wüthrich (1983) point out that results-orientation demands aspiration, work intensity, effort, and devotion, the latter conditioning an enterprise's success (Kutscher, 2002).

Manifestations of these aspects can be discovered in the culture typology of Cameron and Quinn (1999), where relationship is the most important factor in clan culture, in contrast to results- orientation in a market culture.

Schein (1992) holds that in developing cross-cultural organisational competence learning is very important as it deals with both business-like efficiency (learning aspirations) and relationships (tolerance towards other cultures). He also notices that in a stable environment the orientation to business-like efficiency is much more secure because tasks and results are emphasised. However, in a dynamic environment with considerable technological and other dependences, relationships should be more valued as they lead to confidence and cooperation, the latter being essential to solve complex problems. Schein maintains that it is sometimes difficult to carry out tasks and strive for good results without establishing proper relationships.

Overall, both profiles are important and not necessarily contradicting each other. Value creation and striving for profit are embedded in the very nature of enterprises and orientation to relationships might be treated as a very important, additional condition to ensure organisational effectiveness.

Orientation to collectivism or individualism is an unanswered question so far because answers depend on the situation. Trompenaars (1993) stresses that this aspect is not dichotomic as both individualism and collectivism can be seen in parallel.

Hofstede (2000) was the first to consider individualism as an emotional independence from the organisation rendering priorities to individual objectives and solutions. Trompenaars (1993, 1997) characterises individualism as the aspiration for freedom and responsibility.

Despite this diversity, some guidelines for cultural development have been created. Hofstede (2000) maintains that in the countries of individualised culture, high employee mobility and consciousness condition organisational effectiveness. Pümpin, Kobi, and Wüthrich (1983) stress orientation to the enterprise as an expression of identification with the enterprise, group work and tolerance to each other (in Kutscher, 2002).

Bleicher (1992) considers cultures based on personalities to be perspective. Personality is the main business driver under the conditions of compe-

tition where individual merits of an employee are recognised and competence and responsibility clearly defined. Collective culture (the enterprise is perceived through employees' dependence on it, everyone makes their contribution according to their possibilities, and a common responsibility and indirect evaluation prevail), however, is considered to be ineffective because of depersonalisation tendencies.

Several researchers deal with the issue of *orientation to formality or co-operation* as a characteristic of organisational culture (Hofstede, 2000; Cameron and Quinn, 1999; Kotter and Heskett, 1992; Trompenaars, 1993, 1997). According to Hofstede (2004), one cultural feature is the avoidance of uncertainty. An organisation can be characterised as a structure possessing a considerable number of written regulations.

The profiles of cultural dimensions of organisations are often considered as oriented to universality or particularity. Kotter and Heskett (1992) regard universality as the emphasis of abstract rules and stress the possibility to apply universal solutions and methods in different situations. Particularity is characterised as underlining relationships, individual solutions being sought in new situations. Trompenaars (1993, 1997) holds that universality supporters use the slogan 'We do not wish chaos and do not want to refuse centralised management', while the prophets of particularity declare 'We do not want bureaucracy and stagnation'. The research has shown that Great Britain, Germany, Switzerland and Austria are the countries of universality, while Russia is the country of particularity. The need of formalisation seems to be viewed differently in eastern and western Europe. Trompenaars (1993, 1997) maintains that centralised management with sufficient freedom of action is purposeful.

Cameron and Quinn (1999) call the culture oriented to formalities a hierarchy culture and identify it with Weber's bureaucracy. It is the culture where the whole organisation is related to formal rules and official policy, highly formalised workplaces, a number of procedures regulating employees' activities and plan fulfilment. This type of culture was adequate to organisations in stable environment.

In a dynamic environment, however, one of the most important factors ensuring effective organisational work is management of information flows. Bleicher (1992) notes that not standardised but situational ways of information transmission are more purposeful. Bleicher considers the formalities oriented to organisation to be opportunistic, i.e. looking for rules and laws which ensure its security. However, this organisation does not conform to the contemporary reality. Empirical research shows that even under recent conditions there appear trends towards formalities in enterprises (Cameron and Quinn, 1999).

Hofstede (2000) was the first to refer to the problem of the *leader and subordinate cooperation – autocratic management* and to introduce the concept

of authority distance. Hofstede points out the characteristics of the culture oriented to leader/subordinate cooperation: decentralisation, plain hierarchy structure and few people in authority, insignificant differences in payment, high employee qualifications in lower hierarchy levels, and no status differences between 'white and blue collar' employees. Hofstede's research proved that the culture oriented to leader/employee cooperation prevails in Europe (a low indication of authority distance).

Pümpin, Kobi, and Wüthrich (1983) in their culture typology stress orientation to subordinates as expressing trust, cooperation and mutual communication (in Kutscher, 2002).

Bleicher (1992) singles out two management profiles – culture of entrepreneurs and technocratic culture – which correspond to the culture oriented to leader/subordinate cooperation and autocratic management. Technocratic culture is characterised as the one directed to methods, means, and subordination. Entrepreneurial culture is understood as leadership and orientation to subordinates. Hagemann's (2000) research results of German-Romanian joint-ventures show that the great differences between managers who worked in different economies for a long time, as well as between management styles lead to conflicts.

Analysing cultural *openness — seclusion* Trompenaars (1993, 1997) notices that the orientation of an organisation to openness or seclusion reflects its directions. The organisation may focus on 'interior' attitudes and obligations, or can follow exterior signals and development trends.

While speaking about organisation openness, the attitude of an organisation to its clients is the most frequently mentioned aspect (Cameron and Quinn, 1999; Scholz, 2000; Bleicher, 1992, etc.). The main questions are does the organisation strive to find out its clients' needs? How does it react to the clients' problems? Are their problems treated as obstacles?

The analysis of cultural openness and seclusion in the context of organisation-environment relationship singles out one more aspect: attitude to changes (Bleicher, 1992; Koch, 2000). The attitude to changes and culture openness are interrelated. A friendly attitude to change makes the organisation open and ready to accept environmental challenges and react to them. Hostile views to change lead to seclusion and avoidance of external influence.

While speaking about causes of cultural seclusion, the aspect striving for stability can be mentioned. General devotedness to certain attitudes and values condition stability in an organisation's activities. However, striving for stability also means resistance to change unless the culture is oriented to changes. Dominating and deeply-rooted beliefs in an organisation can become a powerful impediment to change (Mintzberg, Ahlstrand and Lampel, 1998). The problem of strategies to overcome cultural inertness is a subject of several studies and should be considered when evaluating the level of cultural

openness. To prevent culture from becoming a hindrance, Lorsch (1986) points out the responsibility of leaders to acknowledge the importance of flexibility as a main constituent of organisational culture.

Activity — passivity. Analysing the origin of man's activity, Schein (1992) asks whether people are reactive, fatal and passive observers of their organisation's development, or if they are proactive and able to outrun forecasted events. This aspect of organisational culture is closely related to learning. In a dynamically developing environment, passive observance of events and reluctance to learn lead to the loss of organisational and competitive potentials. The concept of learning organisations is becoming more and more important and requires development of learning-oriented culture characterised by active employees who want to learn and want to develop important future competences for the future.

Active actions are emphasised by Cameron and Quinn (1999) in defining adhocracy culture, considered to be that of failure to distinguish itself by creative and dynamic workplaces, and provide the necessary conditions for an active employee's self-realisation. Activity-passivity aspects are also in the description of the fifth constituent of culture (Hofstede, 2000), a long-term orientation index, which shows new requirements for organisations. A low long-term orientation index indicates insufficient initiative, risk and innovation. Loermans (2002), citing Kim, states that the process of organisational learning is defined as an aspect increasing an organisation's capability to take effective actions.

Schein (1992) draws an important conclusion about acknowledgement of cross-cultural differences in the context of European integration. He maintains that by acknowledging cross-cultural differences, a learning organisation can develop cross-cultural organisational competence and control its future, appropriately reacting to environmental requirements.

Work - personal needs, family balance is a highly relevant issue requiring one to define priorities in life and learn to reconcile those two significant parts of life.

This can be dealt with from two positions, how personal life influences the individual's work activity and how work affects personal life. Too close orientation to personal aims often causes an offhand attitude to work. Traditionally, such employees are considered irresponsible, or organisations do not treat them as prospective employees. Often such employees' disinterest is conditioned by boring activity, poor organisation microclimate, etc. Thus, at first sight a strong employee orientation to work from an organisational point of view seems desirable. Striving to realise their abilities at work or to be promoted motivates employees to work hard by using all their abilities. However, many researchers (Jewell, 1998; Newstrom and Devis, 1997) refer to the employees' syndrome of 'burn out'. Striving constantly to complete everything perfectly, intensive work, and competition affect the employee's physical and psychological conditions.

Kutscher's (2002) research results from England show the importance of work to individuals from different cultures. The survey among Americans, Germans and Japanese showed that Japanese consider work to be more significant than Americans and Germans do.

The *attitude to motivation* is an element frequently analysed in the context of cross-cultural differences.

Comprising the list of motivating factors, Maslow's needs pyramid and its interpretations have been used. At the end of the 1950s, Herzberg maintained that motivation factors (recognition, career, self-realisation and others) stipulated better and more productive work, while hygiene factors (working conditions, payment, etc.) were not so important (Scholz, 2000).

One of the most comprehensive typologies interpreting motivation is Kluckhohn/Strodtbeck culture typology (Kutscher, 2002). The authors distinguish culture of doing and culture of being, as well as of 'being-in-becoming'. In the culture of doing there are external motives, higher wages, premiums, promotion and others. The culture of being includes internal motives, satisfaction in work and others.

Kluckhohn/Strodbeck have shown that American culture is highly oriented to doing. Good work is appreciated and bad work is punished. This has been proved by Mathur, Zhang and Neelankavil (2001). Their study showed financial rewards for American managers to be the most important motive. Managers in China, India and the Philippines do not pay so much attention to this factor. In American culture, financial reward is also seen as a measure of recognition and success. On the other hand, respect, possibility to grow and cooperation produce high motivation in Chinese managers.

This shows there are various answers to the question of which factors are the most motivating. Research shows considerable differences in various countries. Research in various European countries may provide more information about motivation factors.

Based on the analysed typologies and empirical studies the theoretical model was created, consisting of eight constituents, characterised by polarities that describe opposite features of cultural values in business.

Polarities are distinguished while seeking not to contrast the dimensions, but clearly define their peculiarities according to the above discussion. Organisation is oriented, for example, not only to relationship or business-like efficiency, or to openness or seclusion.

The theoretical model of business cultural values with its profile, dimensions, and distinguishing features is presented in Table 1.

Table 1: **Theoretical model of business cultural values**

(1A) Orientation to relationship • trust • good work climate • enterprises like one family	**(1B) Orientation to business-like efficiency** • orientation to results • efforts and devotion • organisational and technical dimension
(2A) Orientation to individualism • individual as personality recognition • individual achievement emphasising • individual responsibility and freedom	**(2B) Orientation to collectivism** • identity with the enterprise • employees' multi-profile (wide qualification) • teamwork
(3A) Orientation to cooperation • management by objectives • control of final results • cooperation between departments	**(3B) Orientation to formality** • written instruction • formal relations • standardised information transmission
(4A) Orientation to manager/subordinate cooperation • involvement of subordinates in decision-making processes • manager - leader • delegation of task	**(4B) Orientation to autocratic management** • hierarchic relationship between the manager and subordinate • subordinate as executor • control of work process
(5A) Orientation to openness • focus on external requirements • friendly attitude to changes • flexibility	**(5B) Orientation to seclusion** • focus on internal factors • avoidance of risk
(6A) Orientation to activity • development of future competences • readiness to learn • innovation	**(6B) Orientation to passivity** • financial compensation as the main stimulator • passive observance of the events
(7A) Orientation to personal needs, family • family • health • leisure time	**(7B) Orientation to work** • career • professional development • obligations at work
(8A) Orientation to motivation focus on • application of your own potential • promotion possibility • self-respect and achievements	**(8B) Orientation to hygiene factors** focus on • salary • social guaranties, security feeling • good working conditions

Based on the theoretical model, the research methodology was prepared to identify cultural similarities and differences in four European countries.

2. Research methodology

According to Thomas (2002), many studies on intercultural management issues suffer from the following shortcomings because they:
• lack surveys in eastern European countries;
• have analysed only big organisations;
• have analysed only one level of respondents (managers or staff).

This study has tried to avoid these shortcomings.

A pilot study on cultural values in business was conducted as a Leonardo da Vinci project in four European countries (Greece, Spain, Lithuania and Austria). Medium-sized national business enterprises (50-250 employees according to the EU classification) were surveyed. In Greece, Spain and Austria, 50 questionnaires were distributed to managers and 100 to subordinates. In Lithuania, 100 questionnaires were distributed to managers and 400 among subordinates. The research has been explorative.

The survey was of 32 national business enterprises and there were 455 respondents: in Austria 14 managers and 30 subordinates (8 enterprises), in Lithuania 72 managers and 298 subordinates (10 enterprises), 15 managers and 21 subordinates (10 enterprises) in Spain and 34 managers and 71 subordinates in Greece (4 enterprises).

Return quotas in Austria and Spain were 21-30 % and could be defined as low. In Greece and Lithuania they were 68-71 % and could be defined as high. Some 90 % of the surveyed enterprises were medium-sized enterprises.

The applied research methodology is universal and suitable to all enterprises, irrespective of their type and field of activity. Narrowing down surveyed enterprises to selected sectors should help reduce distortions of the results related to generalising conclusions in each country. Sewing and textile, furniture and food industries were chosen due to their presence in the countries participating in the research.

Dependence of the results on a single organisational level of respondents' answers is avoided (that is the third drawback indicated by Thomas (2002)). To identify the business cultural values in European enterprises (see Table 1) two questionnaires were developed, one for managers and another for subordinates. The managers questionnaires asked about behaviour of subordinates and subordinates were asked about the management system including manager behaviour. The research aimed to present an objective and exhaustive attitude to cultural values in various enterprises. Four examples of statements are presented in Table 2.

Table 2: **Examples of questions**

	Orientation to seclusion	Orientation to activity
Question to a manager	Subordinates follow the principle: 'managers' task is to think, subordinates' task is to carry out'	Employees willingly share their knowledge and experience
Question to a subordinate	Managers follow the principle: 'employees' task is to carry out the managers' orders'	Knowledge and experience sharing is encouraged in the enterprise

Five statements to seven first orientations were formulated, providing three possible answers: 'Yes, agree', 'Partially agree', 'No, disagree'. Researching motivation orientation, ten motivation factors were to be ranked. This allowed motivational factors to be arranged according to their importance. Analysis of descriptive statistics was used for describing research results. The differentiation of business cultural values in different countries was checked by applying Mann-Whitney criteria.

3. Business cultural values in four European countries: the results of a pilot study

The differentiation of business cultural values is presented in Table 3. A significance level of 0.05 was chosen to check the hypotheses. The hypotheses about equality were rejected (differences were considered statistically more important and reliable) when packet p_value did not exceed 0.05.

Table 3: **The differentiation of business cultural values ***

	1A	1B	2A	2B	3A	3B	4A	4B	5A	5B	6A	6B	7A	7B	8A	8B
managers' viewpoint																
Austria – Greece	0.062	0.626	0.695	0.717	0.043*	0.002*	0.299	0.729	0.182	0.107	0.311	0.236	0.043*	0.002*	0.269	0.269
Austria – Lithuania	0.003*	0.135	0.764	0.120	0.100	0.512	0.078	0.416	0.169	0.188	0.813	0.005*	0.100	0.512	0.120	0.092
Austria – Spain	0.033*	0.788	0.100	0.002*	0.172	0.983	0.505	0.198	0.170	0.122	0.982	0.081	0.172	0.983	0.001*	0.002*
Greece – Lithuania	0.054	0.150	0.919	0.028*	0.457	0.000*	0.001*	0.649	0.839	0.000*	0.430	0.496	0.457	0.000*	0.571	0.466
Greece – Spain	0.390	0.491	0.620	0.002*	0.476	0.001*	0.948	0.210	0.026*	0.003*	0.374	0.002*	0.476	0.001*	0.001*	0.000*
Lithuania – Spain	0.500	0.128	0.582	0.000*	0. 279	0.517	0.051	0.078	0.010*	0.839	0.712	0.000*	0.043*	0.002*	0.269	0.269
subordinates' viewpoint																
Austria – Greece	0.088	0.037*	0.072	0.228	0.029*	0.005	0.003*	0.602	0.609	0.000*	0.189	0.050	0.029*	0.005*	0.002*	0.003*
Austria – Lithuania	0.019*	0.115	0.144	0.261	0.032*	0.972	0.006*	0.921	0.015*	0.049*	0.316	0.000*	0.032*	0.972	0.001*	0.001*
Austria – Spain	0.823	0.170	0.310	0.938	0.056	0.343	0.516	0.316	0.376	0.151	0.832	0.922	0.056	0.343	0.588	0.402
Greece – Lithuania	0.000*	0.000*	0.000	0.002*	0.516	0.000*	0.000*	0.482	0.000*	0.000*	0.000*	0.180	0.516	0.000	0.942	0.474
Greece – Spain	0.031*	0.862	0.665	0.463	0.762	0.001*	0.005*	0.451	0.242	0.141	0.425	0.108	0.762	0.001*	0.158	0.380
Lithuania – Spain	0.073	0.011*	0.025*	0.362	0.900	0.166	0.194	0.230	0.324	0.304	0.289	0.006*	0.900	166	0.171	0.325

(*) differences are statistically significant when p_value ≤.05 (Bühl. Zöfel. 2000).

It is obvious that the managers' opinions about behaviour of subordinates differ in Greece and Lithuania, and Greece and Spain, as well as subordinates' opinions about the management system in Austria and Greece, and Austria and Lithuania, Greece and Lithuania (more than 4 dimensions with p_value≤.05). All respondents' opinions coincided only while evaluating the orientation to autocratic management (p_value>.05, see column 4B).

Results of the pilot study in detail are shown in annex. Each dimension of cultural values is derived from five questions; therefore the mean, standard deviation and variance of each dimension (see Table 4 in the annex) as well as the pattern of distribution of the answers to each question (see tables 5 to 18) are presented. Means of each cross cultural values dimension are displayed in Table 4. They range from 1.74 to 2.67 (1A-7B). Insignificant differences between dimension poles are conditioned by the expression of inequality of dimensions characterising different features. This is shown by the dispersion of features characterised by standard deviation, approximately from 0.22 to 0.81 (1A-7B). Summarising, we focus on some statements, where the highest differentiation of business cultural values or attitude concurrence occurred.

While talking about *human relationship and business-like efficiency* dimensions, there is considerably higher orientation neither to the one nor to the other dimension in all countries. Minimal emphasis on human relationship and business-like efficiency dimensions is visible in Lithuanian managers' and

subordinates' answers. One of the statements about orientation to human re-
lationship was evaluated rather negatively by both managers and subordinates
from Greece, Spain and Lithuania – most respondents emphasised that en-
terprises do not have their own traditions of leisure time activities and they
are not encouraged. With regard to orientation to human relationship, indications
that were evaluated as the most positive ones in opinions of managers and
subordinates from Austria and Greece coincided. Most stated that informal
discussions among managers and subordinates take place in their departments
for example during the coffee breaks, where problems related to work issues
and personal matters are discussed.

Austrian and Greek managers and subordinates, as well as Spanish and
Lithuanian managers especially stressed one indication of orientation to busi-
ness-like efficiency, namely creation of technical-organisational conditions to
successful task fulfilment.

Collectivism and individualism coordination is visible from similar means
per country of these dimensions. Managers' opinions about the features of
individualism in their organisations coincided. However it should be noted that
employees' responsibility (except in Spain) and innovative ideas were rated
rather low. It was also acknowledged that employees' individual achieve-
ments were not fully evaluated in the compensation system. Employees also
stated that taking responsibility or presenting innovative ideas is not highly
encouraged. Respondents from all countries mostly agreed with the individ-
ualism statement that subordinates have their own opinion and express it. All
managers and subordinates, except Austrians, emphasised one collectivism
feature – the ability to replace colleagues. Austrian and Spanish managers
highly rated subordinates' desire to work in teams, while subordinates stressed
the high level of mutual assistance among employees.

Cooperation and formality. Orientation to cooperation is lowest in Lithua-
nia. It should be noted that opinions of Lithuanian managers and subordinates
coincided over poor cooperation among departments in the process of prob-
lem solving. This statement was also rated the lowest by Austrian and Greek
subordinates. Spanish managers rated the orientation to cooperation in their
enterprises the highest. They mentioned good vertical and horizontal trans-
mission of information. All respondents, except Austrians and Lithuanian man-
agers, stressed that the position taken in the company, plays a significant role.
Subordinates in surveyed enterprises in Lithuania and Austria, but in partic-
ular in Greece emphasised a big difference in salaries between different sub-
ordinate levels or between managers and subordinates.

Summarising we can state an average orientation both to cooperation and
formality in Austrian enterprises. Orientation to formality is higher in Greece.
Compared to other countries it has the highest scores. In accordance with the
respective indices, Spanish and Lithuanian managers emphasised cooper-

ation manifestations, while subordinates stress formality manifestations. It can be explained by subjectivity, when managers strive to show the best characteristics in their opinions, while subordinates evaluate it critically.

Orientation to *leader and subordinate cooperation* as well as orientation to *autocratic management* are in parallel in all surveyed enterprises. However, this can be explained by the wide range of the research results. While talking about orientation to leader and subordinate cooperation, most subordinates from Lithuania and Austria rated the attempt of managers to encourage employees to seek better results while fulfilling new tasks as low. It might seem paradoxical, but most Lithuanian managers agreed that employees need encouragement from managers to take a new task and to strive for better results. This illustrates that managers, while identifying a situation, often do not take change actions. When evaluating orientation to autocratic management, features in opinions of most managers coincided in all countries. Managers agreed that the quality of work and results are better when the work process is under control. Subordinates in Lithuania mostly agreed that a manager's opinion is always final, while subordinates in Spain acceded least.

While summarising orientation to *openness* and *seclusion* dimensions, managers from all countries regard favourably orientation to openness. However, measures to encourage openness are evaluated critically by subordinates, who agree with seclusion features. It is noteworthy that Lithuanian enterprises could be considered an exception, as they show the lowest orientation to openness and the highest to seclusion. Two of the lowest rated issues are that subordinates are not interested in the changes of new technology and modern forms of work organisation, while according to subordinates' opinion, managers do not provide the possibilities to get acquainted with changes. Friendly attitudes to changes in the enterprise and orientation to external requirement and clients' needs have been highly rated in the context of openness, however the orientation to openness is much lower than that to passivity.

Activity and passivity. Comparing the results, it should be noted that many Lithuanian respondents give priority to passivity, while the orientation to activity has been rated low. The general conclusion about passivity could be drawn, namely that, according to managers, employees are passive and the only means of stimulation is financial. Moreover, managers consider control the main driver of effectiveness. This manifests a high lack of confidence. Employees, in their turn, hold that managers follow the principle 'employees' task is to carry out the managers' orders'.

However, all managers emphasise subordinates' willingness to share their experience and learn from each other.

Greek, Spanish, Lithuanian and Austrian managers are of the same opinion as far as *personal needs* are concerned. Greek managers demonstrate higher orientation to *work*, especially emphasising career importance: re-

sponsibility and commitment to work, for example working more hours if it is necessary. Subordinates from all countries except Lithuania agree that orienting only to work makes life pass by.

Both managers and subordinates pay more attention to *hygiene factors* (two of the most motivating factor are salary and good working conditions) than to *motivation factors* (Table 11).

4. Discussion

Overall, the research, despite its explorative nature, has shown differences in business cultural values. Kreikebaum (1998) notices that the behaviour of leaders and staff depends on organisational culture and the country's cherished values. It is natural that prevailing values in Lithuanian enterprises have been singled out. The orientation to autocratic management has come to the fore. Orientations to human relationship, business-like efficiency, individualism, collectivism, cooperation, activity and openness have been rated lower. Business cultural values have been influenced by a planned economy and later by transitional economic conditions. Thus, it could be assumed that these processes have been of utmost importance for the attitudes of managers and employees to tasks, their solutions, changes and expansion. However, it should be noted that differences in attitudes have also been noticed in other countries as well. The culture of the country they are in contact with cannot be ignored. The higher the degree of cultural divergence, the higher the possibility of conflict.

According to the convergence versus divergence of cultural values there are two opposite views to the possibilities of cultural integration (Glase, 2000; Scholz, 2000; Czinkota, Ronkainen and Moffett, 2003; etc.). The first one deals with convergence theory and states that under the present conditions of market economy, globalisation and scientific-technical achievements, the development of enterprises in different countries is based on modern management and communication methods, and this eliminates cultural differences. Thomas (2000) presents the following argumentation of cultural convergence:

(a) cultural factors have less influence on an organisation than economic and technological ones. Cultural differentiation, of course, exists at a certain level, however, it could be considered as variety in developed countries;

(b) cultural convergence is especially strong when certain aspects develop uniformly in different countries.

The second view is based on the assumptions of divergence theory which states that cultural distinctions remain in the process of organisation development, and under the conditions of globalisation these differences become even more evident. One may even foresee the possibility of the assimilation

of formal enterprise management and communication structures. However, colleagues' behaviour as a cultural value remains unchanged.

Undoubtedly, changing environmental conditions influence the changes of cultural values, but these changes cannot be accomplished quickly, because values are conditionally stable. Some formation stages of expedient business cultural values can be singled out. First, it is important to be acquainted with business cultural values differences. According to Adler (2002), cultural blindness — choosing not to see cultural differences — limits our ability to benefit from diversity by precluding our ability to minimise problems caused by cultural diversity and maximising the potential advantages it offers. Second, is to understand the differences of business cultural values. Third, is to perceive which business cultural values are relevant and should be developed to increase enterprise international competitiveness.

Some aspects influencing the development of business cultural values can be distinguished. The tasks of higher education implementing basic and lifelong education, and the role of an enterprise in developing the main guidelines on the formation of business cultural values.

As far as the differentiation of business cultural values is concerned, there may be some impediments that make it difficult for post-soviet countries to integrate into western European markets. Some limitations of the influence of higher education should be mentioned. For example, analysing the age structure of Kaunas University of Technology (Lithuania), it has been found that the average of professors' age is 61 years, associated professors' 51 years, and the general average of the pedagogical staff is 47 years. It might be assumed that the educational process in this university is highly influenced by the attitudes and views of the Soviet period. However, implementation of modern concepts of management and fostered business cultural values, such as collectivism, manager and subordinate cooperation, human relations principles differed a little from the spirit of the concepts. For example, manager-subordinate relationships have been developed through compulsory participation systems only formally engaging employees into the process of presenting and discussing suggestions, thus creating the illusion of participating in decision-making. A distorted perception of these concepts has been created and, moreover, the disbelief in their implementation and effectiveness. However, it should be acknowledged that the weakest aspect of scientific-pedagogical staff is the insufficient knowledge of foreign languages, limiting their range of vision, cooperation and possibilities to exchange experiences as well as the attractiveness of the institution itself for foreign students. Thus, the education system is not sufficiently open. The change of the system is indispensable to form basic attitudes to business cultural values and their differentiation so that they do not impede integration into international markets.

Convergence of business cultural values is very much dependent on enterprise policy. Purposeful education of business cultural values is a complex process including the need to get acquainted with these values in the enterprises of various countries as well as foreseeing the main guidelines of cultural values of a certain enterprise. This process should be left to itself. It is possible to single out some aspects that are considered very important in developing business cultural values of every enterprise. First, business cultural values should be clearly defined and presented to employees. Second, there should be designed study plans based on seminar activities supplying theoretical knowledge and practical information as well as discussing the importance of business cultural values and the difficulties in their development. Third, there should be created a system of support stimulating employees' interest.

Overall, European integration processes stipulate different cultural interaction. The rapid process of business cultural values convergence will depend on the ability of educational institutions to purposefully develop cultural values for an inter-European business area. Further, it will depend very much on the readiness of enterprises to accept new development trends and requirements as well as to create the levers ensuring systematic learning of the difference and importance of business cultural values.

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Annex – Tables 4 to 19

Table 4: **Cross cultural values dimensions: number of cases (N); mean (MN). standard deviation (SD) according to managers (M) and subordinates (S) per country**

Country	Position	Dimension	N	MN	SD	V. %	Dimension	N	MN	SD	V. %
AT	M	Relationship (1A)	14	2.54	0.57	22	Business like	14	2.41	0.49	20
	S		30	2.27	0.69	30	efficiency (1B)	30	2.16	0.66	30
EL	M		34	2.30	0.63	29		34	2.39	0.57	24
	S		71	2.27	0.65	28		71	2.33	0.64	27
ES	M		15	2.17	0.73	33		15	2.39	0.66	27
	S		21	2.15	0.74	34		21	2.32	0.78	33
LT	M		82	2.11	0.77	36		82	2.25	0.68	30
	S		297	1.86	0.76	41		297	2.06	0.71	34
AT	M	Individualism	14	2.35	0.49	21	Collectivism	14	2.38	0.53	22
	S	(2A)	30	2.15	0.58	27	(2B)	30	2.31	0.59	25
EL	M		34	2.32	0.65	28		34	2.37	0.56	24
	S		71	2.27	0.67	29		71	2.39	0.57	24
ES	M		15	2.36	0.66	28		15	2.67	0.46	17
	S		21	2.23	0.66	29		21	2.32	0.71	31
LT	M		82	2.18	0.65	30		82	2.13	0.63	29
	S		297	1.93	0.70	36		297	2.17	0.71	32
AT	M	Cooperation (3A)	14	2.21	0.43	19	Formality	14	2.27	0.51	22
	S		30	2.29	0.65	28	(3B)	30	2.14	0.65	30
EL	M		34	2.11	0.69	32		34	2.44	0.50	20
	S		71	2.21	0.73	33		71	2.53	0.60	23
ES	M		15	2.35	0.63	26		15	2.16	0.64	30
	S		21	2.01	0.74	36		21	2.31	0.81	35
LT	M		82	2.06	0.66	32		82	2.12	0.70	33
	S		297	1.99	0.71	36		297	2.28	0.67	29
AT	M	Manager	14	2.19	0.47	21	Autocratic	14	2.08	0.42	20
	S	and subordinate	30	2.19	0.64	29	management	30	2.06	0.67	32
EL	M	cooperation	34	2.38	0.66	27	(4B)	34	2.26	0.63	27
	S	(4A)	71	2.19	0.57	26		71	2.25	0.65	29
ES	M		15	2.15	0.66	30		15	1.92	0.58	30
	S		21	2.15	0.63	29		21	2.01	0.76	38
LT	M		82	2.21	0.69	31		82	2.27	0.63	28
	S		297	2.08	0.71	34		297	2.29	0.66	28
AT	M	Openness (5A)	14	1.99	0.46	23	Seclusion	14	2.07	0.26	12
	S		30	1.97	0.38	19	(5B)	30	2.19	0.35	15
EL	M		34	2.27	0.40	17		34	2.19	0.34	15
	S		71	2.24	0.46	20		71	2.17	0.37	17

Country	Position	Dimension	N	MN	SD	V. %	Dimension	N	MN	SD	V. %
ES	M		15	2.24	0.57	25		15	2.00	0.28	14
	S		21	1.90	0.52	27		21	2.08	0.36	17
LT	M		82	1.93	0.48	24		82	2.16	0.37	17
	S		297	1.74	0.46	26		297	2.20	0.35	16
AT	M	**Activity**	14	2.04	0.31	15	**Passivity**	14	2.16	0.28	13
	S	**(6A)**	30	2.1	0.54	25	**(6B)**	30	1.95	0.39	20
EL	M		34	2.24	0.42	18		34	2.14	0.35	16
	S		71	2.16	0.57	26		71	2.16	0.42	19
ES	M		15	2.07	0.43	20		15	2.2	0.44	20
	S		21	2.22	0.58	26		21	1.98	0.43	21
LT	M		82	1.94	0.45	23		82	2.42	0.32	13
	S		297	1.97	0.55	27		297	2.29	0.32	14
AT	M	**Personal needs.**	14	2.33	0.31	13	**Work**	14	2.15	0.35	16
	S	**family**	30	2.47	0.34	13	**(7B)**	30	2.14	0.44	20
EL	M	**(7A)**	34	2.08	0.52	25		34	2.47	0.54	22
	S		71	2.24	0.49	21		71	2.39	0.46	19
ES	M		15	2.17	0.30	13		15	2.16	0.32	14
	S		21	2.31	0.22	9		21	2.04	0.43	21
LT	M		82	2.19	0.35	16		82	2.22	0.39	17
	S		297	2.32	0.37	16		297	2.16	0.36	16

N.B. Primary means range from 1 to 3: 'Yes, I agree' = 3. 'I partially agree' = 2. and 'No, I disagree' = 1.

Table 5: **Relationship (percentage of answers)**

Table 6: **Business like efficiency (percentage of answers)**

Legend: Yes | Partly | No

	Work results as the main criteria			Purposeful aspirations			Good technical and organisational conditions			Professional competence emphasising			Efforts and devotion		
	Yes	Partly	No	Yes	Partly	No	Yes	Partly	No	Yes	Partly	No	Yes	Partly	No
LT (S)	49	33	18	23	44	33	29	53	19	46	41	13	17	37	49
LT (M)	49	32	20	26	52	22	51	38	11	48	42	10	22	62	16
ES (S)	52	29	19	52	29	19	43	29	28	57	38	5	57	14	29
ES (M)	54	33	13	34	54	13	73	27		53	40	7	40	33	27
EL (S)	46	37	17	14	31	55	70	27	3	66	26	8	57	39	4
EL (M)	58	39	3	15	44	41	73	27		50	47	3	52	42	6
AT (S)	37	37	27	10	73	17	40	40	20	50	43	7	27	60	13
AT (M)	64	36		21	57	21	79	21		57	43		14	86	

Table 7: **Individualism (percentage of answers)**

Legend: Yes | Partly | No

	Individual opinion			Individual achievement emphasising in compensation systems			Individual as personality recognition			Creativity			Individual responsibility		
	Yes	Partly	No	Yes	Partly	No	Yes	Partly	No	Yes	Partly	No	Yes	Partly	No
LT (S)	47	38	16	18	37	45	29	46	25	17	59	25	13	40	47
LT (M)	38	55	7	35	44	21	50	39	11	27	62	11	20	51	29
ES (S)	57	34	9	33	24	43	52	48		33	48	19	19	71	10
ES (M)	43	27	13	33	47	20	67	33		27	47	26	60	33	7
EL (S)	57	34	9	42	40	17	63	27	10	27	44	29	24	62	14
EL (M)	55	39	6	31	41	28	68	29	3	27	55	18	47	41	12
AT (S)	30	67	3	7	70	43	70	30		23	60	17	27	57	6
AT (M)	50	50		36	50	14	71	43		14	86		21	79	

Table 8: **Collectivism (percentage of answers)**

Legend: Yes | Partly | No

	Mutual assistance			Teamwork			Coordination of personal and enterprise interests			Employees' multi-profile (wide qualification)			Loyalty to the enterprise		
	Yes	Partly	No	Yes	Partly	No	Yes	Partly	No	Yes	Partly	No	Yes	Partly	No
LT (S)	30	47	24	55	27	19	25	45	30	67	27	6	23	44	33
LT (M)	22	59	19	39	39	22	23	54	23	59	40	1	12	65	23
ES (S)	53	33	14	48	23	29	52	29	19	62	33	5	57	38	5
ES (M)	73	20	7	93	7		53	40	7	80	13	7	60	40	
EL (S)	59	33	7	77	22		13	37	51	65	35		47	47	7
EL (M)	46	52	2	52	42	6	15	44	41	77	24		47	53	
AT (S)	70	28	2	63	30	7	10	80	10	37	43	20	30	60	10
AT (M)	50	50		71	29		29	64	7	43	43	14	21	79	

Table 9: **Formality (percentage of answers)**

	Strict work organisation procedures (Yes/Partly/No)	Significant role of position (Yes/Partly/No)	Clear written instruction (Yes/Partly/No)	Standardised information transmission (Yes/Partly/No)	Big difference between managers and subordinates (Yes/Partly/No)
LT (S)	38 / 46 / 16	51 / 33 / 16	43 / 37 / 19	26 / 52 / 22	59 / 33 / 8
LT (M)	39 / 38 / 23	27 / 57 / 16	50 / 37 / 13	21 / 54 / 25	27 / 49 / 24
ES (S)	40 / 30 / 30	62 / 24 / 14	62 / 9 / 29	52 / 24 / 24	48 / 38 / 14
ES (M)	27 / 47 / 26	50 / 42 / 8	80 / / 20	13 / 60 / 27	20 / 33 / 47
EL (S)	54 / 29 / 17	84 / 12 / 4	61 / 35 / 4	47 / 39 / 14	70 / 21 / 9
EL (M)	55 / 39 / 6	71 / 27 / 2	68 / 21 / 12	29 / 50 / 21	47 / 44 / 9
AT (S)	20 / 70 / 10	30 / 47 / 23	40 / 47 / 13	13 / 50 / 37	53 / 40 / 7
AT (M)	21 / 79	43 / 57	43 / 57	21 / 79	29 / 50 / 21

Table 10: **Cooperation (percentage of answers)**

	Agreeing upon objectives with departments (Yes/Partly/No)	Control of final results (Yes/Partly/No)	Vertical information flow (Yes/Partly/No)	Cooperation and problem solving among departments (Yes/Partly/No)	Information flow among departments (Yes/Partly/No)
LT (S)	32 / 57 / 11	28 / 52 / 21	32 / 43 / 26	17 / 31 / 52	26 / 42 / 32
LT (M)	48 / 43 / 10	21 / 51 / 28	46 / 44 / 10	10 / 49 / 42	20 / 55 / 26
ES (S)	48 / 43 / 9	19 / 43 / 38	33 / 48 / 19	19 / 43 / 38	52 / 24 / 24
ES (M)	40 / 53 / 7	15 / 31 / 54	73 / 20 / 7	53 / 34 / 13	73 / / 27
EL (S)	44 / 36 / 20	34 / 47 / 19	44 / 34 / 23	30 / 47 / 24	52 / 37 / 11
EL (M)	31 / 41 / 28	15 / 47 / 38	53 / 35 / 12	27 / 50 / 24	57 / 57 / 57
AT (S)	50 / 40 / 10	57 / 27 / 17	20 / 67 / 13	13 / 67 / 20	27 / 53 / 20
AT (M)	36 / 64	14 / 79 / 7	43 / 57	21 / 79	7 / 93

Table 11: **Manager and subordinate cooperation (percentage of answers)**

	Listening to employees' opinions (Yes/Partly/No)	Tasks delegation (Yes/Partly/No)	Discussion tasks with employees (Yes/Partly/No)	Informal relations among employees and managers (Yes/Partly/No)	Employees' encouragement and support (Yes/Partly/No)
LT (S)	37 / 48 / 15	45 / 35 / 20	28 / 42 / 29	19 / 43 / 39	26 / 42 / 32
LT (M)	35 / 56 / 9	13 / 61 / 26	44 / 37 / 20	37 / 43 / 21	54 / 38 / 9
ES (S)	47 / 46 / 7	43 / 19 / 38	48 / 38 / 14	38 / 43 / 19	62 / 19 / 19
ES (M)	52 / 40 / 8	54 / 34 / 13	33 / 47 / 20	33 / 53 / 14	27 / 40 / 33
EL (S)	58 / 33 / 9	34 / 47 / 19	59 / 30 / 11	47 / 35 / 18	56 / 32 / 12
EL (M)	52 / 43 / 5	12 / 52 / 36	58 / 24 / 18	29 / 53 / 18	71 / 24 / 6
AT (S)	27 / 67 / 6	47 / 40 / 13	43 / 43 / 13	23 / 57 / 20	20 / 63 / 17
AT (M)	43 / 52 / 5	14 / 86	50 / 50	18 / 71 / 11	7 / 79 / 14

Table 12: **Autocratic management (percentage of answers)**

Legend: Yes, Partly, No

	Ignoring objective assumptions while explaining the causes of poor results			Strict control of employees' work process			Emphasis of hierarchy			Manager's opinion is always decisive			Fear object to the manager		
	Yes	Partly	No	Yes	Partly	No	Yes	Partly	No	Yes	Partly	No	Yes	Partly	No
LT (S)	28	47	25	54	39	7	56	33	11	76	19	5	19	52	30
LT (M)	33	45	22	49	49	2	24	61	15	53	41	6	35	51	14
ES (S)	25	40	35	62	33	5	52	36	12	33	34	33	24		71
ES (M)	7	33	60	27	47	26	42	50	8	13	47	40	35	30	35
EL (S)	25	36	39	51	39	10	75	20	5	43	46	11	17	57	26
EL (M)	9	55	36	49	36	15	56	30	14	35	56	9	38	50	12
AT (S)	20	70	10	17	40	43	30	58	12	37	50	13	27	53	20
AT (M)	7	64	29	14	86		33	64	3	21	64	14	29		71

Table 13: **Openness (percentage of answers)**

Legend: Yes, Partly, No

	Creating the conditions for suggestions realisation			Orientation to external requirement			Ability to get rapidly adapted to changing conditions			Friendly attitude to changes in the enterprise			Interest in new technologies and work methods		
	Yes	Partly	No	Yes	Partly	No	Yes	Partly	No	Yes	Partly	No	Yes	Partly	No
LT (S)	9	29	61	29	41	30	17	25	59	42	39	19	9	24	67
LT (M)	12	54	34	31	33	37	26	49	26	30	52	18	18	50	32
ES (S)	28	48	24	29	52	19	24	33	43	24	43	33	14	38	48
ES (M)	53	27	20	40	33	27	47	27	26	60	33	7	33	34	33
EL (S)	36	43	21	61	35	5	35	37	28	52	35	13	33	48	19
EL (M)	44	47	9	29	56	15	41	50	9	47	47	6	29	53	18
AT (S)	17	63	20	20	57	23	27	57	17	33	53	13	7	47	47
AT (M)	7	24	29	29	64	7	71	29		36	64		7	64	29

Table 14: **Seclusion (percentage of answers)**

Legend: Yes, Partly, No

	Late noticing of environmental changes			Information about the drawbacks of developed changes			A lot of formalities in implementing changes			Focus on internal factors			Avoidance of risk		
	Yes	Partly	No	Yes	Partly	No	Yes	Partly	No	Yes	Partly	No	Yes	Partly	No
LT (S)	44	37	19	27	49	24	34	55	11	53	37	11	28	53	19
LT (M)	51	40	9	30	47	23	32	53	15	33	30	37	40	47	13
ES (S)	58	30	12	25	15	60	10	45	45	62	24	14	48	47	5
ES (M)	44	49	7	13	33	53	13	27	60	20	40	40	40	47	13
EL (S)	53	40	7	21	52	27	46	38	16	46	43	11	22	48	30
EL (M)	57	32	11	35	41	24	29	47	24	18	53	29	18	68	15
AT (S)	35	41	24	33	40	27	30	57	13	53	40	7	23	64	23
AT (M)	32	54	14	29	36	36	29	50	21	14	43	43	29	64	7

Table 15: **Activity (percentage of answers)**

	Generation of new ideas			Exchange of experience and knowledge			Independent qualification development and learning			Active use of the possibility to learn			Active acceptance of new tasks		
	Yes	Partly	No	Yes	Partly	No	Yes	Partly	No	Yes	Partly	No	Yes	Partly	No
LT (S)	23	40	37	39	36	25	39	36	25	28	32	41	34	45	21
LT (M)	13	61	26	38	48	15	38	48	15	9	59	33	26	52	22
ES (S)	48	33	19	53	33	14	29	43	28	38	48	14	38	43	19
ES (M)	27	40	33	53	40	7	73	20	7	53	40	7	27	47	26
EL (S)	37	45	18	46	29	25	44	39	17	33	49	17	43	46	11
EL (M)	30	64	6	53	38	9	27	53	21	27	65	9	44	47	9
AT (S)	30	33	37	30	53	17	27	53	20	37	47	17	40	40	20
AT (M)	14	79	7	36	64		86		14	29	64	7	7	57	36

Table 16: **Passivity (percentage of answers)**

	Subordinate as executor			Avoidance of changes			Work under control is more effective			Financial compensation as the main stimulator			Passive observance of events		
	Yes	Partly	No	Yes	Partly	No	Yes	Partly	No	Yes	Partly	No	Yes	Partly	No
LT (S)	71	23	6	20	49	31	42	41	17	66	26	8	47	49	4
LT (M)	37	54	10	39	39	22	76	17	7	77	22	1	47	50	3
ES (S)	30	45	25	10	33	57	47	10	43	19	57	24	43	49	8
ES (M)	33	20	47	40	33	27	67	13	20	33	60	7	37	35	28
EL (S)	46	39	15	27	41	32	56	31	13	51	39	10	27	54	19
EL (M)	27	39	33	24	47	29	82		18	29	47	24	29	59	12
AT (S)	47	43	10	23	30	47	13	50	37	17	50	33	26	64	10
AT (M)	7	64	29	29	57	14	36		64	36	57	7	19	64	17

Table 17: **Personal needs, family (percentage of answers)**

	Personal life is more important than career			I assign more time to family and friends			Work is guarantee of material well-being but not the aim			Orienting only to work makes life pass by			Employer must pay attention to employee's health and personal matters		
	Yes	Partly	No	Yes	Partly	No	Yes	Partly	No	Yes	Partly	No	Yes	Partly	No
LT (S)	39	47	15	33	47	20	41	43	17	45	44	11	65	33	2
LT (M)	30	51	19	22	43	35	35	54	11	45	39	16	52	42	6
ES (S)	67	29			53	33	20	45	35	68	28	4	71	29	
ES (M)	50	43	7	13	33	54	20	40	40	80	7	13	60	33	7
EL (S)	39	41	20	27	53	20	44	28	29	63	31	6	53	53	4
EL (M)	30	49	21	12	58	30	30	42	27	63	28	9	39	58	3
AT (S)	33	67		40	43	17	73		27	80	17	3	37	57	7
AT (M)	21	71	8	93		7	43	43	14	64		36	64		36

Table 18: **Work (percentage of answers)**

	Personal life is influenced by obligations at work			Family has to create favourable conditions for work			Every man wants to climb up the career			Much time is assigned for competence development			Tolerance of overtime work		
	Yes	Partly	No	Yes	Partly	No	Yes	Partly	No	Yes	Partly	No	Yes	Partly	No
LT (S)	59	32	9	11	52	37	46	43	12	13	54	34	56	37	7
LT (M)	69	27	4	12	42	46	45	38	17	22	56	22	67	24	9
ES (S)	24	43	33	19	38	43	57	19	24	14	43	43	62	26	9
ES (M)	43	50	7	47	53		53	27	20	47	20	33	73	20	7
EL (S)	74	21	5	36	44	20	60	26	14	29	54	17	79	19	2
EL (M)	78	22		43	37	20	79	18	3	30	52	18	91	6	3
AT (S)	30	67	3	27	43	30	33	37	30	10	73	17	60	33	7
AT (M)	50	50		36	36	29	43	57		43	43	14	57	36	7

Table 19: **Ranging of employees' stimulating factors**

(1 - the most important factor, 10 - less important factor)

	Salary	Social security	Good working conditions	Good relation-ship with manager	Good microclimate	Respect and recognition	Career	Learning and development	Challenging work	Self-expression
LT (S)	1	2	3	4	6	7	9	8	5	10
LT (M)	1	2	3	5	4	6	9	8	7	10
ES (S)	1	7	2	8	4	5	6	3	9	10
ES (M)	1	6	2	7	4	8	3	5	10	9
EL (S)	1	3	2	6	4	5	9	7	10	8
EL (M)	1	3	2	7	4	5	6	8	10	9
AT (S)	2	6	4	5	1	8	10	7	3	9
AT (M)	1	4	3	10	2	6	7	8	5	9

The social construction of skills: a hospitality sector perspective

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SUMMARY

This paper addresses the nature of skills in service work with specific reference to international tourism and its hospitality subsector. It explores the role of experiential factors (cultural, emotional and aesthetic) in equipping those entering work in the sector. The specific context of work in less developed countries and within migrant labour communities in Europe is considered. The paper concludes with the proposition that cultural and contextual experience is an important factor in determining the skills demands of work in hospitality.

Introduction

Work in services such as tourism and, specifically, hospitality has been widely characterised as 'low skills' in both the academic literature (Westwood, 2002) and the popular press. This is a reflection of aspects of work in the sector, widely reported, which focus on low levels of qualifications, low wages, high dependence on seasonal work, high labour turnover and related concerns. It is a description that is valid in the context of developed countries. However, this stereotype is challenged in the work of several writers (Baum, 1996; Burns, 1997) on the basis that this represents both a technical and western-centric perception of work and skills. These challenges are developed in analyses that consider skills in experience services (Pine and Gilmore, 1999) to include a wide-ranging 'bundle' of attributes, extending beyond traditional interpretations of such work that are focused, primarily, on technical aspects of product delivery. Such extensions include recognition of the importance of what can be

styled 'generic skills' (communication, problem solving, ICT, languages) (Baum, 2006) as well as both emotional (Hochschild, 1983) and aesthetic (Nickson, Warhurst and Witz, 2003) dimensions as features within the bundling of skills in experience services. The complexity of the workplace demands on even what might be called semi-skilled employees is increasingly recognised in the sector (Cedefop; Jonckers, 2005). The complex bundling of skills in hospitality is an affirmation of Rigby and Sanchis' (2006, p. 31) thesis that skills are socially constructed, defined as they are 'as a result of a social process, a process which has produced inequalities reflecting existing structures of power'. This paper contends that the notion that hospitality skills are derived from social and cultural experience is particularly pertinent in the context of international hospitality. This is because the sector depends for its operational and management culture upon a paradigm that is rooted firmly within western, generally American and, to a lesser extent, European traditions (Nickson and Warhurst, 2001).

This paper challenges stereotypical definitions of skills in the hospitality sector and argues that these are largely context-defined, with limited application beyond the developed economies of western Europe and North America. At a practical level, the conclusions of this analysis have implications for training in the hospitality sector of many European countries which depend heavily on migrant labour from elsewhere in Europe and beyond.

Skills and the hospitality sector

Defining what skills actually are, an important precursor to this discussion, is no simple task. Riley et al. (2002) note that 'skill is always surrounded by controversy because perceptions of skill are highly subjective and relative. Who is or who is not skilled is inevitably an issue' (p. 143). Bradley et al. (2000) note the varying criteria that can be used to define a skill. They question whether we should consider formal qualifications held by an individual; the amount of training required for a job; or the ability of an individual to perform complex job tasks. In reality, all these criteria play a part in shaping our understanding of skills and they are further overlaid with the social construction which tradition, gender and ethnicity impose on our interpretation of what is skilled work and what is not.

On the face of it, it is arguable that there is little about work in hospitality and the skills it requires that is unique to the sector. There is, however, a studied argument (see for example Lashley and Morrison, 2000 on the nature of hospitality; Hochschild, 1983 in her discussion of emotional labour; and the contribution of Nickson, Warhurst and Witz (2003) in adding the concept of aesthetic labour to the skills bundle in the industry) that it is the context and

combination of these skills that generates unique attributes. The context of hospitality, diverse in several respects, is particularly interesting from a human resource perspective. Hospitality is generally characterised by a dominant presence of small businesses, alongside which recent years have seen the growth of larger, multinational operators. Geographically, the sector is widely dispersed, an industry located in most communities, and adapted in its facilities and services to reflect location, climate and market focus. Hospitality businesses are also frequently temporal in their trading behaviours, seasonal but also variable within each day and week. These features impinge on the roles that people in developed countries play in delivering products and services in hospitality. They contribute to human resource features that Keep and Mayhew (1999, p. 8-9) summarise as:

• tendency to low wages, except where skills shortages act to counter this;
• prevalence of unsocial hours and family-unfriendly shift patterns;
• rare incidence of equal opportunities policies and male domination of higher level, better paid work;
• poor or non-existent career structures;
• informal recruitment practices;
• failure to adopt formalised 'good practice' models of human resource management and development;
• lack of any significant trade union presence;
• high levels of labour turnover;
• difficulties in recruitment and retention.

The debate about skills issues in hospitality is informed by wider, generic consideration about skills in the context of changing employment, technology and vocational education, within both developed and less developed economies. The major gap in understanding, which this paper seeks to address, is the extent to which work which is perceived to be 'low skills' in the western, developed context, can be described in this way in other contexts because of differing experiential, cultural, communications, linguistic and relationship assumptions which underpin such work in less developed countries. The hospitality sector, in its international and globalised form, is dominated by a strongly western operational and cultural focus (Dunning and McQueen, 1982; Nickson and Warhurst, 2001) so that there is what might be called 'cultural and experiential proximity' between the way in which businesses operate in western developed countries and the experience of the majority of workers who, traditionally, have delivered products and services to guests within them. Employees, in this sense, have shared experience in both delivering and receiving services, they have 'stood in the shoes' of the guests they are serving. By contrast, there are significant cultural and experiential gaps between, on the one hand, in similar international hospitality operations in less

developed or westernised countries and, on the other, the employees who deliver their products and services to guests. These employees are less likely to have 'stood in the shoes' of their guests and do not have the shared experience of both consumer and server. In other words, where exposure to this internationalised model of the experience economy as consumer is not widespread among those working in the industry, there is the potential for a skills gap in the delivery of services and experiences to international consumers. The background significant number of the recent cohorts of migrant workers to western Europe, many of whom initially find work in hospitality operations, is such that they may well be culturally removed from the industrial sector in which they work (Baum, 2006).

In a general sense, hospitality work (and thus the skills that it demands) is characterised by diversity in both horizontal and vertical terms. In a horizontal sense, the sector includes a very wide range of jobs across several key production and service areas. Research into such work generally concentrates on areas that provide, primarily, food service and, to a lesser extent, accommodation and airline service. Coverage of this discussion is well served by Guerrier et al. (1998) and others. Research into wider areas of hospitality work, particularly those that have emerged with the expansion of services and functions in the area (front desk, leisure, entertainment, reservation call centres) is much more poorly represented. It is fair to say that, although there is long-standing debate as to whether the industry is 'unique' (Lashley and Morrison, 2000), there is little doubt that there is little that is unique about the technical and, indeed, wider skills that are employed. Most of the skills that are employed within the sector also have relevance and application in other sectors of the economy. Those employed in areas where there is considerable skills overlap with tourism and hospitality, such as the areas listed above, may well see themselves in terms of their generic skills area rather than as part of this discrete labour market.

The characteristics and the organisation of the industry are subject to ongoing restructuring and evolutionary change. There are major labour market and skills implications of such change as businesses reshape the range of services they offer (Hjalager and Baum, 1998) or respond to fashion and trend imperatives in the consumer marketplace. Vertical diversity in tourism and hospitality work is represented by a more traditional classification that ranges from unskilled through semi-skilled and skilled to supervisory and management. This 'traditional' perspective of work and, therefore, skills is partly described by Riley (1996, p. 18) in terms that suggest that the proportionate breakdown of the workforce at unskilled and semiskilled levels is 64 % of the total with skilled work constituting a further 22 % of the total. Azzaro's (2005) figures for Malaysia, while not based on directly comparable data, suggest that non-managerial positions in tourism break down into unskilled (19 %) and

skilled/semi-skilled (42 %). These figures hint at some difference in percep-tions of skills within the sector between developed and less developed economies.

These simplifications mask major business organisational diversity in the industry, reflecting the size, location and ownership of businesses. The ac-tual job and skills content of work in the sector is predicated upon these fac-tors so that common job titles (e.g. restaurant manager, *sous-chef*, tour guide) almost certainly mask a very different range of responsibilities, tasks and skills within jobs in different contexts.

Riley is useful in his application of the weak-strong internal labour market model to illustrate the relationship that his workforce structure has to sever-al externalities including educational requirements, points of entry into the work-force, workplace pay differentials and level of trade union membership. This analysis has important ramifications for the status of tourism and hospitality work and the perceived attractiveness of the sector both for employment and educational/training opportunity. As we have seen, Keep and Mayhew (1999) note that the characteristics of hospitality work tend to confirm Riley's weak internal labour market attribution.

The skills profile of the sector, in turn, is influenced by the labour market that is available to it, both in direct terms and via educational and training es-tablishments. The weak internal labour market characteristics in themselves impose downward pressures on the skills expectations that employers have of their staff and this, in turn, influences the nature and level of training which the educational system delivers. There is an evident cycle of down-skilling, in part in response to the actual demands of work in the sector or of consumer expectations of what it can deliver, but also as a result of the perceptions of potential employees and the expectations that employers have of them.

As we have already suggested, much hospitality work is widely charac-terised, in both the popular press and in academic sources, as dominated by a low skills profile. Shaw and Williams (1994) note that such work is often char-acterised, rather brutally and, possibly, unfairly as work that is undertaken by the 'uneducated, unmotivated, untrained, unskilled and unproductive' (p. 142), voices echoed by Westwood (2002) when he talks of service work as offer-ing 'a low-pay, low-prestige, low-dignity, low-benefit, no-future job' (p. 3). Bradley et al. (2000) also apply this epithet to the wider service or new economy in questioning assumptions about a skills revolution in Britain, noting that 'jobs commonly retain a low-skill character, especially in the fastest-growing sec-tors' (p. 129).

However, Burns (1997) questions the basis for categorising tourism em-ployment into 'skilled' and 'unskilled' categories, arguing the postmodernist case that this separation is something of a social construct. This construct is rooted in, firstly, manpower planning paradigms for the manufacturing sec-

tor and, secondly, in the traditional power of trade unions to control entry into the workplace through lengthy apprenticeships. Burns bases this argument on a useful consideration of the definition of skills in tourism and hospitality, noting that:

> '… the different sectors that comprise hospitality-as-industry take different approaches to their human resources, and that some of these differences……are due to whether or not the employees have a history of being 'organised' (either in terms of trade unions or staff associations with formalised communication procedures') (p. 240).

This strong internal labour market analysis leads Burns to argue that skills within 'organised' sectors such as airlines and hotel companies with clearly defined staff relationship structures are recognised and valued. By contrast, catering and fast food 'operate within a business culture where labour is seen in terms of costs which must be kept at the lowest possible level' (p. 240) and where skills, therefore, are not valued or developed. Burns' definition of the sector's skills seeks to go beyond the purely technical capabilities that those using 'unskilled' or 'low skills' descriptors assume. This can be linked to Ritzer's (2004) drama analogy for the service workplace in the sense that working in such an environment requires more than an ability to operate at a technical level. Emotional demands are made of employees to constantly be in a positive, joyful and even playful mood. An ability to cope with such demands must be recognised as a real skill.

This case is also argued by Poon (1993) who notes that new employees in tourism:

> 'Must be trained to be loyal, flexible, tolerant, amiable and responsible … at every successful hospitality establishment, it is the employees that stand out … Technology cannot substitute for welcoming employees' (p. 262).

Burns' emphasis on 'emotional demands' as an additional dimension of skills in the sector has been developed by Hochschild (1983) who introduced the concept of emotional work within the services economy, based on a study of airline cabin crew. Hochschild argues that service employees are required to manage their emotions for the benefit of customers and are, in part, paid to do this. Likewise, Seymour considers the contribution of what she calls 'emotional labour' makes to work in fast food and traditional areas of service work and concludes that both areas demand considerable emotional elements in addition to overt technical skills.

To the requirements of emotional labour in hospitality can be added the skills demands of what Nickson, Warhurst and Witz (2003) describe as aesthetic labour, the skills required to look, sound and behave in a manner that

is compatible with the requirements of the job and with the expectations of your customers. In many cases, aesthetic labour involves staff demonstrating the ability to respond to fashion and trend imperatives in the consumer marketplace in a way that is socially exclusive of many groups and cultures within society. Aesthetic labour is about appearance but can also be underpinned by cultural cache, the ability of front-line staff to understand and engage culturally with their customers on terms dictated by the latter. Thus, service staff in some contexts (airlines, luxury hotels, style bars and nightclubs) need to be able to engage in an informed manner with their guests or clients about politics, music, sport and almost any other imaginable topic, often from an international perspective. This requirement presupposes a certain level of prior education and cultural exposure as well as a commitment to remain up-to-date in these areas.

Hospitality work and the notion of social distance

Burns, above, rightly argues that the low skills perspective of the area under discussion is context-specific and is drawn from a western-centric view of tourism and hospitality work. He cites the inappropriateness of these assumptions when applied to environments such as the Soloman Islands, Sri Lanka and the Cook Islands. Likewise, Baum (1996) questions the validity of claims that hospitality is a work area of universally low skills. Much of the discussion about the universality of skills has focused on management competences and Lubatkin et al. (1997), among others, have developed a reasoned argument that, at levels of administrative responsibility, there is more in common to the work undertaken by managers in developed and less developed countries than there is to separate them. However, little comparable work has focused on front-line work in the service sector and, indeed, Farashahi and Molz (2004) argue for the recognition of divergence in the organisational cultures of firms of all kinds operating in developed and less developed countries. Baum's argument is based on the cultural assumptions that lie behind such employment in westernised, international tourism and hospitality work whereby technical skills are defined in terms of a relatively seamless progression from domestic and consumer life into the workplace. In less developed countries, such assumptions cannot be made as employees join tourism and hospitality businesses without western acculturation, without knowledge of the implements and ingredients of western cookery and service, for example. Learning at a technical level, therefore is considerably more demanding than it might be in western communities. Social and inter-personal skills also demand considerably more by way of prior learning, whether this pertains to language skills (English is a widespread prerequisite for work in this sector in many countries) or wider

cultural communications. On the basis of this argument, Baum contends that work that may be deemed unskilled in Australasia, Europe and the USA requires significant investment in terms of education and training elsewhere and cannot, therefore, be universally described as 'low skilled'. This issue is one that is beginning to assume significance in western Europe as a combination of service sector labour shortages and growing migration from new accession countries of the European Union and elsewhere means that traditional skills assumptions about those entering training and work in the area may have less validity than in the past.

To understand the context of hospitality skills in a less developed world context, it is useful to reflect on the nature of the relationship between those working in the sector and their customers in terms of their background and exposure to the international industry paradigm. Baum (2006) considers this in terms of the 'social distance' that exists between the two stakeholders in a tourism transaction. Baum notes that the sector, in developed countries, has become one of mass participation with increasing trends towards the creation of a workforce which mirrors its consumer market in its breadth of experience. The growth of seasonal, part-time and temporary working opportunities in most sectors of the industry means that, for many young people, positions in tourism-related companies represent an early exposure to the world of employment. At the same time, these same employees are, frequently, relatively seasoned consumers in their own right and have participated in both domestic and international travel to a considerable extent. In addition, their wider socialisation as children and young adults has been within a cultural paradigm that has much in common with many aspects of international tourism and hospitality in terms of the tools, products and rules of etiquette that are common to both the home and the industry environment. Thus, in developed countries, we have a significant proportion of employees who are versed and experienced in the needs of their customers, and the gap between the two groups does not have the importance that it might have had in the past.

One of the driving forces behind this change process has, of course, been economic in that overall prosperity in developed countries combined with a general reduction in the real-term cost of participating in tourism and hospitality means that consumer participation is much more affordable. But the democratisation of both consumer participation and work is not exclusively an economic phenomenon in developed countries. As we have seen, the nature of work has changed from its predominantly technical basis to include a range of, arguably, sophisticated generic skills, covering areas such as communications, languages and information technology as well as emotional and aesthetic labour inputs. As a result, the sector seeks to attract employees who are able to deliver on the emotional and aesthetic labour requirements of work and so they are brought into much closer proximity with their customers. For

some employers, their need is to recruit what Nickson, Warhurst and Witz (2003) call 'style' workers, people who physically and emotionally match their work surroundings and are able to identify with the products and services they are selling and fully empathise with the expectations and buying objectives of their customers. Guerrier et al. (1998) refer to this process in the Singaporean context where service workers are highly brand conscious in their choice of workplace, so that:

> 'The modern young Singaporean is disinclined to work in service unless the image of the product accords with her own sense of fashion. Working in Gucci means that the product becomes part of her own accessory range' (Guerrier et al., 1998, p. 34).

We now need to move this discussion away from a developed world context and take a look at the situation in less developed countries which are also more recent participants in the development of the international hospitality industry and where consumer participation is not at the same level. Here, the social distance between customers and guests is considerable, similar to how it was in the earlier days of commercial exchange in what are now the countries of the developed world. There are evident economic barriers to consumptive participation by those who work in the sector in the poorer countries of Africa, Asia and the Caribbean. However, as we have already indicated, social distance is not an exclusively economic phenomenon and, in many parts of the developing world, takes on cultural and political dimensions as well. The manner in which international tourism and hospitality is presented and its operating culture is predominantly western-centric and is far more remote from the everyday lives of people living in India, Tanzania or Cuba than it is from residents of Australia, Canada or the Netherlands. It is this combination of divergence (economic, cultural, political, experiential) which creates the high level of social distance between customers and its workforce in developing countries. This social distance, in turn, helps us to identify the differing skills demands that exist with regard to such work in less developed country environments when compared to that of contexts where greater cultural and experience proximity exists between employees and customers.

Our discussion to this point has been primarily based upon conceptual analysis. Empirical analysis beyond the anecdotal on this particular topic is hard to identify. One study, which addresses this theme is that reported by Baum et al. (2006). Their detailed empirical study of hospitality front office work across seven jurisdictions in four continents (Brazil, China, Egypt, Ireland, Kenya, Kyrgyzstan and Malaysia) in both the developed and less developed world, was designed to profile hotel front office staff in terms of their backgrounds, training profiles, working experience and perceptions of skills and skills development. The findings point to significant differences in the career and training

profiles of workers in this area of hospitality. The main conclusions of this study are worth summarising here:

- employees bring very different education and training profiles into a largely common (technical) workplace – reflective of economic, labour market but also cultural factors. Employees in less developed countries are more likely to have completed a formal programme of technical skills training in preparation for their work than their counterparts in developed countries.
- front office work shows clear gender differences across different cultural contexts, with a much higher proportion of male employees in less developed countries.
- employees bring very different skills profiles into the work area in areas such as languages beyond their mother tongue – those in less developed countries exhibit a rather wider range of such skills than their counterparts in developed countries.
- employment stability varies greatly according to context – length of service within a particular hotel and in a specific job ranges from short-term to fairly lengthy with a clear association between length of employment and the economic development of the country – labour turnover is far higher is developed countries.
- career ambitions vary across contexts, from a firm commitment to front office work and the hotel sector in general to rather looser commitment to the work area. Workers in more developed countries appear to have a much lower sense of career commitment to the industry.
- there is considerable divergence among respondents regarding the importance of specific aspects of front office work, and they vary across contexts. Employees in less developed countries place a greater emphasis on traditional technical skills than on the wider bundling of skills expected in more developed locations.
- there are evident variations in notions of job status, perceived position with a skills hierarchy, careers and career opportunities, vocational commitment and skills development in the workplace between employees in less developed and developed countries.

The findings of this study point, tentatively, to affirmation of the argument developed in this paper, that the demands of hospitality work vary according to economic and development context. It is suggested, from this research, that to work in international hospitality businesses, employees in developing countries need to bring a higher level of specific training as well as general educational attributes into the workplace in order to undertake the demands of the job. There is a clear need to extend this research to other areas of work in the hospitality sector, particularly those normally associated with low skills descriptions such as the food and beverage service.

Conclusions and implications

The argument that access to skills is derived from social and cultural experience is one that has practical implications for both vocational educators and employers. The real challenge for international hospitality businesses which employ workers from countries where social and cultural experience levels are at some variance from the industry operating culture is to help their employees bridge this gap. This is no mean challenge and is one that probably cannot be achieved through conventional training processes. In the international hospitality industry today, this is an issue that confronts companies delivering such services in less developed countries and requires action in terms of employee recruitment and training as well as in the programmes that are offered for the sector within the vocational education system. Traditional vocational training programmes, designed to prepare young people for work in the hospitality sector, are generally designed on the basis of a range of cultural expectations that providers make with respect to their students and trainees. In the changing and multicultural societies of many western European countries today, such assumptions may no longer be valid and educational providers may need to reconsider some of the fundamental assumptions upon which their programmes were designed (Devine et al, 2006). As one example of response, training and cultural awareness initiatives by Fáilte Ireland in the Irish Republic (Fáilte Ireland, 2005) are designed to complement the evident technical skills that migrant employees bring to the workplace and to compensate for their frequent shortcomings in emotional and experiential terms.

In practical terms, therefore, this study recommends that training programmes for hospitality work need to take full cognisance of the educational and cultural background of those entering training, relative to the work expectations of employers in the international hospitality industry. This is true of programmes offered in developing countries but also in developed countries in Europe, North America and elsewhere where hospitality education programmes attract a substantial number of applicants from migrant communities. Such programmes need to recognise the differing needs of such entrants in terms of:

- the duration of learning in order to recognise the additional time that students from non-traditional, migrant community backgrounds may require to develop technical, cultural and language skills;
- enhanced language skills development within programmes;
- approaches to service skills training;
- career development and educational development models.

The discussion in this paper, if the underlying thesis is accepted, also raises an extensive agenda for further research, not least the need to explore em-

pirically whether there is variability in the nature of work and skills in hospitality as a result of the development context. If the presence of social and cultural experience skills can be demonstrated empirically in international hospitality, it may be possible to develop scales that explore and measure such gaps, thus, perhaps, permitting development of training that could help to close them. There is a further and potentially intriguing theme for research into the possible impact on hospitality employees, with relatively divergent social and cultural experience profiles, that may result when they join international organisations. They may then be expected to close such gaps through training and exposure to different cultures and, as a result, be forced to act 'out of culture' and 'beyond personal experience'. Hochschild (1983) focuses on the harm that the demands of emotional labour impose on flight attendants and there may be a case that expecting employees to bridge the experiential and cultural divide could have similar, negative consequences. Alternatively, is Bolton and Boyd's (2003) case that emotion workers manage such demands and 'synthesise different types of emotion work dependent on situational demands' (p. 289) an alternative response model that has value in the context of our discussion here? Therefore, can Korczynski's (2003) 'communities of coping', acting as an antidote to the pressures of emotional labour, have some value as a strategy for workers faced with the pressures of divergent social and cultural experience profiles in international hospitality? This, too, represents an area worthy of further exploration.

This discussion has focused on the concept of social and cultural experience profiles as an indicator of contrast between developed and less developed country environments, arguing that the extent of proximity and exposure to Americanised models of international hospitality influences the learning skills demands for those entering work in the sector. This paper further argues that a similar notion has validity within the societies of developed economies in that the cultural diversity born of recent migration into hospitality work in many western European countries may have skills training implications in experiential and cultural terms. There is a case to explore whether expectations of proximate social and cultural experience profiles in work such as international hospitality also act in a way that is socially exclusive within westernised, developed countries. Nickson et al. (2002), in their study of service work in Glasgow, note that employers' aesthetic labour demands were clearly socially exclusive and that these demands acted to the detriment of sections of the economic and social underclass in the city. Similar exploration of international hospitality work in terms of the implicit experiential skills that it demands within major cities in Europe and North America is an agenda worthy of exploration but is one that has not been addressed here.

Social and cultural experience as a component within the delivery of hospitality skills is proposed here as a concept for debate and to guide thinking

in this important academic and practitioner field. Without further research into this currently neglected area, its value as a concept is difficult to ascertain. There is also a pressing and recognised need to address the nature of hospitality skills deficiencies in less developed countries (Kaplan, 2004). This paper is offered as a contribution to furthering understanding of the nature of this extremely complex skills bundle within the sector, in the hope that it can assist in meeting this need.

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Changing an award-winning system – for better or for worse?

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SUMMARY

This paper deals with the latest structural changes in the Danish vocational education and training system (VET), a system so far characterised by a principle of alternating between practical training and theoretical instruction. Structural changes can be described as a shift of paradigm, which might be seen as a regression compared to the Danish VET system that received the Bertelsmann prize in 1999. The shift can also to some extent be viewed as a step backwards in achieving the political programmes and goals such as the Lisbon strategy.

The principle of alternating training and education

Initial and continuing vocational education and training policy during the last decades has become a still more important political instrument within and outside the political context of labour market policy to handle problems related to global economic developments and efforts to become a more learning society. When discussing how to create special mechanisms for transitions to the labour market which benefit the individual, enterprises and society in general, attention often centres on the principle of alternating education and training.

The alternating principle can be seen as a unique example of bridging the public and private sector, and school and work (Heinz, 2002; Ryan, 2004). Vocational education and training (VET) has been the subject of increasing political and research interest in recent years (Lave and Wenger, 1991; Heikki-

nen and Sultana, 1997; Nielsen and Kvale, 2003). The reason for this grow-ing interest is that research into the concepts such as 'qualifications', 'com-petences', and 'learning' have generally sought to examine and discuss these concepts in relation to work and the learning potential inherent in working life, namely something that transcends a purely institutional understanding.

In the Danish educational system in general, the construction of VET, that is the organisation of education and training for skilled labour, has often been singled out as possessing some special qualities. On the one hand they en-sure that the scope of education in different trades matches the needs of the labour market. On the other the programmes, based as they are on the al-ternating principle, involving participation in the firms' production activities, are realistic and reflect present and future qualification needs.

It is well known that the Danish VET system belongs in the welfare state corporatist steering model, characterised by involvement of social partners at all levels in education.

Interaction between the actors in the Danish VET system and the inter-national approval of the alternating principle of the VET programmes, among other things, led to the awarding of the prestigious German Carl Ber-telsmann Prize to the Danish VET system in 1999.

The Carl Bertelsmann Prize is awarded for an innovative approach to solving problems and, in choosing Denmark, the award committee specifically emphasised the Danish VET system's ability for continuous improvement. With this prize, Denmark could congratulate itself on having 'the best vocational education and training system in the world'.

However, despite this acclaim, signs were emerging at the beginning of 2000 that a departure from the traditional way of viewing the Danish VET sys-tem and its principle of alternating training and education was underway.

In 2003, in connection with a political compromise, this departure be-came noticeable, and led, among others, the Danish Council of Econom-ic Advisers to express concern in a report published in the autumn of 2003. Before considering this concern over the future development of the VET sys-tem in more detail, it is important to take a step back and present an outline of the varied and conflicting interests, to have a better understanding of how and why Denmark was able to win the Bertelsmann Prize.

From members of the same trade to separate class-related groups

Apprenticeship education, or the tradition of serving as an apprentice under a master, has long historical roots, dating back to the Middle Ages, to the time when training and education was governed and regulated by the guilds (Jespersen, 2003).

During 1860-1880 a significant crisis occurred in the Danish apprenticeship education, sparked by the Freedom of Trade Act of 1857 and the liberalisation of apprenticeship contracts, turning them into private law contracts. This change had serious consequences for the quality of apprenticeship education. It constituted a threat to the quantitative and qualitative aspects of both apprenticeship education and the demand for skilled craftsmen. Liberalisation resulted in reproduction problems within the trades (Sørensen, 1988; Sigurjonsson, 2003).

The self-governance of the trades, and regulation of quantity and quality of the VET programmes

In the early 1900s, the voice of the trade union movement began to be heard on the boards of the vocational colleges, and started focusing in earnest on training conditions in firms and making theoretical and technical instruction an obligatory addition to apprenticeship education. The door was open to turning apprentice education into a cooperative project for the social partners, as trade unions and employers looked at apprenticeship together as a common task from a quantitative and a qualitative control viewpoint. Gradually this cooperation became institutionalised, leading to the Apprenticeship Act of 1937, which spread this form of cooperation to all trades (Sørensen, 1988; Lassen, 2002).

At the beginning of the 1950s, changes happened in VET as several state initiatives were launched to prepare the labour market for expected rapid technical and industrial development. On the justification that firms provided too few apprenticeships, an attempt was made in preparing the Apprenticeship Act 1956 to make it more attractive to provide apprenticeships. The most far-reaching changes of the 1956 Act were to the school-related part of apprenticeship education. The new Act stated that over an eight-year period, all trades would have to offer day-time school-education instead of evening schools. This meant that the school part gained an independent role alongside the training in firms, while still subject to the 'self-governance of the trades' (Mathiesen, 1976; Sørensen, 1977, 1988).

The Achilles' heel of the VET system – reproduction problems

At the end of the 1960s, the supply of apprenticeships started to stagnate. At the same time there was criticism of the system from apprentices, which were widely supported by trade unions, and were met with some understanding among employers (Mathiesen, 1976, 1979; Sørensen, 1977, 1988).

As a result of this criticism, a reform committee was appointed, which produced a new model, called the EFG ([1]) system. The aim of EFG was for all apprenticeships to start with one year of full-time school education, followed by two to three years of practical training in a firm. Most political parties were very enthusiastic about the new VET model, which co-existed with the 'old' apprenticeship model throughout the 1970s. Previously it had not been clear or statistically evident how many potential apprentices looked for work placement in vain, or how many employers offered apprenticeships without success (Mathiesen, 1976, 1979; Sørensen, 1977, 1988). These problems became visible with the introduction of EFG. Gradually the numbers were registered and statistics presented. This paved the way for VET to become an important item on the political agenda.

From the late 1970s until the late 1980s, politicians tried to make VET more attractive by granting additional subsidies for firms willing to provide extra work placements. Generally, the political system and labour market organisations tried several measures to alleviate the problems, but despite these efforts the number of work placements remained insufficient (Sørensen, 1987).

School-based practical training scheme

Because of the lack of work placements, many young people were left stranded in their apprenticeship after one year of school education. At the beginning of the 1990s a new Act introduced a school-based practical training scheme, which guaranteed that these young people were able to finish their apprenticeship – the so-called youth education guarantee (*Undervisningsministeriet*, 2002a). Consequently, in Denmark – besides the ordinary, dual system of apprenticeships – the possibility of participating in school-based practical training (SPT) was a 'lifebelt' for youngsters who failed to find work

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[1] *Erhvervsfaglig grunduddannelse* – translated: vocational basis programme, but in Danish terms it is shortened EFG.

[2] The Employers' Reimbursement Scheme (AER) provides more practical training agreements within the VET system. Public and private employers contribute to AER and both employers, students, schools and local training committees can get financial support for training students. The Danish parliament in 1977 established AER as an independent institution. AER is directed by a board consisting of social partners. About 90 000 employers contribute to AER. Both public and private workplaces can get some expenses of having apprentices refunded. AER helps the government by administrating arrangements, to help provide more training agreements with the employers.

placement. The SPT system was financed by a refund mechanism for employers with apprentices, in Danish terms called AER (*Arbejdsgivernes Elevrefusion*) ([2]).

During school-based practical training, apprentices – and legally they are apprentices – are obliged to continue searching for a 'normal' work placement contract. Many succeed, and some spend half the time of their apprenticeship in 'school-practice' and the other half having practical training as an employee in a firm under an apprenticeship contract.

Despite establishing the school-based practical training scheme, throughout the 1990s it was necessary to apply several different policy instruments in an attempt to alleviate work placement shortages. Instruments used were primarily persuasive or motivational programmes, but not to much avail. From 1993 to 1996, ordinary work placement contracts increased from approximately 34 000 to around 38 000, but declined from then on to 31 000 in 2000. Consequently school-based practical training arrangements showed a marked upward trend over the same period, from some 3 700 in 1993 to 7 000 in 2003, as the number of ordinary contracts fell to 26 000. This happened despite a tripartite agreement made by the then Social Democrat-led coalition government and the Confederation of Danish Trade Unions and the Danish Employers' Confederation in 2000, to secure a minimum of 36 000 ordinary work placement contracts by 2004 (*Undervisningsministeriet*, 2000). Table 1 below illustrates the problem statistically.

Table 1

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Entered agreements	34 094	36 734	39 600	38 274	31 228	34 512	31 285	31 007	28 954	27 667	26 476
**Population seeking placement	10 516	9 298	7 600	7 346	7 227	7 900	*	7 387	9 733	10 076	10 771
Population of SPT	3 700	3 880	3 304	2 957	3 265	3 444	*	5 791	6 125	6 235	7 562

Source: *Undervisningsministeriet* [Ministry of Education], 2000; *Undervisningsministeriet* [Ministry of Education], 2004a.
* Because of diversion of register from one IT-system to another, there is no valid information about population seeking placement and population of SKP.
** Population of seeking is inclusive the population of SKP.

Also from 1995 to 2003 there was a significant displacement of the distribution of the flow in the VET system:

Table 2

	1995	1996	1997	1998	1999	2000	2001	2002	2003
Ordinary	94 %	92 %	86 %	82 %	78 %	76 %	74 %	73 %	72 %
Adult students	1 %	1 %	4 %	10 %	10 %	9 %	10 %	10 %	7 %
SPT	5 %	6 %	9 %	9 %	12 %	14 %	16 %	17 %	21 %
Total	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %	100 %

Source: AER, 'Frafald på erhvervsuddannelsernes hovedforløb', 2004.

Table 2 shows that 5 % of students started their training in SPT in 1995, increasing over the period up to 21 % of the total flow in 2003. Students starting training in adult agreements also increased over the period. Earlier analyses show that the number of adult students is influenced by the conditions for participation set by labour market measures, in particular subsidies paid by the public employment service (AER, 2004).

Individualisation in the VET policy
During the 1990s there were many VET reforms, increasingly focusing on individualisation, and in particular, Reform 2000. The aim of this reform was to make the VET system more accommodating and both the system and individual programmes less restrictive, by relying on two main principles: a simplified structure and increased programmes' flexibility (*Undervisningsministeriet*, 1999).

It was in the middle of the Reform 2000 process that Denmark was awarded the Bertelsmann Prize and its VET won international acclaim as 'the world's

best'. But already a number of circumstances gave the actors in the educational area cause for concern. Among these were a drop in the number of work placement contracts, a rise in drop-out rates, increasing numbers of students in school-based practical training, a decline in applicants for the programmes, and disappointing numbers of apprentices continuing in further education after finishing their VET programme.

Attempts had been made by means of a tripartite agreement in 2000, because of work placement shortages and drop-out rate, to set up common positive goals, but without much success. In 2002, another attempt at solving the problems was initiated by the political system. The process involved a bill to promote 'simplification and increased flexibility' in all VET programmes. The bill was the result of a deal made by the centre-right government in 2002 with the Confederation of Danish Trade Unions and the Danish Employers' Confederation on vocational education and, a budget compromise which the minority government negotiated with two smaller parties. The bill provoked concern and protests from employee organisations, teachers' associations, regional employment councils, VET institutions, trade committees and student bodies.

Modernisation of the alternating principle of the VET programmes

The 2003 budget was agreed between the minority government and two other liberal parties on general improvements in the educational system. This agreement led to a government report in June 2002, containing an action plan for 'Better education'. Specifically on VET, the action plan says that the alternating principle should be reevaluated and rethought, and that the requirements as to the duration of the programmes and work placements should be less restrictive (*Undervisningsministeriet*, 2002a)*.

Prior to the official presentation of this action plan, work had started in a committee including representatives of employers, employees, teachers' associations and college bodies, and the Ministry of Education. The committee produced two reports, which both outlined proposals for changes in the structure and the content of the VET programmes. These reports came to be seen by the political system as general recommendations for the new bill (*Undervisningsministeriet*, 2002b, 2003c, 2003e). The quote below, from the first report, gives an indication of the drift of a new way of thinking in relation to the traditional Danish alternating principle:

'Today VET programmes lead to one level when completed: skilled workers. However, experience from abroad (the Netherlands) shows that VET programmes can be structured to incorporate several levels, which all in their own

right give competences in the labour market. They all lead to employment' [own translation] (*Undervisningsministeriet*, 2002b).

Before work started in the committee, three large employers' organisations, the Danish Commerce and Services, the Confederation of Danish Industries and the Federation of Employers for Trade, Transportation and Services drafted a joint paper, presented the same month as the committee on modernisation of the VET system started.

In this paper, the three organisations repeatedly emphasised the need for a VET system that focuses on the enterprise perspectives of apprenticeships, and pays close attention to the rapid changes in enterprises. According to the three organisations, this would best be realised by establishing a modular VET system in which the concept of alternating training and education would be applied in a new setting.

On the future content of the programmes, the three organisations considered it reasonable to end the tasks assigned to the trade committees in connection with providing work placement, as the organisations found that, in principle, in future it would be the sole responsibility of the student to design his or her own programme.

The major part of the content of the employers' paper can be found in the committee's reports, which indicates that in many ways it was the employers who plotted the new course for the revision of the VET system.

From proposal to Act
In summer 2003, the Bill became an Act establishing the new model for VET programmes. Changes introduced by the new Act, generally speaking made it possible for students to complete programmes faster than the prescribed duration, and for programmes to be shorter, individually tailored and composed of parts of one or more VET programmes (technical and commercial VET programmes can be mixed) (*Undervisningsministeriet*, 2003f, 2003g). In a rough outline the changes can be illustrated as below:
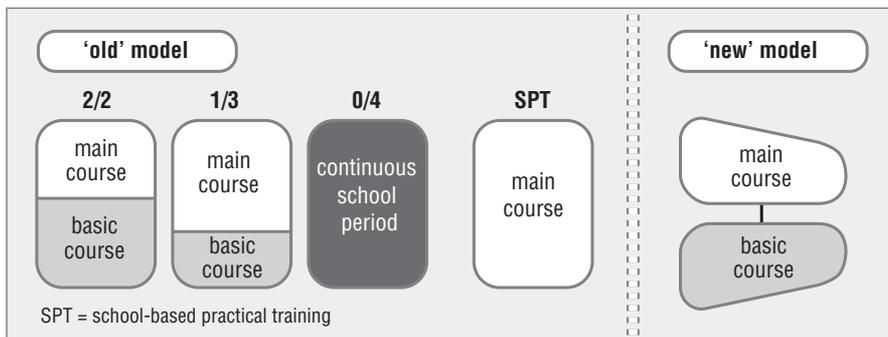
In the 'old' model the average duration of VET programmes was approximately three and a half to four years. This included the basic course, which lasted an average of 20 weeks (varying from 10 to 60 weeks) for technical training and one to two years for commercial and clerical training (models 2/2 and 1/3). The in-company training constituted approximately half to two thirds of the entire programme.

The school-based part also consisted of a syllabus divided into four parts: basic subjects, area subject, special subjects and optional subjects. Once students found a training place, a training contract was concluded between them and the enterprise. The contract covered the entire course – on-the-job training periods, school periods and final examinations. Next to these models was an alternative model 0/4 (actually the oldest model). In this model, students found a training place from the beginning and could start their training in the enterprise instead of doing basic courses at school.

For those students who, after a maximum of two years, were not able to find a training place, vocational colleges offered school-based practical training.

The model above is a simplified version, but illustrates the changes in overall terms. Changes to the legal foundation of VET programmes opened up the possibility to design flexible programmes, both in terms of duration and content. The key word, in this increased flexibility is 'assessment of competences', which means that when starting a VET programme, the college evaluates each student's qualifications and competences, both those acquired in previous school education and in previous employment, to rate them for potential credit transfers. Also there are no longer any special requirements as to the weighting of basic, vocational, specialist or optional courses. According to the executive orders for some of the new programmes, the purpose is not that all students acquire the same qualifications, but instead that the students acquire competences according to the individual educational plan and the target of the programme. The executive orders point out that within the frame of a programme it is also about constructing an individual job profile for each student to improve their chances of employment.

The intention of the changes, which politically were termed 'Modernisation of the alternating principle and new initiatives to replace the school-based practical training' aimed to get to the root of the work placement problem.

The figure below illustrates the present Danish VET system as a part of the overall education system.

Danish education system

Years of education	Basic education system	Adult education and continuing vocational training		
		Adult vocationally oriented education	General adult education	Liberal adult education
13 - 17	Long-cycle higher education	(1) Master level		
13 - 15		(1) Diploma level		
13 - 14	Bachelor; Medium-cycle higher education; Short-cycle higher education	Further adult** education		
10 - 12	General and vocational upper secondary education; Vocational education and training	(1) Basic adult education (GVU); (1) Adult vocational education and training (VEUD); Continuing vocational training programmes (CVT) and Adult vocational training (AMU)****	Higher preparatory examination (HF); Danish as a second language*****; Special education for adults	Folk high schools***; Day folk high schools***; Evening schools***
9 - 10	Primary and lower secondary education		General adult education; Preparatory adult education	

Note: The figure only shows levels, not the extent of activities. The white boxes indicate the changes due to the VEU-reform.

* Open education outside the basic education system. **Introduced 2001 as part of the Adult education reform, (Danish abbreviation for further adult education is VVU). *** The level cannot be indicated precisely. ****Only this education programme refers to the Ministry of Labour, while the other levels of education programmes refer to Ministry of Education. *****Education designed for foreigners.
Danish abbreviation for general adult education is AVU, Danish abbreviation for preparatory adult education is FVU.
Source: Lassen et al., 2006.

The pivotal intention was, in short, to make more students complete a VET programme under an ordinary apprenticeship agreement, and make sure that fewer were referred to the school-based practical training. This would happen by means of, among other things, the new shorter, stage programmes, awarding schools for every new work placement agreement secured, a tightening of the rules on students' vocational and geographical mobility, reducing the financial support for students in school-based practical training, making the market for work placement more transparent and flexible, and by limiting the number of school-based training places in selected areas to reduce the total number of new students of approximately 7 000 a year (2004) to a maximum of 1 200 a year in 2005 (Ministry of Education, 2003a).

Further, in reaching the goals of phase II, the Minister for Education was given more power to set up ad-hoc committees. Such committees can be set up to take over tasks and functions normally undertaken by the national trade committees, to establish new programmes in case the minister finds that the organisations in question or relevant trade committees do not show enough initiative in the area. The minister has thus been empowered to order an ad-hoc committee to develop programmes within specified areas of employment

or lines of business. (This policy instrument was used as a tool in 2004 to present 29 new, short programmes, all ready for launch on 1 January 2005. These programmes last one and a half to two years; some are exclusively school-based, others include a brief work placement period ([3]).)

From 1 January 2004, the state took over the costs of funding school-based practical training from the employers' refund system (AER). Employers now contribute to the VEU grant, which is for adult learners participating in continued vocational education and training. In other words, enterprises will take on more responsibility for continuing and further education.

The way the Danish VET system has been developing since the Bertelsmann Prize can be summed up as a development strongly marked by incentives for increased flexibility and individualisation. Apprentices or students are supposed to design their own personal VET programme and colleges, enterprises and students are encouraged to establish new, shorter (or longer) VET programmes. This development provoked both concern and protests from many of the actors in the area.

Concerns about the recent developments in the VET system

Approximately 40 % of a cohort of young people every year start in a VET programme. The 2002 Bill was an attempt to alleviate the complex of problems troubling the VET system, but also to express a political intention to spur new growth and dynamism in society. In this context, Danish education and training need to live up to high international standards and quality, to keep up with competition in a globalised world.

On these changes in the VET field, The National Board of Advisers on Economic policy wrote:

'The problem of mismatch between the young people's specific vocational wishes and the number of work placements available will diminish with the agreement on school-based practical training. The reduction in the number of these practical training places can, however, have unintended negative effects, for instance that young people drop VET in favour of the general tertiary colleges – or choose no post-school education at all.' (The National Board of Advisers on Economic, 2003) (own translation)

Similar concerns came from the Confederation of Danish Trade Unions, from the Timber Industry and Construction Workers' Union. A note from the Ministry of Education following a meeting with the National Vo-

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[3] Examples of new, short VET programmes: power supply operator (short programme under the electricians' trade committee), construction fitter (short programme under the carpenters' trade committee), health clerical worker (short programme under the medical secretary programme), office worker (short programme under the administrative assistant programme).

cational Education and Training Council and the trade committees in September 2003, said that generally speaking the trade committees estimate that there is little real labour market need to establish shorter programmes, and that consequently only a few of the committees were considering this option.

Despite these concerns and protests, the four political parties behind the deal went ahead with their plans, and on 1 January 2005, the short and graduated VET programmes became a reality.

From a policy-analytical point of view, Phase I and Phase II of the multiannual compromise deal signify a paradigm shift, in steering VET and the traditional Danish alternating principle of the programmes. In relation to steering, the position of the Ministry of Education, now able to set up ad hoc committees, has been strengthened vis-à-vis the social partners. In principle it will be possible to change the VET programmes to leave out the work placement and make them predominantly school based. This is, however, not presented as a political goal, as the parties behind the compromise emphasise that they wish to maintain and strengthen the alternating principle and involvement of social partners in the programmes.

Before debating what kind of problems this development of the Danish VET system might produce, the next section will describe the political programmes and goals from both international and national levels to try to link the content of this paper to the European debate about employment and education.

Better education and better jobs

At the summit meeting in Lisbon in 2000, the EU's Heads of State and Government agreed on a common objective of turning Europe into the most competitive knowledge-based economy in the world with more and better jobs and greater social cohesion. The European Council further emphasised that this goal, in addition to demanding a radical transformation of the overall European economy, would also require an ambitious programme for modernisation of the social welfare and education systems (European Council, Lisbon, March 2000).

At a subsequent meeting of ministers in autumn 2002, under the Danish EU presidency, 30 European ministers of education signed the Copenhagen declaration 'On enhanced European cooperation in vocational education and training'. The Copenhagen declaration, as well as other political programme statements on how to fulfil the objectives set out, emphasises the vision of creating better access for all to lifelong learning and to acquiring the competences needed.

The concepts 'competence' and 'lifelong learning' have been defined in several reports from both the EU and the OECD. A common characteristic in these definitions is that competence has a wider meaning than just knowledge, and that skills are context-bound and can therefore not be determined once and for all.

Generally, the political documents attach a lot of importance to 'competence' and 'lifelong learning', but emphasise that they also, in addition to their employment-related aspects, include aspects such as active citizenship, personal satisfaction and social inclusion.

The OECD's and the EU's preoccupation with 'lifelong learning' and 'competence', along with the Lisbon and the Copenhagen declarations, indicate that education in general, and VET in particular, in the 20th century and even more so in the 21st century has come to play a pivotal role in society.

It is often said in the political debate that it is extremely important that the labour force, the employees, become able to take on more responsibility, be creative, willing and able to share their knowledge in cross-functional teams, plus that they must be prepared to update their knowledge and competences throughout life.

On the background of the policy statements and objectives at both international and national levels, the next section will discuss and question whether the Danish development of the VET system to some extent can be viewed as a step backwards to achieving these political programmes and goals.

Two distinct markets of demand and supply of apprentices

In the mid-1800s, the Freedom of Trade Act in Denmark eroded the foundation of the sociological and political mechanisms for regulating apprenticeships. It had immediate repercussions for the quantity and quality of the skilled workforce. In the ensuing political struggle to, among other things, safeguard the interests of apprentices as employees, a rough sketch of the Danish steering model for VET was developed. Skilled workers' unions and their opposite numbers from the employers at national level together formulated their demands as to which technical and professional qualifications the state was to provide apprentices. These demands were mostly accepted by the state.

Generally speaking the role of schools, and the state, had been expanding throughout the early 1900s, due to pressure from the labour market parties. That the state chose to meet the demands from the organisations as a matter of course is no surprise. The reason is that in reality the market for VET is not one market, in the sense that the supply of apprenticeships equals the firms' demand for skilled workers. Rather, the situation is one of two

co-existing markets, and the supply of a certain number of apprenticeships is not identical with the real demand for skilled workers from the enterprises.

The basis of this two-market logic is that many, often large firms, which in fact have a great need for skills and qualifications, are unable to educate and train the skilled workers themselves, for example because of a high degree of specialisation, technology, rapid changes, fluctuating employment, etc. Conditions of either internal or external character make it impossible or difficult to live up to the training requirements – these firms can be described as apprentice-recruiting enterprises. Vice versa, some often smaller, craftsman-like firms may be able to meet the requirements inherent in the VET rules and regulations and also have some financial benefits from training apprentices, but have neither the need nor the financial resources to employ them when qualified. These firms can then be described as apprentice-producing enterprises. In other words, some firms have the means and resources to produce the qualifications, whereas others do not, but instead they have the means and resources, and a need, to employ the qualified workers.

These are in essence the two markets: 1) the first market relates to the demand for apprenticeships from young people, and supply of apprenticeships, or work placements, from the enterprises; 2) the second market relates to the supply of newly educated skilled workers on the one hand, and the demand for qualified employees on the other. (For clarification of this two-market logic, see Sørensen et al., 1984; Lassen and Sørensen, 2004).

The overall pattern is that the majority of apprentices are trained in small and medium-sized firms, but these only account for a relatively modest part of employment, whereas the big firms, who account for the major part of employment, only produce a small number of the apprentices (Ministry of Education, 2000). The ratio of producers to recruiters can vary across industries and trades, but in general this pattern can be found to some extent within all categories.

Recruiters and producers of skilled labour power

This division of firms into producers and recruiters important, given the increasing reliance on the school part of vocational education and training. It is worth bearing in mind that, historically, when insisting on comprehensive professional and pedagogical objectives for in-firm training, the result has often turned out to be a fall in the number of firms able and willing to offer work placement. In practice, this has usually meant that any increasing or changing qualification requirements were transferred to the colleges. It has thus been possible to increase the level of qualifications, without increasing the demands on the firms too much and risk a drop in the number of apprenticeships. Over the years, as firms have had difficulties in meeting the rules and regulations concerning the breadth and depth of the qualifications

of the programmes, colleges have taken over more and more of the quali-
fication responsibilities.

In the light of the new initiatives involving shortened programmes and the
significant reduction in school-based practical training, together with the in-
troduction of real competence assessment, individual education plans and in-
dividual job profiles it might be argued that the dominant discourse seems to
be the one-market perception. This can be described as a more demand-led
system. Some worrying perspectives begin to emerge as to the development
of the qualifications of skilled workers.

If the new, short and graduated programmes become more attractive for
many apprentice-producing firms, this may first of all lead to a much narrower
set of qualifications, which will not increase the young people's possibilities
of mobility in finding a job elsewhere in the trade. Length of education is of
great importance in getting access to certain jobs and the subsequent level
of payment. The lack of workplaces in most cases affects those with relatively
minimum education and it is the rank of each individual in the labour market,
which is decisive for the individual's income opportunities (Hansen, 2003; An-
dersen and Sommer, 2003).

Second, it will also cause problems for the recruiting firms, who need skilled
workers with broad and up-to-date qualifications. The spread of real compe-
tence assessment and individual job profiles brings no guarantee that the work-
force acquires competences embracing both work capabilities and work will-
ingness, which are the core of the definitions of competence made by EU and
OECD. Despite enterprises having almost identical technology/productions
facilities there are very often different types of job profiles and work organi-
sation – and very diverse qualification demands. This is often referred to as
the elasticity thesis, which means that the same technology is compatible with
different forms of work organisation, and thus also different qualification de-
mands. This perspective makes it important to understand that education must
embrace both the breadth and depth of a trade (Sørensen, 1988; Jørgensen
et al., 2004).

Conclusion – for better or for worse?

The increasing focus in recent years on education and training in relation to
economic and employment policy cannot be ascribed solely to the rhetoric
presently in vogue about the type of economy emerging and the accompanying
demands for transformation of the qualification structure within the workforce.
At issue in the Danish context is also the fact that more than a third of the work-
force have no vocational or other qualifications at all, and that about a fifth
of a cohort of school-leavers still fail to acquire any kind of formal qualifica-

tions. Further, there is the problem that many young people who start in a vocational or other programme drop out of the system without completing their education. (Økonomiske Råd [The Board of Economic Advisers], 2003.)

Political documents from the EU and OECD attach a lot of importance to 'competence' and 'lifelong learning', but emphasise that they also, in addition to their employment-related aspects, include aspects such as active citi-zenship, personal satisfaction and social inclusion. Looking specifically at documents such as the Lisbon strategy and the Copenhagen declaration, goals such as creating more and better jobs and greater social cohesion, creating better access for all to lifelong learning are also emphasised.

In the light of the new initiatives involving shorter and *stage* programmes and the introduction of assessment of competences, individual education plans and individual job profiles, it might be argued that the changes in the Danish VET system is for the better because more students have a chance of completing a VET programme. The system is now organised to the concept of lifelong learning. In that sense the goals of social inclusion and access for all to lifelong learning can be reached.

In Denmark the school-based practical training scheme was a guarantee that a young person could complete their VET programme. At the same time, it could also have been used as an instrument to differentiate the duration of the practical training element of the programmes, depending on the needs in different trades. Instead of expanding the SPT, it was decided politically to introduce new VET programmes with a shorter duration. These new programmes may succeed in increasing the number of young people who complete a vocational programme, but if the price is a programme quality so low that it cannot be expected to develop the students' ability to act independently, reflect, to be able to use tools interactively, or to work or function in teams or social groups, then the result might be increased polarisation and elitist orientation. In that case the political objectives of furthering social inclusion and cohesion seem doubtful (Hansen, 2003; Lassen and Sørensen, 2004). Further, this perspective according to the Lisbon goal might in the short run lead to more jobs, but at the same time raising the questions of which kind of jobs. In other words will it lead to better jobs and fit future needs and changes of the workplace structure?

In relation to people's chances of finding a job, it could be argued that is it crucial that they have acquired a suitable breadth of technical and vocational qualifications to gain a foothold in a certain sub-labour market.

People having broad vocational competences will often develop a professional identity – a perception of oneself as a professional, possessing all the qualifications required by one's trade. Such a person is probably less likely to make do with continuing education that is narrowly focused on the present needs of a single firm. It can be argued that the alternating principle, with

its combination of college instruction and on-the-job practical training, helps develop a professional identity in the young people, based on an understanding of the breadth and depth of the trade. (Rasmussen, 1990; Juul, 2004; Smistrup, 2004; Lassen and Sørensen, 2004.)

Without a professional identity and an understanding of trade-related qualifications, a basis may be established for interpreting the need for continuing education as a need to serve the specific interests of an individual or a single firm, totally ignoring the societal interpretation of the needs for continuing and further education. The way VET is developing at the moment, the requirements on the breadth and depth of the programme will, in principle, depend on whatever the young person and their employer and/or college end up choosing as relevant modules. Development of competences may turn into a highly differentiated matter, and not necessarily something that leads to a deep-rooted professional identity (Jørgensen, 2001).

A professional identity implies having real opportunities to choose jobs in an open labour market, and having the ability and self-confidence to want and be able to take part in continuous and further education. Lack of development of a deep-rooted professional identity can thus work against the political objectives of improved access to lifelong learning.

Further, the new ways of structuring the VET programmes outline a perspective that VET in Denmark will in practice in future be narrowed down to a matter of producing a flexible and so-called competent workforce, at the expense of relegating the more democratic goals of general and civic competences to a lesser status. This may make it difficult to achieve the political objectives of giving everybody the opportunity to achieve several personal competences and skills, and the wish to maintain values such as freedom of speech, equality, tolerance and democracy (Sørensen and Lassen, 2004; Andersen and Sommer, 2003).

The Danish apprenticeship system is a part of the initial VET system. It is a professional basic education which, beside from aiming to qualify each individual to perform well in working life, also has to qualify the individual to participate in society, everyday life and to further education.

This article has tried to explain the dynamics in the development of reforms in the VET system through a discussion of the outcomes of these reforms. The core of the discussion is whether or not the developments in the system live up to the demands of the future labour market in general and provide the individual apprentice with the abilities essential to have a vocational education that supports the struggle for a better life and a labour market higher value. Regarding changing the system for better or for worse the author of this article finds the perspective very worrying.

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Student flows and employment opportunities before and after implementation of a third year in vocational programmes at upper secondary school

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SUMMARY

The present study describes students flows before and after the latest reform of upper secondary school in which a third year as well as a new grading system and new entrance requirements were introduced in vocational programmes. Published and unpublished data on student flows through upper secondary school before and after implementation of the reform form the basis of the study.
Results show that after implementation of the reform the number of students who left upper secondary school without completing their education increased dramatically. However, most dropouts left upper secondary school late in their third year. Employment opportunities were much better for this group than for those who had left school in their first or second year, but not as good as for those who had completed a vocational upper secondary education.

Introduction

Great changes took place in the Swedish school system during the last century. The decision on compulsory schooling for all children was taken in 1842, but it was not implemented until the turn of the century (Marklund, 1980). At that time only 1 or 2 % of an age cohort enrolled in upper secondary educa-

tion (Erikson and Jonsson, 1993). Today almost all young people continue their studies at upper secondary school after nine-year comprehensive, compulsory school (98% in 2004) (National Agency for Education, 2005). This dramatic change did not take place continuously. Most changes took place in the 1950s and afterwards. Reform of upper secondary school started in the 1960s. Schools of technology (four years) and schools of commerce (three years) were integrated at upper secondary level with academic upper secondary education (three years) in 1965. A few years later in 1971 vocational training was also integrated in two-year programmes with some general education included. In addition several vocational courses were created, which usually lasted one year. A few other programmes which were neither vocational nor strictly for preparing for higher education also became two-year programmes. The aim of this reform was to create more equality in educational opportunities (Härnqvist and Svensson, 1980). Another aim was to raise the competence of the labour force and ease job changes due to technical developments (Olofsson, 2005).

At the beginning of the 1990s a reform of upper secondary education was implemented in which all programmes became three-year programmes. Soon afterwards upper secondary schools were considered antiquated and new changes were proposed and discussed. The proposed changes were much criticised and never decided on in parliament. Instead the government presented a bill for gradual reform in 11 steps (Government Bill 2003/04:140), which would have been implemented in 2007 had the government remained unchanged after the election in September 2006. The new government stated that it wanted a more extensive reform of upper secondary school than the 11 steps and therefore stopped this gradual reform. They will carry out a new study of upper secondary school.

Thus, school policy is a constant political debate and of vital importance in a fast changing economy and labour market. In this debate it is interesting to investigate what happened after the last reform of upper secondary school when a third year in vocational programmes and a new grading system was implemented. It is important how student flows through upper secondary school and how employment opportunities for young adults developed after implementation of the reform.

Aims of the study

The aim of this study is to investigate the flows of pupils/students through upper secondary school before and after the most recent reform of the Swedish upper secondary school in 1991. We investigate whether the number of young people without an upper secondary education increased after the reform. Flows through upper secondary school will go back as far as the 1960s to show the changes over a longer time, rather than just prior to implementation of the reform. Another aim of the study is to investigate employment opportunities for young adults who completed new vocational upper secondary education after the reform and for those who did not complete it. Have these groups more difficulties in getting a job than before the reform?

Method and data

Flows of pupils/students through the Swedish school system are quite well documented in a longitudinal project (evaluation through follow-up) in which a sample of an age cohort of pupils are followed through the school system every fifth year (Härnqvist, 1998). The sample size is about 10 000 pupils for every cohort under study. The first cohort was born in 1948 and the latest in 1987. Statistics from this project are taken or calculated from published reports.

Flows of students through upper secondary school have also been documented in follow-up studies of school leavers from nine-year comprehensive school. They have been investigated at age 23, by Statistics Sweden, on their educational attainment and occupation after leaving school. The first cohort was investigated in 1978 (Statistics Sweden, 1980). They left comprehensive school in 1971, when they were 16 years old. They were also the first to attend integrated upper secondary school (gymnasieskolan) created following changes introduced in 1971. This type of follow-up study of school-leavers seven years after leaving comprehensive school was also carried out in 1986 and 1995 (Statistics Sweden, 1987; 1996). These studies were based on large samples of young adults (12 800 – 16 000 persons).

The statistics on educational attainment from these studies presented in this article are calculated from published reports. The statistics on employment status are unpublished data from separate research projects based on the above-mentioned follow-up studies (Murray, 2000). However, these follow-up studies ceased in the 2000s. Instead, Statistics Sweden linked data from registers on educational attainment to registers on employment in a database for the National Agency for Education for the year 2002 (National Agency for Education, 2005). The registers have data for the whole population, some

of which have been published in a Swedish report (National Agency for Education, 2005). Thus, both earlier published statistics and unpublished data will be presented in this study.

Implementation of comprehensive school and integrated upper secondary school

At the beginning of the 1950s, when a pilot scheme for comprehensive and compulsory nine-year school started, only 10 % of an age cohort enrolled in upper secondary education (Eriksson and Jonsson, 1993). Compared to other countries in Europe, Sweden had a rather old-fashioned school system (Marklund, 1980). Seven years of compulsory education had just been implemented at that time.

The decision to implement nine-year comprehensive education was not taken until 1962 by parliament. At that time, about 50 % of the municipalities in Sweden participated in the pilot scheme for nine-year comprehensive education. Implementation of nine-year comprehensive education continued during the 1960s up to 1970. After the decision on nine-year comprehensive education, reform of upper secondary education followed. During the 1970s new integrated upper secondary schools were built all over the country and enrolments of students increased, probably improved by increasing unemployment rates among young people. In the 1980s the political goal of enrolling all young people in upper secondary school was launched by the government. Ordinary education for young people should include upper secondary education (Dahlgren, 1985).

Student flows in the 1960s and 1970s

Even before integrated upper secondary education was introduced in 1971, the number of young people continuing to study after compulsory education increased dramatically (Table 1). Nine-year comprehensive school was compulsory to the age of 16.

Table 1: **Young people attending school at age 17, (one year after compulsory education) as a percentage of the age cohort**

Year of birth	10th year in school	Percentage of 17 year olds still in school	Percentage having attended nine-year comprehensive school
1948	1964/65	41	33
1953	1969/70	63	80
1958	1974/75	73	100

Source: Own calculations of data taken from Härnqvist and Svensson, 1980, pp. 17-19.

Table 1 shows that a few years after the decision on nine-year comprehensive school was taken, 41 % of an age-cohort was still at school at age 17, which means after compulsory education. Only a third had attended new comprehensive school. In 1969/70, five years later, about 80 % of those aged 17 had attended this form of school. In that year a most of those aged 17 were still at school. This was an increase of 22 percentage points in five years. In 1974/75, after another five years, all those aged 17 had attended nine-year comprehensive school. During this period, there was also a great increase but only half that of five years earlier. Thus, the great increase in participation in further education and training occurred before integrated upper secondary education was introduced in 1971 all over the country. The increase occurred during implementation of nine-year comprehensive education.

There was probably widespread suppressed demand for further education and training among large numbers of the population. The economy was expansive and demand for skilled labour was increasing. With nine-year compulsory education, the step to continue to upper secondary school for another couple of years was much smaller than before. It was particularly so for young people in the countryside. Before nine-year comprehensive school, parents had to send their children away from home to lower secondary education at the age of 11 to 13, a prerequisite for continuing to upper secondary education. After implementation of nine-year comprehensive school, continuing to upper secondary school was an easier decision to make. It was a smaller step to take when children were 16 instead of only 11 to 13 years old.

The latest reform of upper secondary school

After many years of pilot schemes, another reform of upper secondary education was introduced at the beginning of the 1990s. All programmes at upper secondary school were turned into three-year programmes. The core subjects Swedish or Swedish as a second language, English and mathematics became compulsory in all vocational programmes. This meant that vocational programmes were extended by another year and other two-year programmes turned into the not strictly academic three-year arts programme. The aim was to prepare young people for higher demands of competence in working life and a better base for further education and lifelong learning. Another aim was to make vocational programmes more equivalent in status to academic programmes (Olofsson, 2005). Still the goal was also, as earlier in the 1980s, to enrol all young people at upper secondary school. The three-year programmes were implemented in all upper secondary schools in 1993. Students who enrolled in upper secondary school that year had only three-year national programmes to choose from. Another change implemented after the three-year programmes was a new grading system at comprehensive school and at upper secondary school. It was implemented in 1994 for those beginning their studies at upper secondary school that year. The new grading system was and still is criterion-referenced in four steps: fail, pass, good and very good. The former grading system was norm-referenced with five steps, a 5 meaning excellent and a 1 very limited achievement. Pupils did not fail if they got a grade at any level in all subjects. There were still no formal qualifications for continuing to upper secondary school. If pupils had a leaving certificate from comprehensive school they could continue to upper secondary school. However, the number of programmes to choose from was limited for pupils with low grade-point-average.

In 1998, new entrance requirements to upper secondary school were introduced. Pupils leaving comprehensive school had to pass Swedish or Swedish as a second language, mathematics and English in their leaving certificate to enrol in a national programme, or they had to upgrade their competence in the so-called 'individual programme' (a preparatory programme for national programmes).

Decentralisation of upper secondary school
Upper secondary schools were formerly run by the State, but in 1991 the municipalities took over. Municipalities became the employers of teachers instead of the State. They could start new schools and special programmes adapted to local demands. This change did not increase the variation in resources to schools between municipalities as expected (Ahlin and Mörk, 2005). The supply and availability of upper secondary education increased through

the reform but mainly academic programmes became more available. Most upper secondary schools built were small with only a few programmes. Vocational programmes were too specialised and expensive for small municipalities. Thus, availability of many vocational programmes became more restricted after the reform, particularly in some regions (National Agency for Education, 2002). Another change for students of vocational programmes was that they were compared not only to students in their own programme as before but also to students in academic programmes in subjects such as Swedish, English and mathematics. It meant that students in vocational programmes on average got low grades compared to students in academic programmes.

Student flows before and after implementation of the third year in vocational programmes

It is interesting to investigate student flows after implementation of the third year in vocational programmes, before the grading system and new entrance requirements were introduced. The cohort that enrolled in upper secondary school in 1993 attended upper secondary school with three-year programmes but with the old grading system and entrance requirements. This cohort was studied in 1997 at age 20 in the above-mentioned longitudinal project 'evaluation through follow-up' (Härnqvist, 1998) and can be compared to two older and one younger cohort at the same age. For the youngest cohort, both the new grading system and the new entrance requirements were implemented. Educational attainment at age 20 in the four cohorts is presented in Table 2.

Table 2: **Educational attainment at age 20 in four cohorts. Percentages of the age cohorts**

Men / Educational level	**1987**	**1992**	**1997**	**2002**
Completed upper secondary education	81	85	82	69
Dropped out of upper secondary education	8	8	12	27
Still attending upper secondary school	-	-	3	2
Not enrolled in upper secondary school	10	7	3	2
Total	100	100	100	100
Women / Educational level	**1987**	**1992**	**1997**	**2002**
Completed upper secondary education	82	84	84	76
Dropped out of upper secondary education	10	9	10	21
Still attending upper secondary school	-	-	4	1
Not enrolled in upper secondary school	8	7	3	2
Total	100	100	100	100

Source: Statistics Sweden, 2003, p. 7.

Table 2 shows that the transition to upper secondary school became more frequent for every cohort presented. Further, Table 2 shows that the proportion of 20 year-olds with completed upper secondary education did not change much between 1992 before the reform was implemented and 1997 when the three-year programmes were implemented. But the proportion with completed upper secondary education decreased dramatically both among men and women in 2002, when the new grading system and entrance requirements to upper secondary school were implemented. The dropout rate among young men was particularly high.

Extending vocational programmes to three-year programmes was perhaps not the main cause behind the drop in the percentage of 20 year-olds completing upper secondary education. Other changes must be considered such as the new grading system and new criteria for enrolling in a national programme at upper secondary school, etc., which were both implemented somewhat later than the three-year vocational programmes.

Student flows before and after the third year and the new grading system

Follow-up studies of school-leavers from comprehensive school at age 22/23 include the first cohort who entered integrated upper secondary school in 1971, so we can see development of educational attainment of 22/23 year-olds from the 1970s. Data for 2002 are also more detailed than in Table 2. We can see if the dropouts left school during the first two years or in the third year. However, the cohort investigated in 2002 at age 22 did not experience the new entrance requirements. They enrolled in reformed upper secondary school in 1996 with three-year vocational programmes and a new grading system, but the new entrance requirements were not yet in place.

Table 3 presents the educational attainment of four cohorts at age 22/23 according to follow-up studies by Statistics Sweden (Statistics Sweden, 1980, 1987, 1996) and data on educational attainment from the National Agency for Education database.

Table 3: **Educational attainment at age 22/23 in four cohorts. Percentages of the cohorts**

Men / Educational attainment	1978 ([1])	1986 ([1])	1994 ([2])	2002 ([2])
Completed 3- 4-year or a new 3-year programme	25	25	40	72
Completed 2-year programme	33	43	41	-
Completed a programme at upper secondary school	**58**	**68**	**81**	**72**
Vocational course (1 year)	7	4	3	-
Dropped out in year 1-3	12	8	10	-
Dropped out in year 3	-	-	-	17
Dropped out in year 1 or 2	-	-	-	11
Not enrolled in upper secondary school	24	20	7	1
Total	100	100	100	100
Women / Educational attainment	**1978** ([1])	**1986** ([1])	**1994** ([2])	**2002** ([2])
Completed a 3- or 4-year programme or a 3-year new programme	20	25	46	78
Completed a 2-year programme	35	43	36	-
Completed a programme at upper secondary school	**55**	**68**	**82**	**78**
Vocational course (1 year)	11	7	3	-
Dropped out in year 1-3	12	7	9	-
Dropped out in year 3	-	-	-	12
Dropped out in year 1 or 2	-	-	-	10
Not enrolled in upper secondary school	21	17	7	1
Total	100	100	100	100

Source: Statistics Sweden 1980, 1987, 1996 and data from the database of the National Agency for Education on pupils and students for year 2002.
([1])   Data from questionnaires at age 23.
([2])   Data from registers of upper secondary schools at age 22.

Table 3 shows, just as Table 2, that more young people enrolled in upper secondary school and those not enrolling fell from 21 to 24 % in the 1970s to only 1 % in the late 1990s. Although the proportion of young people continuing to upper secondary school increased, the proportion of young people dropping out of upper secondary school did not increase, except in the last cohort as in Table 2. The percentage completing an upper secondary education decreased from 81 to 72 % among men and from 82 to 78 % among women. At the same time the percentage of dropouts increased, particularly in year three. However, many dropouts in year three left school late in their third year,

often at the end of the school year. They did not pass all their courses and are therefore classified as dropouts (National Agency for Education, 2002). Before the reform, if students had grades in all subjects, they completed upper secondary education although they had low grades. This meant that students with low grades did not really fail.

The dropout rate varies between different national programmes and is highly related to the grade-point-average in the leaving certificate from comprehensive school of students attending the programme. In the science programme in which the students have highest grade-point-average, around every 10th student drops out but in the vehicle engineering programme every third student drops out. For most national programmes the dropout rate of upper secondary school is around 20 to 25 % (National Agency for Education, 2002).

Comparing men and women in Table 2 we find that men were slightly better educated than women in the first cohort. More men had upper secondary education than women and more often over three years. This advantage disappeared among 23 year-olds in 1986. In 1994, 22 year-old women surpassed men of the same age. A greater proportion of them than of men had three-year upper secondary education. In 2002, when two-year programmes were replaced by three-year programmes, the educational advantage of young women compared to young men widened, because the dropout rate was higher among men than among women.

Thus, the upward trend of an increasing number of young people completing upper secondary education came to an end after three-year vocational programmes and the new grading system was implemented at upper secondary school. However, many young people enrolled in upper secondary school after the reform and most dropouts left school in their third year. They had at least two years of upper secondary education, which was the educational attainment of those who completed a vocational programme at upper secondary school before the reform, and many dropouts even had three years of upper secondary education although they had not passed all their courses. This could mean that their attainment level was not so different from those who had completed upper secondary education in former years. Young women, more of whom attended an academic three-year programme before the reform than the young men, seem to have adapted better to reformed upper secondary school. There were fewer dropouts among women than among men, 22 % compared to 28 %.

Educational level in other European countries

A comparison of the educational level of the population of working age (16 to 64 year-olds) was conducted in the late 1990s in France, the Netherlands, Portugal, Sweden, the UK and the former West Germany. Results showed that the proportion without further education and training (below level 3 of Unesco's International Standard Classification of Education - ISCED) varied much

more between countries than the proportion with higher education. The former West Germany and Sweden had the smallest proportion of the population of working age without further education and training. This was also the case for younger groups of the population. Only 14 % of 25 to 27/28 year-olds were without further education and training in these countries compared to 21 % in France and 43 % in the UK (Murray and Steedman, 2001).

However, in a later comparison of educational attainment of 25 to 28 year-olds in 1994, 1998 and 2003, Steedman, McIntosh and Green (2004) found that the differences between France, the UK and the former West Germany, had decreased substantially from 1994 up to 2003. Thus, other European countries are expanding their upper secondary education and their younger groups of the population will probably soon reach a similar educational level to the former West Germany and Sweden.

The change in the position of Sweden relative to other countries and political criticism of the high dropout rate has focused policy-makers' attention on improving retention of students at upper secondary school so as not to fall behind other European countries. Some of the 11 steps proposed for developing the quality of upper secondary education (Government Bill 2002/04) were to combat high dropout rates at upper secondary school. Teaching in core subjects should adapt better to the content of vocational programmes. Another step was courses could have been substituted by subjects so grades could have been improved in subjects which is not possible once a course is finished. Vocational programmes in the form of apprenticeship training could have been introduced and finally more resources were promised to individual programmes. These measures would probably have made it easier to complete a programme to some extent. However, the new government will not implement the 11 steps. They want to make greater changes but later on, after a new study. What effect these changes will have on student flows in upper secondary education is unclear. It will probably depend on how academic demands at upper secondary school will change.

Employment among young adults with and without further education and training

The following section investigates how employment opportunities for young adults with and without vocational upper secondary education have developed before and after the reform of 1991. An indicator of the employment situation on the labour market are unemployment rates. However, young people and young adults are hit more during a recession (Wadensjö, 1987). In Figure 1, unemployment rates for the labour force (aged 16 to 64) are presented by educational attainment.

Figure 1: **Unemployment in the labour force (age 16 to 64)**
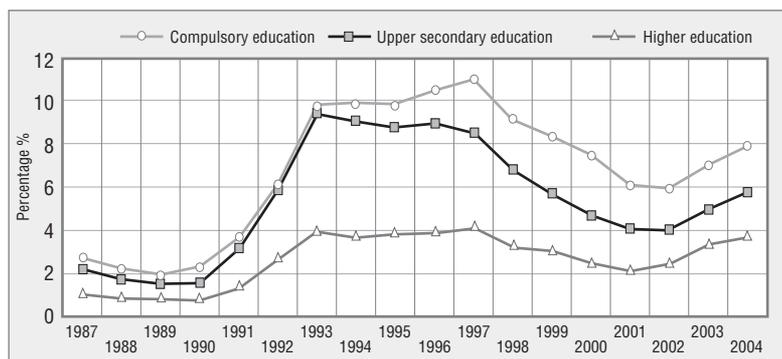
Source: Labour force survey, Statistics Sweden.

Figure 1 shows that unemployment was very low in the late 1980s, but grew dramatically from 1991 to 1993 particularly for groups without higher education. Not until 1998 did unemployment rates decrease. They continued to go down until 2001 and 2002. After 2002, they increased again. Thus, unemployment was very high in 1994 but much lower in 2002. Comparing unemployment rates for 1988-90 with those for 2002-03 we find that the rates for 2002-03 are higher. There is also a greater discrepancy between groups with varying educational attainment. In 1988, unemployment varied by educational attainment between 0.9 and 1.9 %; in 2001, between 2.2 and 6.1 %.

The group for which employment opportunities before and after the reform will be explored is young adults without further education and training, comprising those who did not enrol in further education and training and those who dropped out of upper secondary school. To compare, we have selected men and women from the same cohort with low marks from comprehensive school who completed a vocational programme at upper secondary school. How they were selected is described in Appendix 1.

Table 4 presents percentages of gainfully employed young adults in four cohorts. They have employment as their main occupation. All participants in the follow-up studies were asked about their main occupation every autumn since they left school. The statistics in Table 4 concern the autumn when they were or became 22 years old. For 2002, employment status was collected from employers for income tax purposes.

Table 4: **Percentage of 22 year-olds gainfully employed by educational attainment**

Men / Educational background	1977	1985	1994	2002
Not enrolled in upper secondary school	89	82	70	49
Dropped out of upper secondary school	85	74	53	61
Completed a metalwork programme	91	91	70	-
Completed a vehicle engineering programme	-	-	67	90
Completed a child care programme	-	-	-	76
Women / Educational background	1977	1985	1994	2002
Not enrolled in upper secondary school	69	67	45	30
Dropped out of upper secondary school	62	66	44	55
Completed a home economics programme	63	73	49	-
Completed a child care programme	-	-	-	74
Completed a nursing programme	72	76	60	81

Source: Statistics Sweden 1980, 1987, 1996 and data from National Agency of Education database on pupils and students for 2002.

Table 4 shows employment rates for the group who did not enrol in upper secondary education and the group who had dropped out of upper secondary school decreased both among men and women before implementation of the 1991 reform. After the reform it continued to decrease in the very small group of those who did not continue to upper secondary school (1 % of the cohort). Among the much larger group of dropouts it increased but not to the same levels of 1977 and 1985.

Employment rates of young adults with two-year vocational upper secondary education, generally, were higher than those for groups without. Employment rates in 2002 for those with three-year vocational upper secondary education were much higher than comparable groups in 1994. The 2002 levels were similar to those of 1977 and 1985. This indicates that after reform of upper secondary school the gap of employment opportunities between those with and those without vocational upper secondary education widened, even if the groups of comparison were young adults with completed education from programmes with the lowest entrance requirements.

For 2002, we have more detailed information on employment than in earlier cohorts. There are employment rates both for those who dropped out in year one or two and for those who dropped out in year three of the specific programmes we investigated which are presented in Table 5.

Table 5: **Percentage of 22 year-olds gainfully employed in 2002 by educational background**

Men / Educational background	**Vehicle engineering programme N=2270**	**Child care programme N=974**	**Nursing programme N=352**
Dropped out in year 1 or 2	63	48	40
Dropped out in year 3	83	73	80
Completed a national programme	90	76	80
Women / Educational background	**Vehicle engineering programme N=46**	**Child care programme N=3428**	**Nursing programme N=2111**
Dropped out in year 1 or 2	58	52	40
Dropped out in year 3	63	70	80
Completed a national programme	76	74	81

Table 5 shows that the earlier students left school the lower their employment rates. Young adults who dropped out in the first or second year lower employment rates than those who dropped out in year three. As expected, those who had completed their programme had the highest employment rates. However, the greatest difference in employment opportunities is not between those with and those without a completed programme but between those who dropped out in year one or two and those who dropped out in year three. The reason is probably that many left school at the end of the third year but without having passed all their courses. The very small difference in employment rates between those who had left school in year three and those who had completed a child care or nursing programme can be explained because some 6 to 9 % were enrolled in higher education. In the vehicle engineering programme this difference was not so small because only 0.5 % were enrolled in higher education.

Conclusion and discussion

As soon as nine-year comprehensive school was introduced in Sweden, an increasing number of young people continued to upper secondary education. The fastest expansion of further education and training took place during the final years of implementation of comprehensive school in the latter part of the 1960s. After new integrated upper secondary school (including two-year vo-

cational programmes) was introduced at the beginning of the 1970s the number of young people enrolling in upper secondary school continued to increase. In 2004, only 2 % of comprehensive school-leavers did not continue directly to upper secondary school. However, 9 % of school-leavers did not enrol in a national programme but in an individual programme, a preparatory programme for national programmes (National Agency for Education, 2005).

The proportion of young people completing their upper secondary education increased in the 1980s and 1990s until reform of upper secondary school was implemented. Introducing a third year in vocational programmes did not change the proportion of young people completing their upper secondary education much; only to a small degree among young men. But later, when the new grading system and new entrance requirements to a national programme were introduced, this proportion decreased while the dropout rate increased dramatically. However, most dropouts left school in their third and last year of upper secondary education. Many left at the end of the third year but had not passed all their courses and had therefore not completed their upper secondary education.

Men and women

We found men had a slight advantage in educational attainment in the 1970s. They had more often an upper secondary education and more often an academic upper secondary education than women. This difference disappeared in the 1980s and at the beginning of the 1990s the percentage of young women with an academic upper secondary education surpassed that of young men. After the latest reform, the educational advantage of women increased even more. The number of men leaving upper secondary school without completing their education was higher than among women. Thus, young women seem to have adapted better to reformed upper secondary school than young men. Educational attainment increased faster among women than among men and this trend started in the 1970s.

In summary, the effects of reform on student flows seem to have made great changes but after scrutinising the flows, the changes are not so great. Before the reform of 1991; slightly more than 80 % of a cohort received upper secondary education, of which almost half had no more than a two-year education. After the reform, around 70 % received upper secondary education, of which all had three-year education. In addition, 12 to 17 % attended upper secondary education for at least two years and many even for three years, which together with the percentage completing three-year education makes more than 80 %, the percentage receiving upper secondary education before the reform. Altogether the reform increased the educational level of young adults aged 19 to 20. They had more years in education than the cohorts before the reform. On the other hand, more young adults can feel they were not successful

at school as they have not got a leaving certificate for complete upper secondary education.

The reason for high enrolment in upper secondary school after the reform is diminishing labour market opportunities for young people aged 16 to 19. Very few young people can get a job as an alternative occupation to going to school which was the case in the 1970s and 1980s. For young people who do not qualify for a national programme the alternative is the so-called individual programme. However, enrolling in the individual programme prolongs three-year vocational programmes by another year. Compared to the former two-year programmes the three-year programmes plus an additional year in the individual programme makes quite a difference, not least for young people tired of school, and leads to increased dropout. But there are also other factors which can explain increased dropout rates. Reformed upper secondary school has become more academic in several ways. Decentralisation of upper secondary schools to municipalities has made them more available to young people outside large cities but vocational programmes which are more expensive have become less frequent in many regions. For young women, vocational programmes with a female profile have become fewer (National Agency for Education, 2002). Introducing of academic subjects, so-called core subjects (Swedish or Swedish as a second language, English and mathematics), in all vocational programmes is another change that has made vocational programmes more academic, as has the content of vocational subjects which have more theoretical profiles. The reason behind the large proportion of students who continue their education during the third year but do not complete their programme can probably be explained by introducing core subjects in vocational programmes. Students fail in some of these courses but pass the vocational ones.

Another change which might explain the higher dropout rate after the reform is that instead of subjects in which students can improve their grades during their school years, reformed upper secondary school has courses where the grades are definitive for every course in year one and year two and cannot be improved. Only in another form of school, in adult upper secondary education, can young people improve their grades. This has probably a negative effect on motivating students who have failed in some of their courses to complete upper secondary education.

Finally, the labour market improved at the end of the 1990s and at the beginning of the 2000s, which meant better possibilities to get a job for students tired of school, particularly for 18 or 19 year-old students than in 1994.

Proposed measures to combat high dropout rates

Some of the 11 steps proposed for developing the quality of upper secondary education (Government Bill, 2002/04) mentioned in the introduction are to combat high dropout rates at upper secondary school. Teaching core subjects should adapt better to the content of vocational programmes. Another step was that courses could have been substituted by subjects, which means that grades could be improved in the subjects were they cannot once a course is finished. Vocational programmes in the form of apprenticeship training could have been introduced and, finally, more resources were promised for the individual programme. These measures would probably have eased completing a programme to some extent. However, the new government will not implement the 11 steps. They want to make greater changes to upper secondary school but later on.

Changes in employment opportunities

Studying employment of young adults with and without a complete upper secondary education, we find that the groups with a completed vocational programme from upper secondary school generally had higher employment rates than those without in all cohorts, with a few exceptions. After the reform this gap increased, but a closer look at employment rates shows that the group who left school in their third year had not much lower employment rates than the group who completed their programme. The great difference was found among those who dropped out of upper secondary school in year one or two and for the small group who did not enrol at all in upper secondary school. If the vehicle engineering programme and the child care programme with the lowest entrance requirements after the reform have given their students more benefits on the labour market than the metal work and home economics programme is hard to say, as the labour market situation was so different for those aged 22 in 1994 from those aged 22 in 2002. However, in a comparison of employment rates between young adults with a two-year to young adults with a three-year vocational education at the same period of time, those with a three-year education had a minor advantage (Murray and Skarlind, 2005). The labour market situation generally shows a greater discrepancy between those with an upper secondary education and those without (see Figure 1). Young adults with a completed vocational programme at reformed upper secondary school are also a more select group, as the group without a completed upper secondary education increased after the reform compared to the groups with a vocational upper secondary education in the 1990s before the reform.

In reformed upper secondary school a new group seem to have appeared, those who dropped out in their third and last year of upper secondary school. They have employment rates rather close to those with a completed programme, which indicates that many left at the end of the third year. Thus, for the large

group of young adults without a completed vocational upper secondary education but with three years of upper secondary schooling employment opportunities seem to be fairly good, almost at the level of those with a completed programme. How their careers will develop in the long run is another question. It might be a greater disadvantage not to have completed the programme.

The real losers in reformed upper secondary school are those who leave in year one or two. Compared to men with very low employment rates before the reform (those who did not enrol and those who dropped out) it has increased in size by two percentage points. On the other hand the groups of young women with very low employment rates after the reform have decreased by five percentage points.

Results show that staying in school and attending a national programme, even if not completing it, is valued by employers. Perhaps many students have failed only in academic subjects which are not important in the jobs they are looking for. It could also be interpreted in another way. Those students who stay in school have better prerequisites for staying in school and also for getting a job on the labour market. Young people without further education and training have on average more school difficulties than those who complete a programme, even if it is a programme with low entrance requirements (Murray, 1997).

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Appendix 1

Selected programmes and classification of dropouts

To investigate the employment status of young adults without further educa-
tion and training, students from special programmes were selected for com-
parison. One criterion for this selection was that the programme should be large
and representative of vocational programmes leading to the labour market with-
out much further education and training. Another criterion was that it should
be a possible alternative for young people with low grade-point-average from
nine-year comprehensive school. The metalwork programme was one of the
three largest vocational programmes among men in the first, second and third
cohorts. It also had the lowest entrance requirements (Murray, 1997). How-
ever, in reformed upper secondary school this programme no longer exists
and the nearest corresponding programme is rather small. Instead the vehi-
cle engineering programme was selected which, at the time of the investigation,
was the second largest vocational programme for men. The men in this pro-
gramme also had the lowest entrance requirements of all national programmes.

For women the home economics programme was selected for the first three
cohorts. It encompassed many female students and had the lowest entrance
requirements of all female-oriented programmes (Murray, 1997). The largest
female-oriented programme, the nursing programme, was also selected al-
though the grade-point-average of female students were higher than in the
home economics programme. In 2002, the home economics programme had
ceased and the nursing programme was divided into two programmes, a nurs-
ing and a childcare programme. The childcare programme selected in the fourth
cohort is today a large programme with the lowest entrance requirements of
female-oriented programmes.

Vocational training and the environment: sustainability and employment (¹)

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Keywords

Occupational training, employment and environment, environmental awareness, evaluation, sustainability, indicators

SUMMARY

The inclusion of an Environmental Awareness Module (EAM) within Vocational Education and Training (VET) in Spain is considered a factor of overriding importance due to the current need to incorporate environmental awareness within society as a whole but also within particular occupations and professional practices involved both in jobs relating to the environment and the entire system of production.
In this study, we will tackle the changes in the educational system that are essential for sustainable development and for environmental education; we will also look at the equally essential changes that must be made to training in preparation for employment. We will analyse different dimensions of the EAM: its creation, development and evaluation, its set objectives, the function of Training Centres and the scope of students. Lastly, we shall propose a set of quality criteria.

Introduction

The aim of this investigation falls within the framework of Vocational Education and Training (VET) and the introduction of the Environmental Awareness Module (EAM) in 2000.

Three adult training pathways exist in Spain: initial vocational training, managed by educational administrations; VET managed by employment administrations-and lifelong worker training.

Various 'families of professions' exist within VET. The Safety and Environment family has only recently been created. In the development of such training courses, some core modules are traditionally included, such as occupational risk prevention and guidance for employment. Recently, Environmental Awareness has been included in all such courses, with the general aim of '*developing an environmental awareness in individuals by motivating and involving each and every citizen with a view to changing behaviour and consumption patterns and thereby promoting sustainable development. This refers to both individuals and the working environment'.*

In this way, the Network of Environmental Authorities proposes to make the environment an integral part of the schemes co-funded by the European Social Fund over the period 2000-2006. The responsibility of this Network is to determine the training and information needs of the various economic activity sectors and of regional and local administrations, in order to improve the use of structural funds and ensure that the community environmental policy laid down in the 5th programme is applied. In 1999, this network designed a training strategy with the following as one of its basic premises:

> 'All training programmes, irrespective of the main subject they cover, shall include an EAM, providing general information on the current environmental situation, current problems and future risks, with the aim of developing environmental awareness in the individual that will allow a prudent and rational use of natural resources'.

Until this investigation began, no evaluation had been carried out on the scope and efficacy of this strategy by the competent administrations. The following objectives were set:

1. To analyse the design, development and results of the inclusion and teaching of the EAM from its origin within Spain to its development to the Autonomous Communities and more specifically by means of an occupational training case study in the Province of Malaga (in the Autonomous Community of Andalusia). Four scenarios were analysed as part of this objective.
   • Design of a national strategy.

- Design of teaching material (National Level and Autonomous Community Level).
- Design of an autonomous community strategy (Autonomous Community of Andalusia).
- Implementation of the module within a Vocational Training Centre. Teaching staff. A Case Study was carried out on students from one of the courses.

2. To compare the evaluation proposals designed for the EAM, with those put into practice and to draft other evaluation schemes using a proposed set of environmental awareness indicators or quality criteria.

The initial proposal arose out of a quest for answers to various questions, the first of which was the possibility of raising environmental awareness within VET. The compulsory nature of this teaching Module offered an opportunity to make environmental education a tool that works across the board as a foundation to the achievement of sustainable development. What was the development path taken to achieve this pioneering educational proposal within vocational training? What teaching methods can be used to achieve environmental awareness? Can environmental awareness be achieved in 9 hours? What are the conceptual contents to be acquired? What values and changes in attitudes are desirable? How can the changes in attitudes and values be achieved? What skills must be acquired by the student? What is the most appropriate strategy? Is there a communication and development plan?

The following important questions were also posed:

- How may EAM be included in course activities?
  The concept of integration implies horizontal development. How may this be achieved in view of the way such courses work in terms of teaching and bureaucracy?
- How may a Code of Good Environmental Practice (GEP) be applied and evaluated as part of Course activities?
  This application requires the involvement of the subject teacher and that of the training centre managers.
- Who must be made responsible for promoting the EAM?
  However good the subject teacher, lack of preparation in the environmental field and the conceptual and methodological difficulty of the topic make it advisable that courses should be delivered by specialist environmental educators.
- How and what should be evaluated in the EAM?
  Conceptual, procedural and attitudinal aspects may be evaluated. Other goals are, however, set such as the achievement of GEP within course activities or within the student's role that must be examined once the educational action has been completed.

Various actors, managers and experts have been chosen to evaluate programme set-up and development. (Figure 1, see Annexes)

The method used is qualitative/interpretive, taking into account that, to date, no evaluation tool has been practically implemented for the application of this programme, that no records exist of evaluation by psychoeducational teams and that the evaluation of this module does not affect the overall evaluation of the various courses. The investigation topic formulated is descriptive in nature and aimed at the transformation of a given social reality.

The qualitative/interpretive analysis tools applied took the form of in-depth and structured interviews and a case study (more descriptive than interpretive in type) through a questionnaire delivered as a complimentary tool and the comparison and validation of interview results. All this was complemented by exhaustive documentary analysis, with results recorded directly in the field by the author.

The theoretical framework of reference examines the concept of sustainability and what it means to guide education toward this topic, drawing a distinction between the sustainability of learning and the learning of sustainability. To ensure the required horizontal focus, it was necessary to carry out an inter-disciplinary study together with the application of constructivist principles as part of a systematic approach. No less important was the search for connections with environmental education and sustainable development strategies. The type of training centres, the profile of the teachers, the characteristics of students and the evaluation model were also factors that could not be overlooked and affected the formulation of considerations, conclusions and proposals, including a system of environmental awareness indicators in the form of quality criteria.

We started with the assumption that while the EAM represents an opportunity, it is very difficult to comply with each of the objectives exactly as they are proposed. The programme requires reformulation, following an in-depth evaluation.

Theoretical framework of reference

The inclusion of environmental awareness in the different vocational practices of VET requires a unifying goal that may be achieved gradually. For the purposes of consistent planning, awareness of the environment must permeate the different decision-making levels in a co-ordinated manner between the two systems, administrations and areas of action involved: the environmental and socio-professional spheres. Reconciling ecology and economy has been a common subject of debate since the Rio conference in 1992 popularised the concept of sustainable development – which, however, can mean different things to different people.

It depends how you look at it: the environment can be seen as yet another variable within the economic system, to be treated in a conventional, classic manner, without taking into account environmental costs (Carpintero, 2005, p. 16); or alternatively, the economy may be seen as being dependent on ecology, on the biosphere, whose laws (physical and biological) determine the principles on which society is sustained.

This study considers that the in the interests of developing the various occupations with the common goal of sustainability, the meaning of conceptual principles such as sustainability, environment and sustainable development should be agreed by consensus.

And all this should be done at the various decision-making levels. According to Álvarez and Vega (2005, p. 2) no model makes this construct possible, as the goals to be pursued and the means of achieving them are dependent upon the underlying ideology. The model must be clarified: any educational proposal requires the consolidation of a theoretical corpus.

The paradigm of sustainability. Toward a definition of sustainability

The application of EAM within VET is an environmental education strategy, whose basic aim is the consolidation of EAM throughout all VET courses within Spain by 2007. As with any strategy, however, we must first become literate in it (Tilbury, 2001, p. 1).

Sustainable development is a form of development that offers basic environmental, social and economic services to all members of the community without endangering the viability of the natural, built and social systems on which the provision of such services depends. When we speak of sustainable development, we are speaking of different interrelated aspects that must be considered jointly when problems are analysed and solutions are sought.

According to Mayer (2000), the idea of the ecological crisis being related to lifestyles and social production is increasingly gaining ground. Ultimately, therefore we are bound to assume *'The need to build the theoretical, epidemiological and methodological bases of Enviromental Education by treating it as a science of critical education '* (Caride, Meira; 2001, p. 214). Sauvé (1999, p. 10) reminds us that the socially critical environmental education movement described, amongst others, by Robottom and Hart, which began to develop during the 1980s *'included EE within the process of critically analysing inter-related environmental, social and educational realities (incorporating or reflecting ideologies) with the aim of transforming them '*.

To tackle resistance to change, we must raise awareness of how environmental problems are caused and how they can be resolved. *' In order to*

learn how to learn about environmental complexity, we must unlearn and rid ourselves of our preconceptions '. (Leff, 2000).

The 'official definition' of sustainable development gained ground gradually after 1972, following publication of a report entitled 'The Limits to Growth' by the Club of Rome . The concept of sustainability is recent. This declared consensus is, however, more difficult to find in practice. This causes us to reflect on the ambiguity of the concept and means that education covers a fundamental role as far as the future is concerned.

The 'Rio principles' (1992) offered us parameters for envisaging culturally appropriate forms of sustainable development of local relevance to our countries, regions and communities. These principles ([2]) help us to understand the abstract concept of sustainable development and begin to implement them on a fundamental level through Agenda 21. We must also highlight the European strategy on sustainable development agreed at the Gothenburg Summit in 2001, which gave a major boost to the integration of economic, social and environmental values by stating: '*it is necessary for economic growth to support social progress and respect the environment, for social policy to support economic results and for environmental policy to be profitable* '. If taken seriously, these definitions, which are also commitments, will involve deep-seated changes in the way we produce, consume, work and research – and, by association, in the way we train and prepare people for work, beginning with vocational training. Promoting sustainable development means changing and adapting our current growth pattern to new models so that the European society will begin to see changes in its lifestyle and working habits in the coming years. This is where the good ideas, production and employment will come from. To sum up, society and the economic system need a new model.

Sustainability seems to be accepted as a compromise term, designed to bridge the gulf that separates the developmentalists from the environmentalists. We founder in a basic conceptual fog when we speak of sustainable development or sustainability; we cannot resolve it just by playing around with terminology. 'Sustainability' means durability or maintainability. There is a broad consensus that sustainability involves three aspects: environmental, social and economic. Ultimately it is a form of development that is environmentally sustainable, that does not exceed the 'load capacity of ecosystems', that is economically sustainable and viable for resident indigenous populations, with long-term benefits relating to the environmental and social improvement of the area; it is also socially sustainable as a fair practice.

([2]) Important amongst these are Environment, planning the future, quality of life, fairness, precautionary principle, holistic thinking.

Reorienting education towards sustainability: what this means in practice

The UN has declared the decade 2005-2014 to be the decade of Education for Sustainable Development. The current paradigm of education must change in some fundamental respects: nowadays we must think more in terms of learning and teaching; of permanent education and lifelong learning; education must be multidisciplinary, gender-sensitive, sensitive to diversity, participative, etc.

This Environmental Awareness Module in Vocational Training represents a very important step because it provides a practical example of how to reorientate education toward sustainability.

This investigation focuses on the design of the strategy that may be found in the document ' Inclusion of the environment in schemes is co-funded by the European Social Fund' (Network of Environmental Authorities, Valencia 1999). We also examined the teaching materials and the training module introduced through Training Centres, considering a case in Malaga (Autonomous Community of Andalusia), using teaching staff whose professional profiles we will analyse. The case study examines the situations before and after a 9 hour EAM delivered during a Cookery Course.

Evaluating student attitudes and performances after nine hours of training and above all throughout the course and after the course presented us with some methodological problems that we cannot deal with in this study. The attitudinal change study, in the words of Alvarez, Gutiérrez and Perales (1996, p. 2), *' must be a priority strand of educational research and innovation and in the case of EE it is absolutely essential… . In order to develop a methodology associated with the teaching/learning of environmental attitudes as a first step, we must know what they consist of, how they are acquired and how to determine our actions as well as how to evaluate them '.*

One of the challenges is how to tackle the inclusion of sustainable development (UNESCO, 1998, p. 42-43), Michael Härte, sociologist and member of the Scientific Committee of the Federal Institute for Vocational Training of Berlin stated in a chapter on environmental education and training:

> 'Effective environmental protection is about more than applying technological knowledge and complying with standards. In order to act with environmental integrity, it is of the greatest importance that individuals should understand the consequences of their own actions'.

This document also notes that Cedefop developed a research study in 1997 focusing on two themes:

- the impact of environmental changes on the labour market
- the relationship between observed changes and emerging skills

The shift towards a new model has made it necessary to revise previous values; when we speak of sustainability we are not merely speaking of a new concept (Folch, 1998, p. 33-36). There is a need to strengthen and share responsibility for teaching about sustainable lifestyles within a wide range of social groups. (Tilbury, 2001, p. 67; UNESCO, 1997).

With regard to the associationist model of learning (García, 2004, p. 92), constructivist principles are applied such as the relativism of knowledge, its joint construction, people as active agents of their own learning and the control of that learning.

No less important as part of the process is horizontality. The design for the Spanish EAM strategy (Network of Environmental Authorities, Seeda and Analiter, 2001, p. 11) states: *'One of the fundamental aspects of this Module is undoubtedly its horizontal nature, in other words environmental awareness criteria must be present throughout the course…'*

We will have to make an effort to break with the idea that a mechanistic approach is the only way of acquiring knowledge, and replace it with a holistic approach – Bertalanffy's general systems theory or Morin's principles of complexity. (Pujol 2003, p. 18).

Vocational training, environment and employment

Nowadays, within VET, environmental management is considered essential for the exercise of any activity with an environmental impact. This leads to a requirement for legal, occupational and skills analyses within various sectors due to the need to minimise environmental risks.

Conversely, studies in Europe emphasise the main environmental concerns and provide recommendations for the implementation of active and applied policies to all agents involved in the definition, implementation and evaluation of environmental policies, as well as for the investigation of environmental topics at local, regional and global levels.

The European Commission identifies new sources of employment within the areas of 'Waste management', 'Water management', 'Protection and maintenance of natural areas' and 'Control of pollution and environmental management'

Urban ecosystems, atmospheric pollution, drinking water, waste water, development land, climate, waste, noise, traffic, municipal environmental management systems, etc, generate a set of economic-productive activities that fall into the area of competence known as environmental management and

affect various sectors; hence the intersectoral and horizontal impact of this subject (INCUAL - Arbizu, 2002, p.74-82).

There are at least five dimensions (INEM, 2003) to the educational needs imposed by the environmental challenge, which are related to economic and institutional efforts:

1. Environmental production sector.
2. Environmental knowledge sector. The development of this sector is driven not only by the emergence of new social functions of strategic importance but also by the growth in demand for environmental services by the environmental sector.
3. Introduction of new functions and demands for ecological updating of the production process in traditional activities (Environmental departments and areas) and Government.
4. Adaptation of public administrations and social organisations to an ecologically more sensitive institutional and social framework.
5. This change in the technological paradigm involves a new culture of work and adaptation of the skills of all workers in the organisation. Environmental awareness and requalification will tend to affect the workforce in practice, with the consequent educational requirements that any change in routine requires.

Another aspect to which we must devote special attention concerns the way we achieve the transition to sustainability. The EAM makes an extremely valuable contribution as far as this aspect is concerned.

Environmental awareness within the EAM

The Network of environmental authorities has developed a strategy document for development and implementation of the Module, The origin of the Network of Environmental Authorities lies in European Union environmental policy and it is the practical outcome of the provisions of Framework Regulation 2081/93/EEC of the structural funds, which establishes that Member States shall proceed to involve environmental authorities in the operation and implementation of regional development plans and programmes financed with Community Funds.

For this purpose, the European Commission has promoted the creation of environmental authority networks in all Member States.

Because one of the functions allocated to the Network of environmental authorities is the determination of the training and information needs of the

various economic activity sectors and of regional and local administrations for improving structural fund interventions, guaranteeing the application of the community environmental policy laid down in the 5th Program (the 6th is now in force), it is now proposed to include the environment in all schemes co-funded by the European Social Fund for the period 2000-2006.

In the Autonomous Community of Andalusia (as in other Autonomous Communities), the Employment and Technological Development Department, in its Order of 12 December 2000 published in the Andalusian Council Official Journal No 146, on the notification and development of Occupational Training Programmes, proposed the inclusion of an Environmental Awareness Module within all VET courses. It ordered the preparation of teaching materials and Good Environmental Practice handbooks. The Training Centres hired the services of environmental educators to deliver the EAM and students on the various courses within the different specialities receive 9 hours of training.

Data collection procedure and tools

The qualitative and interpretive research tools that were used to evaluate the development and inclusion of the EAM in the VET were as follows:
- Unstructured in-depth interview
- Case study (more descriptive than interpretive) by means of a questionnaire.
- Observation case report form
- Documentary analysis.

Programme creation and development were evaluated. Various actors, managers and experts were chosen for the stages mentioned.

The experts interviewed belonged to different levels.

Level 1: National Strategy design Managers/experts; belonging to the state administration and the Autonomous Community.

Level 2: Managers/experts in the production of teaching materials.

Level 3: Manager/experts in strategic design within the Autonomous Community of Andalusia

Level 4: Managers/experts in the process of teaching and learning an EAM within a training centre.

Levels 1 and 3 are more closely related with programme management, they possess economic resources and a certain decision-making ability.

Levels 2 and 4 are more closely related to education. The sample selected in level 2 is related to environmental educators who design and teach materials following level 1 and 3 guidelines. (See figure 1, annex 1).

The in-depth interview questions to the 11 professionals originated and grouped around programme design, development and evaluation at different levels within a training centre and among the students. The interview conducted is shown in Table 1 (see annex 1).

An open category system was established (see table 2, annex 1) and a manual coding system, allocating words, phrases, topics or paragraphs to each of the set categories, which are as follows:

1. Professionalisation (related to questions: 1, 2 and 3).

To determine the level of professionalisation and experience of interviewees with regard to EE and VET and the level of relationship with the EAM. We were concerned with the professional experience of managers expert in the design of the Strategy at national and Autonomous Community level, of managers expert in preparing teaching materials and of training centre managers expert in coordination and course delivery.

Subcategories
- 1.1. Current function.
- 1.2. Previous experience.
- 1.3. Qualifications and training.
- 1.4. Relationship with the EAM.

2. Conceptualisation (related to questions 4, 5, 9, 10).

Level of knowledge and ideas of professionals within the various areas indicated about the significance of education and environmental awareness – what it is, why it is necessary, how it is developing and what are the problems that stand in its way (in this case, its inclusion in VET).

Possibilities and tools implemented for the evaluation of knowledge and attitudinal changes during and after course delivery and difficulties encountered with this.

Our aim was to establish a list of elements that could stand as quality criteria with the aim of establishing a check on environmental awareness processes relating to this module and comparing them with the answers. They could also serve as proposals for an evaluation model.

Subcategories
- 2.1. Concepts and knowledge.
- 2.2. Actions and goals.
- 2.3. Problems.
- 2.4. Development.
- 2.5. Environmental awareness indicators.

3. Institutionalisation (related to questions: 6, 7, 8)

How the EAM was generated, developed and set up; this also involved looking at the possibilities and the level of inclusion of environmental practices within the activities of training centres and the various vocational courses for different professional families, since this is the main objective. Opportunities, i.e. the existence of sustainable development strategies and strategies for national and Autonomous Community environmental education, which constitute basic pillars for institutionalisation of the module in the same way as other strategic documents such as the 5th European Environmental Programme and the existence of the United Nations Decade of Education for Sustainability (2005-2014).

Subcategories
    3.1. Creation and development.
    3.2. Opportunities.
    3.3. Difficulties.

We present the results of the interviews in three tables, one for each of the categories (Tables 1, 2 and 3) (see Annexes).

We chose a VET Cookery Course (900 hours' duration) to complement our investigation. We chose the occupation covered in this VET course out of all the occupations because it is one of the most pertinent to environmental factors:
- biodiversity and natural spaces;
- water;
- waste;
- energy;
- air.

Tourism is also a sector that has become one of the pillars of the Spanish economy and catering provides employment for more than one million people. This branch of business employs more workers than in any other occupation; the Hotel and Catering sector numbers more than 250 000 enterprises.

In our case study, we delivered a questionnaire to students on conceptual goals to be achieved. Attitudinal and behavioural goals will form the subject of another study with a different timescale.

Fourteen questions were asked, five relating to general goals and the other nine related to specific goals.

Case study results were recorded by entering the answers in tables that allowed them to be compared before (pre-questionnaire) and after (post questionnaire) the module was delivered. The same questionnaire was delivered to the selected group before the 9-hour training period and after the period without the students knowing that they would have to answer the questionnaire again (see table 3, annex 1).

Analysis of data, discussion and interpretation

As far as professionalisation is concerned, qualifications and experience are desirable in two fields, environmental and socioprofessional, to ensure that opinions and decisions are contextualised within the occupational vocational training field and the field of environmental education for sustainability. Other factors we considered essential were the coordination and involvement of the competent administrations within the three levels that are in any case reflected in the sample selection:

- national;
- regional;
- local.

The design of this strategy forms part of what we could term a 'system of shared management', i.e. we hope that the functions and tasks allocated to the professional category and level of each level of responsibility are different but contribute to the various aspects of EAM application now and in the future. Although the selected sample was qualified, the functions and tasks were not specific to course application monitoring and evaluation.

Environmental training and qualifications are mainly possessed by those managers who are actively engaged in the teaching of courses (including this EAM) and the design of EE materials and most such managers do not have an academic and working background within a socioprofessional field. An almost total absence of environmental experience and training was noted within levels most typical of the managers and decision-makers or their advisers.

Conceptualisation is another of the ideas that grew out of our considerations. Our option is related to a sustainable education where learning is conceived as a process of change and the emphasis is laid on an ability to build up sustainable and active communities and institutions. The results indicate that educators have a very clear vision of the transforming nature of education, although a certain overlap may be noted between the expression of environmental improvement as a work goal and as an action for achieving the GEP code. The attitudinal and procedural objectives to be achieved are specifically stated in both in strategy documents drawn up by the Network of Environmental Authorities and in the teaching materials drawn up at national and Autonomous Community level, which is at odds with the lack of specific mention of attitudinal goals in the EAM programme documents produced by public employment services (see: http://prometeo.us.es/recursos/guias/formacion compl/FC-AM02.doc).

Within typical management environments, the prevailing idea is that this is a process for including the environment within the field of occupational training scenario and each specialism and only one of the managers made more

specific reference to awareness and the inclusion of habits. Ideas relating to changes in values and behaviour abounded when we examined educators who focus on contacts with people within the educational process, including achieving the transformation necessary to progress toward a new sustainability-based social and economic paradigm.

Within both areas (managers and educators) the negligible and sometimes non-existent initial training of teaching staff in environmental matters was expressed as a fundamental concern This suggests to us that a professional environment for educators should perform this function and also that of delivering specialist courses to the other teaching staff and technical staff. This module could be delivered by the course teaching staff themselves, if they have a university qualification or an equivalent vocational qualification, but it will be difficult to achieve conceptual goals and even more difficult to achieve attitudinal goals due to the lack of environmental skills possessed by teaching staff in general. For this reason it is essential that environmental training should be delivered; we understand that actions to improve the quality of trainers and process may be diverse and complimentary.

The importance of this EAM is clear during the strategic design stage, but no actions are planned as part of the strategy that would make it more valued by the various actors, i.e. that would achieve an understanding and acceptance of its importance and a greater will to play an active part in its inclusion.

Conversely, no mechanism exists for evaluating changes in behaviour and the achievement of GEP during the development of the various vocational courses, or once the module is completed.

Institutionalisation is a topic of no less importance. A Strategic Creation and Development Plan is in place but has not yet been evaluated. During this process, there has been no emphasis on informing and training at manager and educator level or on awareness-raising actions that would lead to an appreciation of this EAM and to the dissemination of knowledge and skills related to environmental matters to help resolve problems within the area covered by each manager.

Supports and control by administrations and coordination between administrations are seen as key aspects by both managers and educators: as we saw when we discussed conceptualisation, this has so far not been done, despite being required in all areas. Both levels consider the evaluation of learning goals by the students, with regard to the achievement of GEP, to be very important throughout the course as well as when the student finds employment. But the various parts of the evaluation process must be carefully differentiated from one another, and the necessary tools properly designed. This indicates a shortcoming – as does the fact that no evaluation proposal is available on the longer-term evaluation of attitudinal and procedural goal achieve-

ment. It is also necessary to carry out an evaluation of design and needs. The study also makes an important contribution in this section.

As far as creation and development are concerned, it is evident that environmental educators with enough experience to ensure that the process attains a level of institutionalisation that fulfils the quality criteria we have referred to in the Environmental Awareness Indicator category, are essential. It will also be essential to set up a database of experts on the module and thus also to create an Environmental Educator job profile.

Evaluation of the EAM and the achievement of goals have been highlighted as difficulties within the EAM process and this applies to the future institutionalisation of the process with a control and quality system. Evaluation, as we have seen, may be divided into four very different sections and a guiding thread must be present to lead us through the process at different times. Both management and education levels see evaluation in terms of the student's learning goals and the achievement of GEP throughout the course as well as after the student finds employment; but the various parts of the evaluation process must be carefully differentiated from one another and the necessary tools must be designed.

Case study general conclusions

The case study, also carried out as a validation method, served to show that teaching of this EAM by the teacher (specialising in environmental matters in this case) was not useful in clarifying the concept of the environment or in elucidating the causes, consequences and solutions of many of the local, regional or global environmental problems that are significant within cookery, such as those relating to water and energy consumption and the generation of toxic or non-biodegradable products.

It should be noted that in the drawing up of the questionnaire that was delivered to the students, and in analysing the data obtained, we took into account the teaching materials published by the Network of environmental authorities and by the Autonomous Community of Andalusia, as well as good practice handbooks published by public employment services on catering.

For example, the reuse of oils was not considered in any of the answers, although half considered the use of containers for collection and delivery to authorised oil managers. None mentioned the reuse or recycling of organic material as fertiliser.

It also was not the case that the EAM had been useful in demonstrating the legislative process (penalties and prevention), the need to invest in technological solutions or the need to earmark funds for such measures. No knowledge was demonstrated of the existence of the concept of an ecological crime

in the criminal code and associated penalties, voluntary rules relating to eco-congestion (ISO 14.000, EMAS system) or individual responses determined by awareness and responsible behaviour.

Another significant finding was that the pupil responses did not consider energy-saving measures; half of the students were not aware of renewable energies or their significance. Little was known about water-saving measures and devices. Although the group started out being totally unaware of the significance of the three Rs (Reduce, Reuse, Recycle), they were at least able to name them afterwards. Reuse or choosing returnable containers as a way of reducing packaging was not known about beforehand or mentioned after the EAM had been taught.

General conclusions. Proposals and recommendations

1) The initial hypothesis was confirmed. The educational model that provides the framework for EAM programming is that of education on sustainability. To achieve the goals as they are set, it is nevertheless important to place the emphasis on the sustainability of the learning process and not only on the learning of sustainability. This means that the programme must be reformulated.
2) Sustainability of the learning process requires an overall systematic view, complex thought and the application of constructivist principles.
3) The EAM represents an opportunity that was borne out by its practical implementation in all VET courses.
4) It will be necessary to establish the inclusion of a GEP (good environmental practice) code in course activities and also in training centres and the sponsoring administration.
5) Establishing sustainability as a common goal in the development of different jobs requires conceptual principles with which all the actors involved can agree.
6) Two fields of experience must enter into dialogue during this exercise. Expert environmental educators must have experience and/or training in the socioprofessional field and in the reality of VET. Experts in socioprofessional management fields must have experience in the field of environmental education.
7) Environmental educators are sufficiently trained to deliver this EAM with a guarantee of success, but it is necessary to reach out to and take into account the entire community of teachers within different specialities; it is they who are responsible for governing the GEP code application process.

8) All this suggests that training and awareness actions are required:
   • For trainers within the various specialities and for environmental educators.
   • For managers within sponsoring bodies and training centres.
9) The setting up of a permanent technical department answerable to the competent administration or any relevant body could represent a significant step forward.
10) The consolidation/institutionalisation of this programme in the next stage, 2007-2013 requires the inclusion of quality criteria and application of an overall evaluation model ([3]) that follows the same focus proposed in the programme, applying a systematic and constructivist approach.
11) The creation of a register of 'environmental trainers' accredited by the environmental authority.
12) This EAM may constitute a tool for promoting the inclusion of the environment in public policies.
13) The case study that we carried out during our research demonstrates and supports most of the conclusions reached. Delivery of the EAM did not serve to clarify the concept of the environment or to clarify, under any circumstances, some aspects such as overpopulation and energy wastage or soil pollution. It was barely effective in increasing the perception of the existence of problems such as waste, noise or water pollution or the greenhouse effect or global warming. The same applied to acid rain.

Final conclusion

VET is a reflection of employment needs arising within the various manufacturing sectors. We undoubtedly need to adapt economic and productive activities to environmental law and standards. In this context, introduction of the EAM may be considered a paramount achievement that requires consolidation by applying evaluable quality criteria.

The Ministry of Employment and Social Affairs is currently carrying out a study on the level of introduction of the EAM by the various Autonomous Communities. The year 2006 was the target year for general inclusion of the module. Aspects to be described and evaluated in this comparative study relate to:
• Sponsors: body responsible for inclusion in the Autonomous Community;
• Some statistical data: type of courses in which the module was included;
• Application: was the module applied exactly as specified or was it altered

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([3]) See annex 2: Quality criteria. Proposals for an environmental awareness indicator system

in some way (structure, content, form of delivery, etc);
- Teaching materials: type of materials used, some are included;
- Evaluation: what, who, how and when;
- Environmental inclusion: when included with other course activities, whether the application of these environmental knowledge and attitudes are useful and viable for the student's professional development;
- Trainers: what is the profile of the trainer;
- Training trainers: were the trainers given any training courses;
- Complementary support services: was there any type of technical support, advice, etc;
- Training centre: way in which the training centre was involved and level of application of some good environmental practice.

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ANNEX 1

Figure 1

DESIGN

| Level 1 | (4 People) |

Managers/Experts: Design of Strategy.
a. Ministry of Employment and Social Affairs (MTAS)
b. Ministry of the Environment (MMA)
c. Foundation in charge of drawing up the initial programme

| Level 2 | (3 People) |

PRODUCTION

Managers/Experts:
Design and Preparation of Teaching Materials:
a. State.
b. Autonomous Community of Andalusia.

| Level 4 | (2 People) |

Managers/Experts
Training Centre.
a. Managers.
b. Teaching staff

EAM
ENVIRONMENTAL
AWARENESS
MODULE

USE

| | (11 Students) |

c. **STUDENTS**
Case study.
COOKERY COURSE.

| Level 3 | (2 People) |

DESIGN

Managers/Experts.
Design of Strategy/Autonomous Community of Andalusia.
a. Employment Advisory Service.
b. Environmental Advisory Service.

EVALUATION

Table 1: **Interview**

1. What functions do you perform at present in your workplace?
2. What is your relationship with the Environmental Awareness Module of VET courses?
3. What is your specific professional background and experience in relation to training? And in relation to environmental education?
4. In your opinion, what are the potentials and pitfalls with regard to delivery of the module?
5. What changes have been made and what changes are necessary ?
6. National and regional strategies exist in both environmental education and sustainable development. Do you believe they are related to or should be related to the above module?
7. What type of relationship exists/should exist between VET managers and Autonomous Community managers of environmental education?
8. What is or what should be the impact of the goal of including sustainable behaviour in the professional activities to be carried out during your course and/or during the future employment of the students? How can this be evaluated?
9. What impact does the evaluation of this module have on the overall evaluation of the course to which it refers? What impact should it have?
10. What are the main obstacles to be avoided in the future in delivery of the module with regard to the profile of the teaching staff, use of teaching materials, student evaluation criteria, achievement of good environmental practices during the course and in the students' future employment…?
11. Is there anything you would like to add to this questionnaire?

Table 2

PROFESSIONALISATION	**Current function**	**Previous experience**	**Qualification and training**	**Relationship with the EAM**	
CONCEPTUALISATION	**Concepts and knowledge**	**Actions and goals**	**Problems**	**Evolution**	**Environmental Awareness Indicators**
INSTITUTIONALISATION	**Creation and Development**	**Opportunities**	**Difficulties**		

Table 3: **Questionnaire**

P.1 **WITH REGARD TO GENERAL OBJECTIVES**
   1. What does the environment mean to you?
   2. What environmental problems of a general (global) nature are most important to you?
   3. What problems of a regional/local nature are most important to you?
   4. In your opinion, is there any solution to these problems? If so, how can they be resolved? What measures are necessary?
   5. What relationship do you think cookery has with the environment and with environmental problems?

P.2 **WITH REGARD TO SPECIFIC OBJECTIVES**
   1. Give two examples that show how the origin and provenance of products used in cooking affect the environment.
   2. What do you understand by the three Rs?
   3. Name two sources of renewable energy.
   4. What do you think can be done with used oil?
   5. List 5 products that can be recycled and are commonly used in the kitchen.
   6. How can we reduce waste produced by packing in the kitchen?
   7. State correct environmental guidelines for the efficient use of water.
   8. State correct environmental guidelines for the efficient use of energy.
   9. Are there any kitchen cleaning products that are harmful to health and to the environment? Which ones?

Table 4

		Current function	Previous experience	Qualification and training	Relationship with the EAM
Level 1	**E.1.**	Centre Training Area Manager.	Since 1999. Attended and delivered EE Courses 23 years of practical experience in EE .	Graduate in Education and Sociology	Keep up to date with events occurring with regard to the module.
	E.2.	Coordinator-manager of the MMA-OAPPNN-CENEAM Environmental Training programme for 6 years.	Taught more than 10 courses of more than 100 hours in Teaching Methodology (since 1993).	Graduate in Biological Sciences. Environmental technician. Specific and varied training to Masters level.	Took part in the working group for creating the original design of the module and its method of implementation. Taught this module on a couple of occasions.
	E.3.	Financial management in the Technical Office of a Secretary General in the Ministry of the Environment.	Experimental 360 hour course in Occupational Training in 1998. Planning of Environmental Training in CENEAM. Speaker, coordinator, seminars, meetings …in EE.	INEM Occupational Training Instructor since 1991. Higher Medical Technician for Environment Ministry Autonomous Bodies for the specialism of EE	Took part in office in charge of drawing up and correcting the module from its origins to publication.
	E.4.	Responsible to the ESF resource coordination management authority in Objective 1 regions.	No specific experience.	INEM Training Scale.	I suggested that Module should be taught during all the Training co-financed by the ESF and after much effort I succeeded.
Level 2	**E.5.**	Heritage interpretation. Design in Planning. Creation of Exhibitions. Head of the Social Dynamisation Area of the Foundation since 2000.	In EE since 1985. Private Enterprise related to Doñana. Monitor, guide. VET course tutor. Civil Service Technician and responsible for EE programmes in Doñana for 13 years.	Graduate in Biological Sciences.	I was given the job of producing teaching material at national level.
	E.6.	I coordinate environmental education programmes and Local Agenda 21 Dynamisation programmes	Publication of guides, games, articles, audiovisual scripts, presentations, VET tutor, coordinator of the Environmental Management and Sustainable Development Masters degree.	Qualified teacher Graduate in Humanities.	Author and coordinator of the EAM support material and answerable to the Employment Department. Coordinator and organiser of the EAM Presentation Seminar in November 2004, Seville.
	E.7.	Design, organisation and development of EE programmes.	25 years of experience in EE	Graduate in Biological Sciences.	Coordination, design, teaching, editing and follow-up of the publication of teaching materials in Andalusia.

		Current function	Previous experience	Qualification and training	Relationship with the EAM
Level 3	**E.8.**	Manager of the Environmental Education Department of the Directorate General of EE of the Environmental Department of the Council of Andalusia. Coordination of the magazine Aula Verde and Educam DVD.	No experience in training. Head of the Environmental Department EE Service for 4 years and Head of the Department of Environmental Education for a further 5 years, editing the Aula Verde EE magazine from issue 23 to 28 inclusive.	Graduate in Physical Sciences. Graduate in Geography and History.	In 2005 took on new responsibilities for training actions based on the European Social fund (lifelong learning). Training actions for the EAM of VET courses to prepare the trainers delivering the courses. (December 2005 in Cadiz, Seville and Granada).
	E.9.	Head of Training of Trainers Department in the Directorate General of Training for Employment of the Andalusia in Employment Services (for 4 years).	5 years of practical experience in VET INEM, delegation of Seville, Forem, and other collaborating VET centres. Courses for civil servants in IAAP [Andalusian Public Administration Institute]. Training Technician (approximately 9 years)	Graduate in Education Expert Course in the Organisation, development and evaluation of VET. University of Seville	Coordination of the project to prepare teaching material for the EAM delivered during VET Courses within the Autonomous Community of Andalusia. First experience in the environmental field.
Level 4	**E.10.**	Coordination Assistant for the teaching body. Planning of budget Audit Courses.	No professional experience in training or EE. I am taking a Higher Technician course in Occupational Risk Prevention and am now becoming aware of environmental matters.	Social Graduate.	I decide who delivers the Module and on what dates.
	E.11.	Teaching the Environmental Awareness Module.	Botanical Garden Guide. Preparing EE teaching material	Graduate in Biological Sciences. Special training in the Environment I take part in various associations.	I monitor the modules.

Table 5

		Concepts and knowledge	Actions and goals	Problems	Evolution	Environmental Awareness Indicators
Level 1	E.1.	Horizontality.	Relate all VT to the Environment.	Training and Initial Awareness of teaching staff.	Training. Departments, Consistency Plan in Centres. Technical Department.	Environmental Awareness Indicators Horizontality.
	E.2.	Include the environmental and awareness topic in occupational courses.	Students learn about and reflect on their jobs and their effect on the environment (resources, processes, waste and space, create a code of good environmental practices. Effective training and positive repercussions on the environmental quality of our surroundings.	Implementation has not been followed up. Number of hours in the EAM not respected. The permanent specialist tutor did not take part in the process No introduction-training plan for organisation managers or specialist lecturers.	Each Autonomous Community implemented the module at his own convenience and without coordination. Need to coordinate the way the project is started up. Actions to raise awareness of the importance of the EAM. The EAM manager should be a specialist guided, trained and made aware by environmental educators. Relationship with EE and SD strategies	Relationship with EE strategy. GEP for Professional Families. Relationship with EE strategy. Must not be an easy option. Relationship with specialist lecturer. Preparation of code of good practice. Involvement of Autonomous Community, e.g. managers Carry out the survey on students at a later stage.
	E.3.	The EAM must be adapted to any occupational situation	Practical and useful. Little effect in changing behaviour.	Lack of specific links to each occupation.	Search for horizontality at the beginning, middle and end of the course.	Horizontality throughout the course. There should be a relationship between VET and EE managers More practical than theoretical.

		Concepts and knowledge	Actions and goals	Problems	Evolution	Environmental Awareness Indicators
Level 2	**E.4.**	Basic awareness within the reach of all workers.	Any action financed with Structural Funds respectful of the environment	No interference in Autonomous Community affairs	A set of changes proposed in April 2005. Experts from 6 Autonomous Communities. Updating of the collective laws.	Any action co-financed by the Structural Funds is bound to be respectful of the environment and promote sustainable development. Affects the behaviour and professional activities of students
	E.5.	Integral professional education	Reaches all sectors of society. Code of Good Practice that is useful to the course and for the students' professional activities.	Horizontality throughout the course and all modules.	The EAM must be made longer	Horizontality is necessary. The EAM should be related with EE and SD strategies. The EE and VET managers should be in contact with one another
	E.6.	Sustainability as a new social economic paradigm. New social sensitivity Education in values and for action	Should lead to a change in attitudes and behaviour	Little training of trainers in environmental subjects. Difficulty in evaluating changes in behaviour and GEP	New challenges for VET Occupational and professional expectations of environmental topics.	All-embracing nature of all human action Relationship with EE and SD strategies and between labour and environmental administrations. Established GEP
	E.7.	It is not possible to evaluate someone's environmental awareness after 9 hours.	Increase the receptiveness of workers to the application of good practice in their field.	Lack of environmental training of trainers. Impossible to evaluate the improvement in someone's environmental awareness after nine hours of EE.	Is effective in that future workers will be more receptive to the application of good practice. Could be evaluated with many resources and a good design produced by specialists.	Co-operation between EE and VET managers Evaluate using many resources and a good design.

		Concepts and knowledge	Actions and goals	Problems	Evolution	Environmental Awareness Indicators
	E.8.	Specific environmental training that may be added to each of the Training specialisms delivered.	Conservation of natural resources and the Environment in general through the job.	Little preparation of monitors or trainers in environmental awareness.	Prepare VET Course Trainers. Students should have had to pass a minimum Good Practice test in order to practise their professional activities.	EE and SD strategies are included at the end of the module.
Level 3	E.9.	Make people aware of the need to protect the environment, includes environmental habits and behaviour in occupational practice, habits and behaviour that may easily be extrapolated to daily life.	Acquisition or changes in attitudes that promote environmental protection in the work environment in order to contribute to the planet's sustainable development.	The trainer must be aware of environmental protection and have totally taken on board the habits this involves.	The obligation to include the EAM in VET courses (previously voluntary) and its funding from the Directorate General of Training for Employment. Must avoid teaching this module as a set of contents.	Include in the contents of the training specialism (horizontality). On the proposal of the Network of Environmental Authorities, set out in the White Paper on EE in Spain and in the Andalusian Environmental Education Strategy. (section 6.5). Coordination between administrations. Not just contents, the aim is to make aware, to develop attitudes, to raise consciousness.
Level 4	E.10.	It gives students an idea.	Preventive culture	9 hours do not count for much Reluctance of students who do not see the relationship with their chosen specialism. I am not aware of the existence of these strategies	Extended content and the duration.	If the strategies exist, they should be taken into account
	E.11.	Education for a change in behaviour	Able to reach a certain proportion of the population. Consciousness-raising, principles of conduct respectful of the environment, assisting in the future development of their jobs and their daily habits.	No interaction with the permanent teaching staff Becomes an isolated activity	The teaching staff should acquire some knowledge of the subject	Must relate to the Andalusian environmental education strategy. Relationship between EE and VET managers Coordination between those involved.

Table 6

		Creation and Development	Opportunities	Difficulties
Level 1	E.1.	We prepared an Action Plan up to 2006 in coordination with the Regional Employment Service and the Workers Commission Trade Union Confederation and the General Workers Union.	Environmental Training and Communication measures We drew up 20 codes of Could Practice for the various professions. Training Courses for teaching staff.	Evaluation of the EAM and achievements of goals.
Level 1	E.2.	Developing professional work audits of students. One year or one and a half year surveys of the training process of a significant sample	Include the subject of the environment in all VET courses.	Affects overall course evaluation little or hardly at all.
Level 1	E.3.	The EAM should be 30 % of the course.	Increase environmental culture in the training field.	There is no relationship between VET and EE managers
Level 1	E.4.	If done by an environmental expert this would probably be technically better and encourage recruitment. If delivered by the course tutor, it will be automatically applied. Satisfaction with the achievement. The evaluation should have more effect.	The 2007-2013 programming is being designed. We are pioneers in the application of this module in Europe.	INEM is not part of the Network of Environmental Authorities even though they were invited.
Level 2	E.5.	Must have an effect in minimising the impact: energy saving, water-saving, appropriate waste management.	A lot of effort has been put into achieving this. Training of teaching staff in the subject of evaluation and above all how to draw up a Code of Good Practice.	Short duration. The evaluation should affect the course evaluation. The importance of the Module has not been appreciated.
Level 2	E.6.	Reluctance to include EE in VET. EE and VET speak a different language. Continuous advice on environmental subjects. The EAM should pervade all course contents.	Incredible opportunity to develop strategies.	To access support material on the Internet. Little training for trainers. Biological bias to environmental training. Occupational and environmental requests are ignored.

		Creation and Development	**Opportunities**	**Difficulties**
Level 2	**E.7.**	The decision to include this EAM is the recommendation that comes from the Environmental White Paper and the Andalusian environmental education strategy.	Teaching of EE itself, VT. Analyse and upgrade training in new qualifications relating with EE and the labour market.	Lack of specific courses for teaching of the module.
Level 3	**E.8.**	A survey could be carried out on students after the event, asking them about good environmental practice. Bridges that should have been erected (between ourselves and the Employment Department) were not put in place	Creation of pro-environmental attitudes in future professionals.	There is reluctance or suspicion over the teaching of these courses. Evaluation of the EAM is not of overriding importance in the course as a whole.
	E.9.	Training of teaching staff in environmental matters.	For the application of evaluation strategies: Experimental or quasi-experimental designs, observation scales, interviews with trainers. Compare the volume of investment in training with the volume of saving for sustainable practices in enterprises.	Difficulty in achieving coordination due to the complexity of administrative structures Lack of a culture of environmental responsibility in the world of work. Difficulty in evaluating the impact of this training (deferred evaluation).
Level 4	**E.10.**	I don't know anything about the origin of the EAM. There is a Council order. The evaluation currently lacks validity in the overall course evaluation. The course tutor must apply the Good Practice.	The awareness of preventive culture it instils in future workers within enterprises. Environmental specialisation of EAM tutors.	The permanent course tutor and the students feel they have been deprived of 9 hours. The permanent tutor is neither aware of nor continues the environmental task. I still think recycled things are more expensive (e.g. paper).
	E.11.	Taught by specialist staff Support and control by the administration Subsequent follow-up of behaviour acquired by the students.	The delivery of this EAM is a great accomplishment in both lifelong learning and occupational training. Enterprises should assume environmental responsibilities.	May be considered an easy option. VET and EE managers should maintain a smooth, consistent and two-way relationship. The EAM evaluation does not affect the overall course evaluation. It is not given the importance it deserves. Lack of communication between those involved.

ANNEX 2

QUALITY CRITERIA PROPOSAL FOR A SYSTEM OF ENVIRONMENTAL AWARENESS INDICATORS

Design indicators

1. Relationship between this training strategy and others such as regional environmental education or sustainable development strategies.
2. Involvement of Autonomous Community managers from Employment or Environment Departments
3. Use of teaching material quality indicators designed for the EAM.
4. Criteria used to promote participation.
5. Has an EAM communication campaign being conducted?

Process indicators in the Training Centre

6. Introductory training for training centre managers and teaching staff in all specialities.
7. Preparation and application of a code of GEP in the training centre. Establishment of pathways for participation in centre management.
8. Profile of teaching staff delivering the course. Experience and training in socioprofessional and EE fields.
9. Availability of material resources that are appropriate for environmental criteria.
10. Upgrading of training centre equipment to environmental criteria.

Course process indicators

11. Integral worker training. Behaviour and attitudes that are respectful of the surrounding environment, inside and outside the workplace.
12. Application of the following principles:
    a. Constructivism.
    b. Systematic focus.
    c. Horizontality.
    d. Interdisciplinarity.
13. Improvement of understanding, analysis and awareness of environmental matters (local and regional situation). Gather suggestions from students.
14. Use of Environmental Awareness Techniques
    Motivation Techniques: Constructivist principles (contact with reality, experiences of students, use of games, diversity of resources, relaxed environment).
    Consciousness-raising Techniques: Sensory education and approach (use the senses). Become aware. Emotional life and emotional development.

Role playing and simulation techniques: Effective-emotional and conceptual development. Development of skills aimed at a positive attitude to environmental matters. Thematic approach (natural and social environment) to reality in a global manner, interconnection.

15. Preparation of a GEP Code.
16. Setting of course programming. The trainer, who is truly knowledgeable about the special subject he or she teaches and is the leader of the learning process, must act as a mediator of environmental content.

Results indicators

17. Ethical positioning for acting and taking part in problem solving.
18. Pro-environmental attitudes by students with regards to:
    - Use of resources (care of material, facilities, etc.).
    - Waste created during the course
    - The group as a whole (respect, participation, solidarity, etc.).
    - Environmental activities proposed by the monitor.
    - All directed at a code of values during the course for trainers and participants.
19. Application of a GEP Code to the specialism in question.
20. Evaluate and determine the level of application of GEP in the future professional duties of students. Determine the acquisition of pro-environmental behaviour.
21. Use of evaluation and results to improve efficacy and efficiency in future activities.

The relevance of the sectoral approach in European training cooperation

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SUMMARY

In the debate on vocational training in Europe, the sectoral approach has been referred to for some time now, as the authorities expect that this will ensure, above all, a greater involvement of the social partners. But it remains unclear exactly what is understood by the term 'sector'. It is used in discussions as a standard, pragmatic phrase rather than as the result of particular research. An attempt is made below to define this term for the purposes of vocational training policy and to demonstrate the opportunities offered by the use of sector references for European vocational training, including reference to the debate on the European qualifications framework (EQF) and the European Credit Transfer Systems (ECVET) for vocational training.

Introduction

The Copenhagen Declaration, signed by EU Education Ministers, the European Commission and the social partners in November 2002 is an important milestone on the road to a European training area. It expressly emphasises the sectoral approach and the relevant competences and qualifications. 'Increasing support to the development of competences and qualifications at sectoral level, by reinforcing cooperation and co-ordination especially involving the social partners' (ibid) ([1]) are two key themes of the Declaration.

On the surface, the sectoral concept is less politically explosive than the other Copenhagen objectives. However, it is worth noting the comment made in one of the calls for proposals that a significant number of projects had operated successfully at a sectoral level in the Leonardo period from 1995 to 2003 (Call, 2004). This approach should therefore be held up as a 'testing ground' for the development of qualifications and competences. The following were referred to as decisive advantages of the sectoral approach in the 2004 Leonardo call (ibid):

- Reference to a given sector gives those involved a clear indication of 'qualification requirements'.
- On the basis of sectors, solutions for European and international approaches to training can be developed.
- Referring to sectors makes European cooperation in vocational training easier.

It should be added that projects that are clearly linked to sectors usually include the social partners. The benefits are obvious: they usually operate within individual sectors, typically have sector-specific know-how and know about the sector's developments and requirements. In this respect, as key partners, on the one hand, they are crucial to the success of the project and, on the other, they are particularly important as experts above and beyond sector and national boundaries. The social partners are therefore key players when it comes to promoting the necessary dialogue on vocational training in Europe - an estimation confirmed in a study by Winterton, who says that the social partners around Europe are playing a formal role in the development of vocational training policy and are particularly involved in its implementation at a sectoral level (cf. Winterton, 2006).

([1]) With the funding of European experiments (Fahle 2004) under the framework of the Leonardo da Vinci programme, those involved in vocational training have a useful tool to use reference projects in a *bottom-up approach*. The 2005-06 call for the last two rounds of calls in the Leonardo programme starts with this organisational potential and is therefore explicit in the Copenhagen objectives (European Commission, 2004).

In an empirical study carried out by Mulder, however, it was discovered, as far as the food and agriculture sectors were concerned – at least in the 60 Leonardo projects investigated (between 2000 and 2003) in this sector – the social partners had only very minor involvement, if any (Mulder 2006). In any case, social partner organisations did not take part in the projects. At the same time, however, those questioned in this study also confirmed that the involvement of the social partners contributed significantly to the success of the project.

To this end, following the meeting of the Leonardo Programme Committee in Bonn in December 2003, the European Commission underlined that the Copenhagen objectives of transparency, recognition and quality could only be achieved through the active and systematic involvement of those responsible at sectoral level (European Commission, 2003).

Since then, discussions carried out under the framework of the European E-Skills Forum initiated by the Directorate-General for Enterprise and Industry and in the CEN ([2]) 'Agreement on the ICT Skills Meta Framework' Workshop have made the subject even more relevant, because the development of a European sectoral qualification framework has now started.

There is therefore a real need for clarification over the issue of sectors. There is also the strategic question of whether and, if so, which sectors are particularly able to achieve, through the national authorities focusing on vocational training, relevant and convincing project results over the long term (cf. Heß, 2004). Finally, it is necessary to look at whether sector-specific projects financed by European funding can ever meet expectations.

The sector concept – The history of an unclear term

Numerous sector models

The terms industry and sector are often used interchangeably. An industry is an economic or commercial branch or a specialist field. The numerous types of economic and commercial branches and specialist fields can only be defined by identifying their contents, which usually depends very much on the situation. Terms like the electrical industry, construction industry, motor industry, etc., show that the term can be very broad, but also indicate that there is a need for a certain amount of categorisation, which is easier to achieve by using the term 'sector'because it can be defined.

Discussions over sectors usually revolve around macroeconomic structures. In his three-sector hypothesis, Fourastié, who describes the rise of the ser-

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([2]) The CEN (European Committee for Standardization) Workshop Agreement can be downloaded from the following address: ftp://ftp.cenorm.be/PUBLIC/CWAs/e-Europe/ICT-Skill/CWA15515-00-2006-Feb.pdf

vice society and the replacing of an industrial society with a knowledge society (cf. Helmstädter, 2000), defines the:
- primary sector (agriculture and forestry, fishing),
- secondary sector (production industry), and
- the tertiary sector (services) (cf. Fourastié, 1954).

In economics, the sectors are often also divided up according to economic branches under the following main categories:
- agriculture and forestry, fishing,
- production industry,
- commerce and trade,
- services (cf. Helmstädter 2000, p. 15).

There are also numerous other definitions of sectors, such as those using economic operators (companies, the State, households, etc.), management of the national accounts (cf. Becks, no year given) or the IAB model for analysing services (cf. Spöttl et al., 2002).

It is interesting that, for example, with the rise of the new information and communication technologies, attempts were made to introduce another, 'quarternary' sector. Such attempts fizzled out because the new information and communication technologies were used everywhere. It is not worth making any particular sectoral distinction here because it is simply a cross-sectional technology. A sectoral distinction here would restrict the distribution and examination of effects.

Examples have already shown that, depending on the actual task and the interest, sectors and sector concepts can be composed, defined and broken down in many different ways.

However, as far as the sector concept to be clarified here is concerned, a basis for vocational training and research fields has to be defined, which can be achieved at manageable expense and with clear incorporation into the vocational training landscape.

In order not to founder on the numerous references made to sector and industry models, it is necessary to come up with an understanding of the term 'sector' in two senses:

(a) At a *macro level*, fields relevant to vocational training and which ultimately make up a vocational training system have to be identified. Research carried out in individual or in all such fields on matters of political and economic relevance, trends, qualification requirements, job profiles etc., help to increase basic understanding of the development of vocational training systems for use in vocational training policy. The primary aim is therefore to increase our understanding in order to provide a sound foundation for the further development of vocational training systems.

(b) At a *meso level* it is no longer necessary just to look at structural factors, as focused on at a macro level. It is a question of working out the changes in responsibilities and job descriptions in order to gain a first, practical understanding for the 'reconfiguration and further development of qualification initiatives' (cf. Spöttl, 2000), without going into the details.

The understanding of sectors on this second level is intended to classify data and, for example, vocational training initiatives in a clearly defined context to ensure that further research is valid. To do this, sector distinctions have to be clearly recognisable and delineated.

These are therefore the starting points for a definition of sectors allowing core questions relating to vocational training to be looked at with clear references to the fields contained in them (cf. Hanf, 2003).

Definition of a sector for the purposes of vocational training initiatives

A sector in this sense is characterised by:

• a (specialist) field involving comparable or similar tasks and having similar production or service structures;
• data, statistics and studies that cover, both nationally and, as the case may be, internationally, the same (specialist) field and can be used to determine sector-specific developments;
• the defining of activities on the basis of economic branch classifications like NACE ([3]) (cf. NACE, 2004) and
• the analysis of products, customers, know-how, services and specialist tasks that are not structurally different from one another.

This definition means, for example with reference to the motor sector, that one must think very carefully about where to draw the line. At first glance, the 'motor sector' includes the entire manufacturing and supply industry and the servicing and repair industry, including petrol stations, hire companies, motorcycle companies, second-hand car dealers, etc. However, if the sector is looked at according to the above definition, a distinction can be drawn between manufacturing and servicing, repair and dealing. The first category, manufacturing, includes car manufacturers and their suppliers (who manufacture products) and the second includes servicing, repair and dealing; dealing, because it is directly linked to servicing and repair establishments. The second category is typically oriented very specifically to the customer, with whom contact is made directly. Second-hand car dealing can also be

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([3]) NACE = *Nomenclature statistique des activités économiques dans la Communauté européenne* / Statistical classification of economic activities in the European community.

included here (assuming the establishment is not independent), as can motorcycle repair, because there is a close material link with cars in terms of engineering and servicing. Not included, however, are petrol stations and hire companies. They involve sale and rental and are not structurally similar to motor vehicle servicing, repair or dealing (cf. Rauner et al., 1994).

The practical question of defining, for example, the 'recycling sector' is completely different. This term is not found in current statistics and standards (e.g. NICE ([4]) or ISIC nomenclature – Directive 1999/42/EC, L201/77 ([5]), but in the NACE classification. The extremely varied recycling sector can only be defined with reference to the Closed-Loop Economy Act, according to which, first of all, a different term is to be used, namely 'closed loop waste economy', because this includes the process of preventing, avoiding and recycling waste. It includes the recycling process (closed loop), the waste economy and the cycle (or the general understanding of it). The sector therefore includes the collecting, separating, recycling and production of secondary raw materials and goods that can be sold on the open market. In Europe, this understanding of the term includes at least 13 areas, such as waste glass, waste paper, old cars, old wood, building rubble, old textiles, old electrical equipment, etc. Combustion, sale and dumping are therefore also included in the 'recycling sector'. The sectoral definition also ensures a clear field here. If this distinction is not made, there is a risk that, for example, old cars and the renovation of old cars will be included in the motor vehicle servicing and repair sector even though they are typical cases of recycling.

Finally, the classifications used by the United Nations and the EU in their current, synchronised versions ISIC Rev. 3.1 and NACE Rev. 1.1 are an authoritative representation of data relating to economic branches.

The classification of economic branches used by the Federal Office of Statistics, harmonised with the NACE Code, has a correspondingly finely branched structure without resorting to the sector category. However, it is a key source of information when it comes to defining sectors and, in particular, the data is transferable when sector boundaries follow economic branches. Nevertheless, such definitions are unsuitable for an understanding of the term 'sector'for the purposes of vocational training, as the following example demonstrates:

It can be seen from the economic branch classification NACE:
- Subsection DI: Manufacture and processing of metal products and
- Subsection DK: Manufacture of machinery and equipment,

that, for example, 'surface refining and heat treatment' is included under DI and the 'manufacture of machinery for metallurgy ...' is included under DK. In initial vocational training, these two tasks will be combined in a single job

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[4] NICE = Classification of Industries established in the European Communities
[5] ISIC = International Standard Industrial Classification of All Economic Activities

because they are very similar in terms of performance. It is therefore obvious, from the point of view of vocational training, to draw sector boundaries, in certain cases, differently from those in economic branch classifications and at the same time ensure that the classification information can be used.

The underlying Regulation of the European Commission of December 2001 talks about 'classification of economic activities'; the preliminary report on the economic activity classification review process up to 2007 avoids the term 'sector' altogether (cf. Greulich, 2004; EC Regulation, 2002). This is understandable because data is being classified which relates to statistical units, i.e. to an individual business or group of businesses that form an economic unit. However, it should not be forgotten that many classifications are based on sector classifications according to economic branches. Under the structure according to the NACE 'Rules and Definitions on Sections', economic units such as 'dealing, maintenance and repair of motor vehicles and second-hand cars' are all combined (cf. NACE Rev. 1). This does not just form the basis of a sectoral approach from the perspective of vocational training, but is expressly predestined for it. ([6])

Summary

Comments made on the sectoral concept do not merely prove that there are numerous definitions, they also show very clearly that, as far as vocational training is concerned, it is an 'unpolitical' term that can be used in various ways. It has also emerged that current use of the term makes no distinction between sectors standing for a classification in vocational training and those used as basic classifications for economic data.

Using the above definition of a sector with respect to vocational training, it is clear that classifications relating to the economy – for example NACE – can in certain cases form the basis for sectoral definition in vocational training. Nevertheless, it would be better from a vocational training point of view to use its sectoral definition aimed at the classification of vocational training. Sectoral structures relating to the economy are the basis for the 'supplying' of data, information, standards, etc.

A full and formal separation of a sectoral understanding in vocational training from classifications relating to the economy would have the disadvantage that data and knowledge of trends could not be carried over to vocational train-

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([6])   The 'explanatory notes' for the draft version of the revised United Nations ISIC Standards of May 2004, on the other hand, use the term 'manufacturing sector' and, in relation to public administration, talk about '…subsidy allocation, for different economic sectors: agriculture; land use; energy and mining resources; infrastructure; transport.'
On the one hand, this clearly shows that the term 'sector' certainly plays a role. On the other, the different linguistic usage demonstrated does not just provide a differing categorisation; the imprecise terminological allocation oddly contrasts with the meaning currently ascribed to the sectoral approach in training discussions and programmes.

ing. A supply function therefore tends to be more appropriate. However, sectors in vocational training do not have to correspond precisely to sectors in the economy. In this respect, the decision of the Leonardo committee in the 2004 call to use the NACE standard as a basis for sectoral structures is not necessarily a good thing. NACE is undoubtedly used as a guide when it comes to vocational training sectors, but it certainly cannot be reproduced like-for-like; not every economic sector can be ascribed its own vocational training measures.

The relevance to training of the sectoral approach

Sectoral vocational training is not currently official vocational training policy either in Germany or anywhere else in Europe. In Germany, reference to the vocational fields, which do not correspond to the sectors, still predominates. There are various arrangements in other European countries, such as a general system reference, reference to an institution, reference to a job, reference to a school, etc.

A sectoral European vocational training policy could, however, be a first step towards successful European social dialogue helping to achieve an international joint European vocational training policy. Referring to the interests of individual sectors would help to objectify the frequent meta-discussions in favour of sector-specific interests.

A sector model favoured in this way faces three basic obstacles:
(a) Sector boundaries are blurred because of the fluid nature of the working world.
(b) Multi-sector qualifications and competences are becoming relevant and are still attached to a single sector.
(c) The sector model does not respond to new developments – it remains static.

The first two points are closely related, but they are only applicable if the traditional and ultimately static sector model proposed by Fourastié in 1954 is used. This model is unsuitable for a discussion on sectoral vocational training as it is not open to development and therefore does not allow for changes in sector boundaries, new developments and, above all, considerations of national industrial culture.

As far as multi-sector qualifications and competences are concerned, it should be pointed out that researchers agree that they cannot be provided in an abstract and context-free way ([7]); instead, reference to a domain is the cru-

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([7]) The question of the context-free provision of qualifications has often been raised in relation to discussions over key qualifications.

cial requirement. Only with reference to a domain is a high quality development of 'tied' and 'free' qualifications and competences possible. In other words, the provision of qualifications and competences should be sectoral if it is to succeed. At the same time, the plans developed for it are transferable.

If sectors are to play a role in the structuring of vocational training, then a sectoral concept must be able:

(a) to form a basis for the arrangement of job outlines that can be achieved at manageable expense and with clear incorporation into the vocational training landscape and

(b) to include work factors in a sector that is of relevance for vocational training.

Both of these conditions are clearly contrary to approaches in discussions on European vocational training, which still put competence level and modular structures after Tayloristic work structures ([8]). Sectoral vocational training is based on including the work factors and business and working processes of a sectors and using them as a platform for the arrangement of vocational training. In all considerations on this subject, the crucial question is how sectors or sector boundaries are determined and understood.

DOMAIN

For some time now, 'domain-specific competences' (cf. Gerstenmaier, 2004) have been the principle area of discussion among researchers. A domain is generally an area, territory or special field in which someone is particularly active. In this respect it initially seems reasonable to refer to any definable area of activity in which someone can act with authority as a domain. Researchers have made use of this possibility. On the basis that an expert's competences only relate to his special field, the following requirements for domain-specific competence are recognised:

1. It is based on mental networks of area-specific knowledge;
2. It is characterised by special skills and routines for which only a limited explanation is possible;
3. The trade demands many years of practice and extensive experience (cf. Gruber/Mandl, 1996).
At this level of abstraction, any mental or physical act in an area may become the domain in which the competence is demonstrated.

The current theory (cf. Becker, 2004) is that the domains are naturally to be referred to in relation to a subject area – e.g. servicing or diagnosis in motor vehicles or the construction of an IT network – so that a workable concept of competence is produced. This can only be achieved by describing the context in which the work is carried out. Plato told us that a domain is 'the conceptual unit of a subject area' (Krohn 2002, 19). Only by looking at the overall picture can a sensible use of the terms domain and competence be ensured. In order to specify a domain, reference to sectors is the obvious answer.

([8]) A current example of these kinds of failed inclusion in vocational training is given in the report commissioned by Cedefop, 'ICT and e-business skills and training at sub-degree and vocational level in Europe' (cf. Cedefop; Petersen, Ward, Wehmeyer, Revill, 2004).

For example, production industry includes numerous industries and 'sectors', such as the motor industry or the vehicle servicing sector, manufacturing, production engineering, construction of machinery and equipment, steel working, etc. It is clear here that the generally prevailing understanding of an industry and/or a sector is broad and tends to be classified as an analytical category. However, for a deeper understanding in vocational training research, an approximation of industry divisions, undefined sector structures or production fields is not particularly helpful. It is a question here of defining the general factors relating to sectors that are relevant for vocational trainers, qualification initiatives and vocational training policy as a field of reference.

Vocational opportunities offered by a sectoral approach

A sectoral approach to European vocational training, vocational training research and vocational training policy offers a number of advantages:
- Sector structures in industry and trade are clearly identifiable and largely similar all over Europe.
- The challenges of similar sectors differ only slightly throughout Europe, so both sectoral and multi-sector qualifications and competences can be included and incorporated into vocational training.
- The inherently fluid nature of sectors can be transferred to profiles and to vocational training policy and (core) job outlines at European level.
- The development and adjustment of sectors is largely affected by European legislation and other European regulations and can therefore be followed and understood more precisely. Knowledge of the labour market can thus be increased.
- Characteristics of industrial culture can be taken into account in sectoral competence profiles and/or job outlines. There is a specific opportunity here for a Europe-wide understanding of vocational training that has not yet been taken advantage of.
- Using a credit-point system for work process structures in a sector looks promising as an attempt, through formalised certificate structures, generally to improve the transparency of final examinations. In a sectoral approach, credit-point systems and credit systems are easier to summarise and communicate. However, no specific details have been agreed on yet.
- Sectoral vocational training simplifies and guarantees the involvement and support of the social partners, as references to the work that is relevant to them are put centre stage. Social partners can also weigh up and evaluate 'events' in sectors more effectively. This makes them likely to take action.

- A sectoral inclusion of social partners in the vocational training debate is one of the main prerequisites for establishing a 'European vocational training dialogue'.
- The sectoral approach means that, through its definable framework, ambitious training objectives can be 'broken down' operationally to project level.

The clear references to the world of work in the Bologna Declaration almost demand that this be declared a core part of a 'European vocational training system' for the purposes of work-oriented vocational training. This can only be achieved through sectoral references, thanks to which:

- the multidimensional challenges of the shop floor can be understood,
- the relevance of work organisation models is taken into account,
- the business communication structures are looked at,
- legal regulations are included in vocational training,
- the tools, products, etc., themselves are returned to the centre of vocational training.

Unlike the discussion over formal comparability, rules on mutual recognition and transparency of certificates, which can only be managed by a top-down approach, the sectoral approach uses a bottom-up approach. This could help in the conversion of national systems as it takes into consideration and respects the basic cultural conditions and industrial cultures of each society. As mentioned above, the differences on a work-related sectoral level across European borders are also not as relevant as they are in individual vocational training systems. There are therefore excellent links on a sectoral level for a European vocational training policy.

In addition, sectoral references always mean specifying vocational training and analysing ideas regarding required and expected qualification levels in a real field of work. Even if this leads to interest-led and controversial discussions and opinions, it will still ensure involvement, representing the best opportunity for a European dialogue on training.

Areas of action and uses of the sectoral approach

On the basis of comments made above, a sector has to be defined in a way that an economically relevant area, with its fields and associated questions of qualification and personal development, can be clearly understood. Individual sectors to be defined must be characterised by completely different economic concerns, methods of production, contents and qualification issues.

Consequently, the following must be borne in mind when drawing up boundaries in the sectoral approach:
* what the main responsibilities of the actual job are,
* whether company structures, a degree of specialisation, an analysis of typical subjects, etc., can be identified,
* whether there are social partners and co-determination structures that are relevant to social, economic and qualification policy in this sector,
* what employment and occupational structures there are and how initial and further training and personal development is organised.

By drawing up the boundaries between individual sectors, it is possible to identify sector-specific changes with respect to demographic developments, technological innovations, the dynamics of the business field, the different ways of organising work, computerisation, qualification challenges, internationalisation, job structures and initial and further training requirements. As a result, targeted activities for vocational training initiatives can be carried out which have a clear link to the sectors concerned. The involvement of the social partners is assured within sectors.

In sectors that have a strong international element, such as in the IT and motor industries, such data forms the basis of European job outlines. In sectors with more of a national focus, national requirements may be given more relevance, which may be supplemented with general sector European profile aspects.

In practice, these considerations amount to three approaches to sectoral vocational training strategies:
* Core European sectoral job outlines, which can be supplemented with national, industrial culture and sector-specific additional profiles;
* Europeanised general sector additional competence profiles, which can be supplemented with national profiles;
* A European vocational training strategy in European or global sectors in order to promote their competitiveness.

European and global authorities and decision-makers have long been interested in drawing up effective methods and rules for European vocational training in order to increase competitiveness to match that in US or Japanese sec-

tors. European vocational training could make a considerable contribution to this (cf. Heß; Tutschner, 2003, Rauner; Spöttl, 2002).

Sectoral approach and EQF/ECVET

Focusing European training activities on sectors makes it possible to link vocational training, and therefore skills development, to clearly defined domains (e.g. vehicle servicing in the motor sector). This means not only that domain-specific learning processes which allow both the development of technical skills and of key qualifications can be put in place, but also that evaluation and assessment of the contents can be carried out. By gearing learning to domains, the sectoral approach can focus and redouble the efforts being made in Europe to increase transparency and implement a credit-point system in vocational training (ECVET, cf. Technical Working Group, 2003 and Le Mouillour, Sellin, Simon, 2003). This is possible with clear content-related work and learning. The results of this process are measurable and guarantee the potential of each individual. At the same time, the sectoral approach makes it possible, against the background of the European qualifications framework (EQRKOM, 2006), in a definable and therefore 'manageable' field – to structure transparently, for example, the interchangeability of vocational training with university education.

The sectoral approach also makes it possible to put discussions on EQF and ECVET into concrete form - particularly, to describe the contents of descriptors of the EQF and, in particular, of national qualification frameworks (NQF) with domain-related requirements within sectors. The conditions could also be set to provide qualification level with points to support the ECVET concept. There is an opportunity here for all participating European countries to come up with solutions corresponding to their own structures and underlying priorities but at the same time guaranteeing references to the European establishment of final examinations and profiles.

One of the greatest opportunities offered by the sectoral approach accordingly lies in the fact that the discussion over
• the support of learning processes and didactic approaches and
• a credit system
• can, to a large extent, be put into concrete form and underpinned by domain-related content from sectors.

At the level of sector-specific content, it finally has to be decided how many points are awarded for what, and what weighting these things have in a European vocational training area. This cannot be decided without the involvement of the social partners in the sectors concerned. ([9])

> **ECVET/EQR and the sectoral approach**
> The consultation process for implementation of a credit system for vocational education and training (ECVET) reveals, in the context of the proposal for a European qualifications framework (EQR) or national qualifications framework, just how complex the tasks to be carried out are.
>
> For example, discussions over terminology (including what we understand by competence) are largely invalid because of political influences, but the question remains:
>
> What does a European standard for measuring competence look like? Just as unclear is the issue of validation. Which body - with which members - is to be defined as a 'competent body'? And is the jurisdiction of these authorities limited to their respective subsystems (vocational training – university education, but also general education)? Or is their role understood differently?
>
> Practical rules also have to be drawn up for dividing up and awarding points to learning units.
>
> The sectoral approach means that manageable arrangements accepted within the sector can be achieved through the definitional *limiting of terrain*.

Sectoral projects and national interfaces

Discussion over European job and further training profiles arranged nationally in a specific sector still revolves – bearing in mind all terminological difficulties – around the fact that a system-relevant curriculum is the product of negotiation between the social partners.

Both the Copenhagen process and the 2005-06 call in the Leonardo programme underline these political aims and responsibilities, requiring understanding, through a bottom-up approach, by those involved in carrying out sectoral projects. As a result, those running projects are, to a certain extent, given sovereignty over the interpretation of the term 'sector' because no clarification is given if requested.

As a working theory - in both senses – the sector project is therefore where European umbrella organisations and national jurisdiction meet. On the one hand those responsible for sectors who predominantly work in their national interest face the task of translating European solutions into national rules - the mechanisms of which are characterised by different legal requirements, normative values, cultural traditions and traditions relating to work ethics, specific conflict management, political models and decision-making structures.

(⁹) The sector-specific evaluation of the findings of the Technical Working Group 'Credit Transfer in VET' is yet to be finalised (cf. Le Mouillour et al., 2003), so final decisions on the value of its results have not yet been made.

On the other hand, the sectoral approach offers the opportunity, based on national progress and success, to achieve a European alignment because in many cases the sectoral value-added chain runs through a number of countries in global job division. The resulting standardised requirements lead to joint international solutions and hence to the greater transparency of vocational qualifications and final examinations.

A declaration of support by European players and programmes for sectoral project work would give workers constructive options for collaboration on that basis. At the same time, a high development dynamic would be possible, ensuring rapid progress of processes introduced through involvement on that basis.

According to the sector concept that is open to development, those responsible for vocational training would then, in some cases, face the challenge of making the European competences first constituted at sectoral level transferable and therefore, to a certain extent, explaining them generally for all sectors.

Development approaches in practice

This ideally outlined development line has a parallel in the high expectations that the 'European Milieu' in politics, science and practice, for example, places on the international innovation projects in the Leonardo programme.

Subjects of selected Leonardo projects in Germany:
- EU businessman/businesswoman for transport
- Development of a European job outline and curriculum for the recycling industry
- Modularisation of vocational training and university education in the care industry
- JobArt - Preparation for the workplace for disadvantaged people in the fields of event engineering and digital media structuring
- International development and testing of a job preparation model in the motor and metal industries
- Teaching and learning materials for a web-based model shop with an interface with the product business system for training in retail
- 'MediaCoach' (target group advisors/trainers in the media)
- European 'building automation' competence field
- 'Virtual Academy' for the European home textile sector
- Virtual labour for training in mechatronics
- Teaching/learning arrangements for mobile terminals (PDAs, mobiles, MDE) in initial and further training for retail
- 'Awarding points' for specialist profiles in the IT/multimedia sector

For project details, go to http://www.leonardodavinci-projekte.org

The German Leonardo projects have undoubtedly had remarkable results since the reorganisation of the programme in 2000. ([10]) A considerable number of project partnerships were, from the outset, designed to be sectoral in all main areas (see box, p. 176).

In view of the dynamics of the Copenhagen process, however, both those involved at a work level in the Member States and those representing projects are at a threshold that can only be crossed through joint initiatives: Those involved in vocational training need reference projects that demonstrate the feasibility of the Copenhagen objectives and so prove the manageability of European solutions; the projects, for their part, with the systematic organisation of a European dialogue, are coming up against limitations (Fahle, 2004 a and 2004 b) which it seems can only be overcome by alternative approaches. Sectoral approaches in any case offer the opportunity, to a large extent, to put project work into concrete terms and to demonstrate their uses for industry and trade.

In this context, sectors have to be chosen, as prototypes for European training, which meet both strategic considerations (classification relevance, broadcastability) and content requirements (transferable model with reference character). The necessary competence to carry out the project is a prerequisite here.

Summary and prospects

Comments on the sectoral concept show that definitions characterised by economic structures predominate. A like-for-like assumption of definitions by vocational training policy is not recommended owing to its high complexity – it would tend to fragment vocational training. As a result, a definition of the term 'sector' has been introduced that is suitable for training practice and policy and can at the same time assume all relevant data from the sectoral statistics.

The nature and opportunities offered by sectoral approaches can be summarised as follows:

- Sectoral approaches are particularly useful in Europe where a high degree of cross-border networking may be required and international training cooperation can be introduced.
- With a sectoral approach, discussion over European vocational training policy, particularly ECTS, ECVET and EQR, transparency and quality can largely be put in concrete terms.

([10]) Cf. for an assessment of the first phase of the Leonardo programme (1995-99), National Training Agency for Europe at the Federal Institute for Vocational Training, 2001.

- When selecting sectors, e.g. under the framework of model-like development and testing, national preferences have to be taken into account. This requirement applies not only when selecting the sector itself but also in relation to the actual selection process.
- For implementation, programmes like the Leonardo da Vinci EU vocational training programme have to be used, and a bottom-up approach developed. There are approaches with different focuses and intentions, particularly in the draft 'European job profile', such as in the case of motor mechatronics workers or ECO recyclers.
- The bottom-up approach and the sectoral approach complement one another, as the exact sector boundaries must be decided on the basis of economic activities and classifications; this ensures participation.

Implementing a European vocational training policy with strong, sectoral references would have the crucial advantage of putting all activities on a very firm foundation. This would considerably help to avoid the often abstract discussion over EQR and ECVET and to underpin the use of projects. Moreover, the success of projects will be easier to see because the results will be understood by all sides.

Above all, for a European vocational training policy to refer to sectors is a political necessity; yet both politics and research have so far failed to tackle this issue properly. It is time to se this right.

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Learning in a real context – a case study in Portuguese higher education

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SUMMARY

Relations between higher education institutions and local companies are generally considered to be very important to the success of education provision and for the social fabric surrounding the school. This article describes a case study of bringing together two parties with an interest in the school's action: students and companies. Group work as an assessment tool for resolving a specific problem or analysing a business situation in detail, when carried out in businesses, allows learning to take place in an everyday context. This helps both students and companies to achieve their objectives – learning and academic success for the former and the exchange of knowledge with a collaborative school open to its local environment for the latter.

Introduction

Since 1973, Portuguese higher education has been organised as a binary system – university education and polytechnic education – with distinct conceptual and educational frameworks (Simão et al., 2005). University education, geared towards research and the creation of knowledge, seeks to provide broad-based scientific know-how to underpin solid technical and cultural training in order to ensure high individual autonomy in relation to knowledge, including the possibility of applying such knowledge, particularly for the purposes of integration into the labour market. Polytechnic education, geared towards understanding and resolving concrete problems, seeks to provide scientific know-how, with emphasis on its application, to underpin solid technical training. The aim is to ensure high autonomy in relation to knowledge as it is applied to professional activities, and to actively participate in development action ([1]).

Managers need to combine the theoretical knowledge required to perform their duties with the capacity to work in a team, to communicate appropriately and to develop a process of permanent learning. The latter need is very important because, since businesses exist in constantly changing environments, managers must be able to identify, analyse, assess and implement solutions for new problems. Problem-based learning (Hmelo-Silver, 2004) allows learning objectives to be adapted to each company's specific circumstances, since students can, within certain limits, adapt to the above specific needs.

One of the most recent models for assessing the performance of an organisation on a conceptual basis, the performance prism (Neely et al., 2001), introduces the novel idea of including the organisation's stakeholders in the model from a dual perspective – both what they expect of the organisation, and what they can offer the organisation so that it can continue to deliver value to society. This new strategic approach seems to recognise that organisations do not wish merely to deliver value to their stakeholders, but also to establish more lasting, cooperation-based relations with them (Donaldson and Preston, 1995).

Group work by students within the local business environment therefore reinforces such relations: the Escola Superior de Ciências Empresariais (ESCE) [Business School] links with local businesses, providing them with new knowledge without compromising business decisions taken previously; businesses open their doors to students who are able to think critically and who are not constrained by the various needs of the company itself (i.e the need to ensure that it functions profitably and is environmentally friendly and socially re-

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([1]) Basic Law on the Education System; Article 11(3) and (4), Law no 4/86 of 14/10, and Law no 49/2005 of 30/08.

sponsible). The objectives set out above (the link between the School and society, especially businesses), are the fundamental aspects of the work analysed in this article.

This paper is organised as follows: after the introduction, the theoretical bases of problem-based learning or the analysis of business contexts are presented; an explanation is then given of how the stakeholders were identified; where they seek to promote the educational institution's mission and objectives; the learning process and the principal social partners affecting and being affected by the ESCE's teaching activities. Section 3 presents the teaching environment of the subjects involved. Section 4 analyses the importance of the work carried out, both for students and for host organisations. The results are validated in section 5, when the sample is expanded. Section 6 presents the main conclusions.

Learning method and stakeholders

Foundations of problem-based learning

Problem-based learning began in the 1960s at McMaster University's Faculty of Medicine in Hamilton, Ontario, Canada (Camp, 1996; Herried, 2003), and was restricted for many years to the training of health professionals. The success achieved in this area saw the method extended to other areas of knowledge, such as engineering, business management, economics and sociology (Camp, 1996). The method focuses on student participation, the development of critical thinking and self-directed learning in connection with real problems.

Under this method, students are organised into small groups overseen by a tutor. They are then presented with a problem (brief description of a problematic context) that often occurs in day-to-day business and which must be explained or resolved by corrective action (Schmidt, 1993); this functions as the starting point for learning. The problem itself, group work, individual study and the tutor's role are the main components of the method (Schmidt, 1993). The aim is for students to develop their ability to direct their own learning independently, rather than expecting the tutor to wield total control over the definition of learning objectives, resources and methods. The tutor's role is to provide support for the work of the group, ensuring that it engages in appropriate learning behaviour. He or she raises relevant questions that help the group to reflect more deeply on its objectives, on points to be improved and on contradictions to be clarified. The tutor is also responsible for fostering group dynamics to make sure that all members contribute, particularly those with the greatest difficulties in this area, and for developing learners' ability to work in a team (Schmidt, 1993).

Problem-based learning is founded on certain premises. It stresses the importance of students' prior knowledge of a subject, which is the most important determinant of the nature and amount of new information that can be processed. It suggests that prior knowledge needs to be activated by means of cues in the context of which the new information is being studied, thus enabling links to be established between this new information and the prior knowledge. The way knowledge is structured in memory, in semantic networks built on concepts and their interrelations, influences the potential for using existing knowledge. Storing information into memory and retrieving it can also be improved when students are in some way able to elaborate on the new information during the learning process. The contextual depend-ency of learning presupposes that the activation of knowledge to be used at a future point in time is facilitated when the context in which it was learned and the context in which it must be used are similar. Finally, students' intrinsic motivation favours an increase in the time devoted to studying, and consequently the achievement of better results (Schmidt, 1993). In addition, the contextualisation of learning and group work aimed at clarifying one's own point of view and being confronted with different perspectives tends to stimulate student creativity and intrinsic motivation in relation to the subject being discussed (Lowry and Johnson, 1981).

Identification of stakeholders
The pedagogical assessment process is consistent with the perception of the school as an open system following a contingency approach, which attaches importance to changes or uncertainties in the environment, technology and internal structures of an organisation (Boddy, 2002). This means that the assessment is more personal and objective and is not confined to the classroom. This type of work therefore seeks to counter passive knowledge-absorption strategies and to promote an active, participatory attitude among students, motivating them to apply knowledge transmitted in the classroom to a specific problem and getting them to work in a team. In its pedagogical function, assessment is thus seen as an essential element in the teaching and learning process.

Among the many criteria according to which group work in a real context can be assessed, only the three considered to be the most relevant in this case will be covered:
a) Mission and objectives of the ESCE;
b) Bologna Process;
c) Identification of stakeholders.

The ESCE is a faculty of the Instituto Politécnico de Setúbal. It was founded in December 1994 and currently offers six graduate courses: Accounting and

Finance, Human Resources Management, Marketing, Distribution and Logistics Management, Information Systems Management and Accounting and Finance as an evening course. Two postgraduate courses are offered: Hygiene and Safety at Work, and Taxation. According to its statutes, the ESCE is responsible for teaching, researching and developing business sciences, dignifying humankind and promoting the development of the Setúbal region and the country.

In terms of the 'Bologna Process', Valente (2005) suggests that the recipe for Bologna should be seasoned with the problems of each region and each institution, which must therefore be able to find innovative solutions. Student-centred learning will change mindsets and attitudes, and the enterprise and forms of working. Since the aim is to establish a strong link with the business world and with real life, the region in which educational institutions are based will also have responsibilities in the learning process. This link can be ensured through group work by students, with a minimum number of hours of work in businesses, and by problem solving. Educational institutions will thereby constantly observe the business world through regular contacts between their members (teaching staff, students, administrative staff) and the enterprise. The principal stakeholders (Freeman, 1984) of a polytechnic higher education institution will include its students and regional businesses. This paper therefore seeks to determine how far carrying out a project in companies, in two subjects, helps the region's students and businesses to achieve their objectives. The objective of students is to translate their practical learning into academic success. Educational practices that help transform this work into positive academic results can thus be classified as beneficial to students. The region's businesses, on the other hand, wish to be able to draw on a pool of business-qualified human resources familiar with the regional business environment. Educational practices that foster this objective will be perceived to correspond to their interests.

The Setúbal peninsula is part of the Lisboa e Vale do Tejo region (RLVT), and comprises nine municipalities: Alcochete, Almada, Barreiro, Moita, Montijo, Palmela, Seixal, Sesimbra and Setúbal. The resident population was 714 589 inhabitants in 2001 (around 7 % of the Portuguese total). It stands out as a very attractive region, with inflows of people from other regions of the country and other countries which are classified as internal and international migration flows respectively. The international migration flows are made up of Africans, Brazilians and, more recently, Eastern Europeans. It should be noted that in many cases their living and working conditions give rise to serious social problems which are currently far from being resolved, like exclusion, drug addiction and crime (Rebelo, 2000). In response to these social problems, in 2001 the Setúbal district recorded the greatest number of new social facilities (due to previous shortcomings), with 160 new social institutions

coming into operation. Unemployment in the Setúbal peninsula is consistently higher than the national rate. In 1991 it was almost 4.1 % higher, while in 2001 it was 2.1 % higher (Mata et al., 2005). As at national level, SMEs predominate in the Setúbal district, having grown in the three-year period from 2000 to 2003, both in terms of the number of units and in terms of employment and turnover. The number of large enterprises has fallen, leading to a reduction in jobs (INE, 2005).

Teaching context of the subjects under study

The methodological focus of the subjects studied is student participation, the development of critical thinking and self-directed learning by resolving problems arising in day-to-day business. Students choose companies generally according to convenience, their personal acquaintance with someone who works there, the company's willingness to accept them and the geographical proximity of the ESCE or the area in which the students live [2]. The same method is suggested for working students, who may, however, come to agreement with their tutor on a different but equivalent means of participating in problem solving. The two subjects under study are common to the ESCE's courses.

The main aim of this paper is to determine the importance of working in a group, focusing on resolving a problem or describing a business situation in detail, under a system of continuous assessment [3]. This section therefore addresses the objectives, the regional and sectoral scope and the perceived association between carrying out the work and success in the subject.

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[2] Research into the reasons for choosing companies was done in the validation semester. Of the 28 groups surveyed, 20 % attached the greatest importance to the proximity of the premises to the ESCE or the students' homes, while 40 % attached the greatest importance to interpersonal contacts.

[3] This paper presents the guidelines and principal findings of a research project which, based on data for the 2004/2005 academic year, aims to determine the results of the teaching and learning method – Group Work in a Real Context – both in terms of meeting students' expectations and meeting the host organisations' expectations (Seabra et al., 2006). The preliminary results of the research were presented at the XVI Jornadas Luso-Espanholas de Gestão Científica, organised by the University of Évora and the University of Seville in February 2006, and were published in the conference proceedings. This article, which was part of the work presented at the Conference, includes a validation of the results based on the first semester of the 2005/2006 academic year, and a survey of students that sought to understand what they thought about the method concerned.

[4] The students were mostly overseen by the managers themselves (46.4 %), with an average of two interviews, based on a questionnaire given to the students in the validation semester. The questionnaire indicated that 3.6 % of the groups felt that the company provided little support. The information provided by the company arose in visits to factories (82.1 %), working meetings in which clarification was provided (82.1 %), clarifications by e-mail or telephone (60.7 %), and the sharing of institutional information (53.6 %).

The place of the two subjects in the curriculum of the respective courses is as follows:

Courses	Operations Management Principles	Planning and Management Control
	Year / semester	Year / semester
Accounting and Finance	2nd year/1st semester	3rd year/2nd semester
Human Resources Management	2nd year/2nd semester	2nd year/2nd semester
Marketing	2nd year/2nd semester	2nd year/2nd semester
Distribution and Logistics Management	1st year/2nd semester	2nd year/2nd semester
Information Systems Management	3rd year/1st semester	2nd year/2nd semester
Accounting and Finance (evening course)	2nd year/2nd semester	2nd year/2nd semester

This paper analyses data relating to Operations Management Principles and Planning and Management Control because students can prepare projects for both subjects with the support of one and the same company. If they wish to take this approach, students can analyse a company more broadly than when they opt to contact two companies, one for each project. Students must draft two reports in both cases, defending them in discussions with tutors, since the assessment process takes place autonomously, which means that projects based on the same company may produce results that do not coincide.

The results for the 2004/2005 academic year (both semesters) are analysed below.

Subject: Operations Management Principles (OMP).
Operations Management Principles is common to all the ESCE's courses. It is taught in different years and semesters and runs in both semesters.

Group work and objectives
Students form groups of four or five members to carry out the continuous assessment work. The objective of the work is to understand how a company works, and the strategic and operational options it applies to its operations.

The group must identify a business in the industrial sector and, after obtaining their tutor's agreement, must ask the respective management if they are willing to be visited and to arrange workshop meetings so that the students can get to know the company and collect relevant documentation ([4]). In preparing the work, the group follows a draft outline that can be adapted to the company under study, including a presentation of the company and its strategic approach to operations. The principal characteristics of its operations management must be presented.

Figure 1:   **OMP. Student acceptance of continuous assessment work**
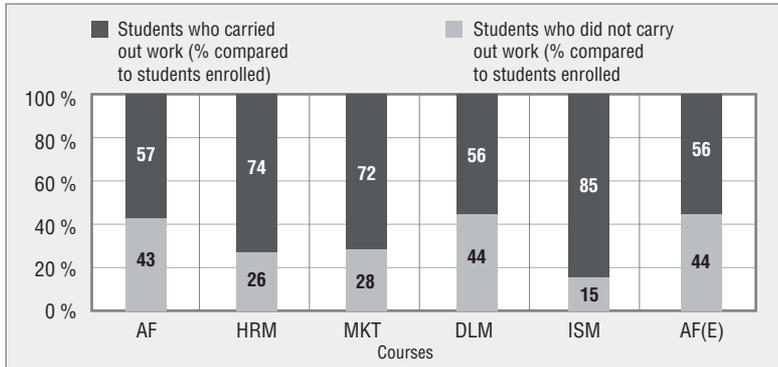
Acceptance of the group work represents acceptance of the continuous assessment process. After the report on the work is delivered, it is discussed by the tutor and the work group. In addition to preparing and discussing the work, the continuous assessment process also involves the sitting of a test. As can be seen from Figure 1, acceptance of the continuous assessment process is high.

Importance of the work to success in the subject
All students who passed by continuous assessment carried out the group work successfully (an essential condition). Students who opt not to accept or who fail the continuous assessment process provide evidence of their knowledge in an examination taken in the normal period or in the resit period. In this case the assessment involves a written test (examination).

The results show that the majority of students who passed the examination in the normal or resit period had already carried out the group work under continuous assessment. The overall results, shown in Figure 2, confirm the link between carrying out the continuous assessment work and passing the subject. In other words the majority of students who passed, irrespective of when they did so, carried out the work. An inverse reading is naturally not possible, since preparation and discussion of the work are supplemented by a test (under continuous assessment); success in the work does not guarantee success in the subject.

Figure 2: **OMP. Overall results (continuous assessment, normal period examination and resit period examination)**
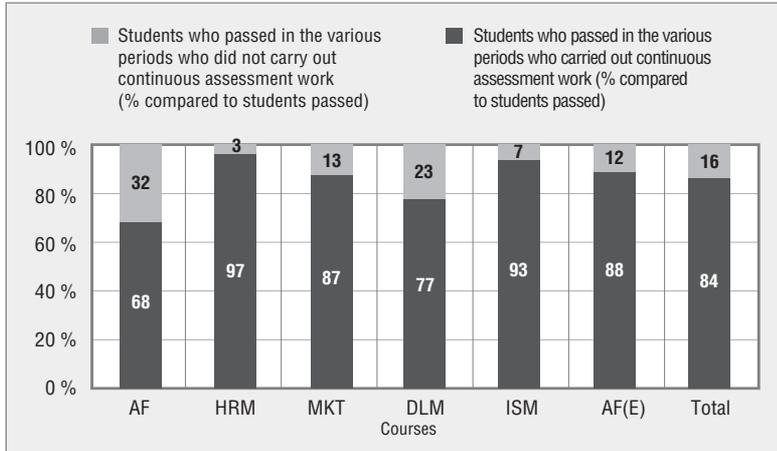
Subject: Planning and Management Control (PMC)
Planning and Management Control is common to all the ESCE's courses, although it is taught in different years and semesters. It runs in both semesters.

Group work and objectives
The method of assessment by group work is consistent with the continuous assessment scheme. The objective is to familiarise students with planning and management control methods. Groups of four to five students are organised to prepare the group work. Each group must identify a business in the industrial sector and, after obtaining their tutor's agreement, must ask the respective management if they are willing to be visited and to arrange workshop meetings so that the students can get to know the company and collect relevant information. Students are given guidelines in advance to prepare for the workshop meetings. These cover the structure of a report with a description of the company, an analysis of its main functions and its strategic aims. The assumptions for constructing the provisional components and the respective control instruments are also presented.

   Acceptance of the group work represents acceptance of the continuous assessment process. After the report on the work is delivered, it is discussed by the tutor and the work group. In addition to preparing and discussing the work, the continuous assessment process also involves the sitting of a test. As can be seen from Figure 3, acceptance of the continuous assessment process is high.

Figure 3:   **PMC. Student acceptance of continuous assessment work**
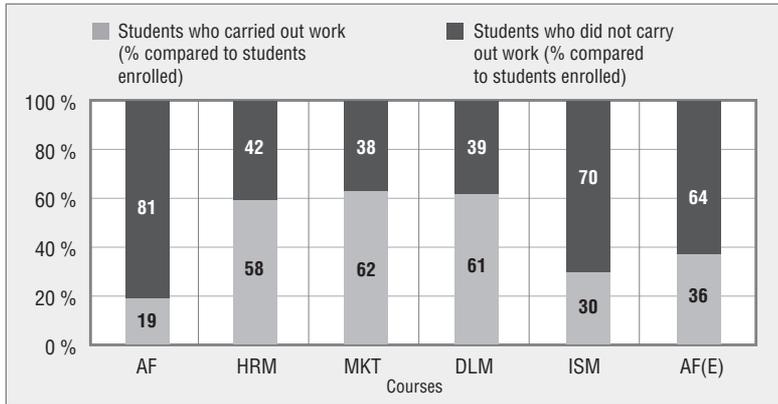
Importance of the work to success in the subject
All students who passed by continuous assessment carried out the group work successfully (an essential condition). Students who opt not to accept or who fail the continuous assessment process provide evidence of their knowledge in an examination taken in the normal period or in the resit period. In this case the assessment involves a written test (examination). In overall terms the group work proved to be a student-friendly tool, 73 % of students passed having opted to carry out group work (Figure 4).

Figure 4:   **PMC. Overall results (continuous assessment, examination in the normal period and examination in the resit period)**
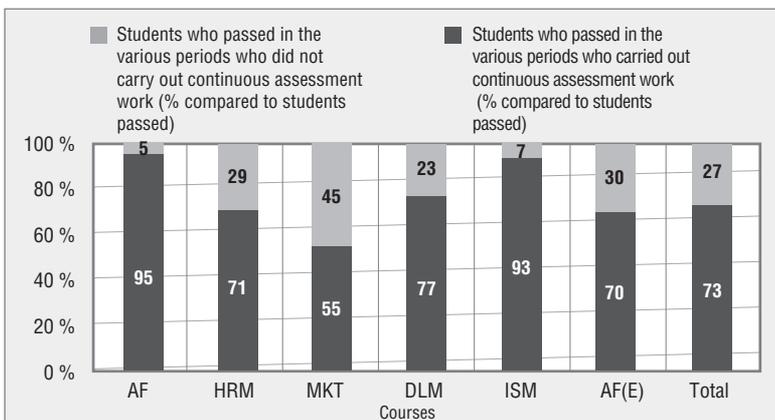
Importance of the work to the host organisations

The study carried out on 166 projects (90 in OMP and 76 in PMC) shows that 84.9 % of projects were carried out in the Setúbal district and 9.6 % were carried out in the Lisbon district. The strong concentration of projects in the Setúbal district covers virtually all its municipalities, the most representative economic sectors being manufacturing industry (66 %), wholesaling and retailing (14 %) and the building trade (9 %).

Map of Portugal
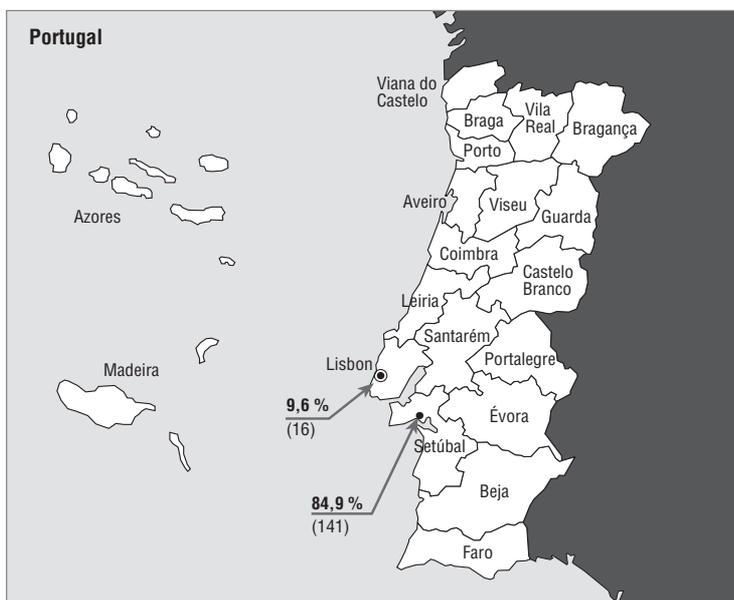
To find out what company personnel who supported the students felt about the use of this continuous assessment tool, which clearly encourages the School and businesses to work together, a tutor asked a sample of 21 companies two questions by telephone. The sample includes companies that supported work in the area of OMP or PMC.

The questions were:

1- Did you have a good opinion of the group?
2- Do you think it is important to carry out work of this type?

These questions were designed to provide an understanding of behavioural aspects, interview preparation and the dynamism and interest shown by members of the work group. A total of 21 favourable answers were received to the first question, 15 company managers having a favourable opinion of the group,

five a very favourable opinion, and one an average opinion. No unfavourable responses were recorded.

All the managers felt that it was important for the School to encourage students to approach companies to carry out work of this type because:

- It allows the theory, practice and perception of the business world to be linked (84.3 %);
- It gives the School's teaching and research a higher profile (7.8 %);
- It allows students to come into contact with potential employers (7.8 %).

Some of the managers contacted ([5]) said that they were grateful they had been offered a copy of the work. Tutors inform students of this at the beginning of the process. Although the work is for academic purposes only, since most of the companies are small ones, it is for many of them their only opportunity to be assessed independently and at no financial cost.

Validation of results

In order to validate the preliminary results, the results of the same pedagogical method used in the first semester of the 2005/2006 academic year were analysed.

Validation of academic success

Research was carried out into the subject of Operational Management and Planning, which is taught in the first academic semester for the Accounting and Finance and Information Systems Management courses. Another semester was included in this research work because of the need to introduce more students and more practical projects (31 projects) to ensure that any characteristics possibly associated to a specific academic year are eliminated from the results. The validation semester results indicate that acceptance of the group work was not as high as in the previous year, but remained very high in Information Systems Management (Figure 5).

([5]) The companies were contacted by telephone to carry out this survey after the end of the academic year (July/05), when the assessment process relating to the year concerned had concluded.

Figure 5: **Student acceptance of continuous assessment work**
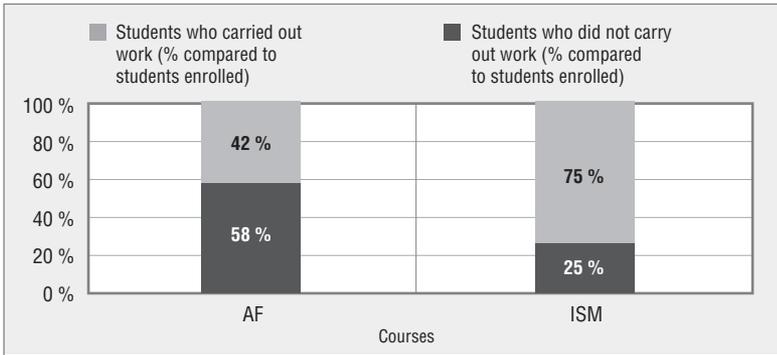
On the whole, considering all the periods, it can be confirmed that the number of students passed who carried out a project in a real context is greater than the number of students passed who did not do so. In this semester, however, there was an increase in success in the subject without the work in question being carried out (Figure 6).

Figure 6: **Overall results (continuous assessment, examination in normal period and examination in resit period)**
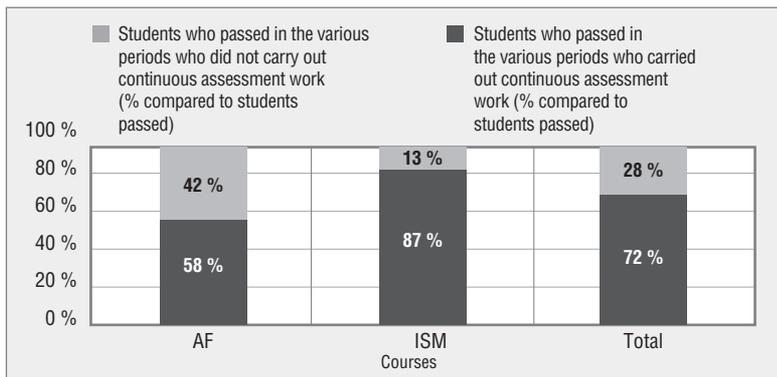
The geographic distribution of the work carried out confirms the strong regional coverage of the ESCE's area of intervention.

Validation of the survey of business managers

A further telephone survey was carried out ([6]) to validate the findings of the survey of businesses that hosted ESCE students in the 2004-2005 academic year, the same questions being put to a sample of 13 companies that hosted groups in the validation semester (around 41.9 % of the companies contacted by students).

The questions were once again:

1. Did you have a good opinion of the group?
2. Do think it is important to carry out work of this type?

A total of 13 favourable responses were received to the first question, with 69 % of managers having a good opinion of the group and 31 % a very good opinion. No unfavourable responses were recorded.

As regards the second question, all the managers felt that it was important for the School to encourage students to approach companies to carry out work of this type because:

*   It allows the theory, practice and perception of the business world to be linked (92.3 %);
*   It allows students to come into contact with potential employers (42.9 %).

The results of this second survey confirm the results of the survey of the preliminary research.

Survey of students

Data from the survey of students came from 28 responses received out of a total of 31 groups that carried out work. The survey was given to students at the end of the semester, with a specific assurance that it would have no effect on the group work assessment.

A majority consider the work to be appropriate for assessing knowledge (Figure 7) and appropriate for learning (Figure 8). The majority of groups do not think the work should be replaced by another assessment tool, and it was suggested that it should be given greater weight in the assessment system.

([6]) Contact was also made after knowledge had been assessed.

Figure 7
**Degree of appropriateness
of work to assessing
knowledge**

Figure 8
**Degree of appropriateness
of work to learning**
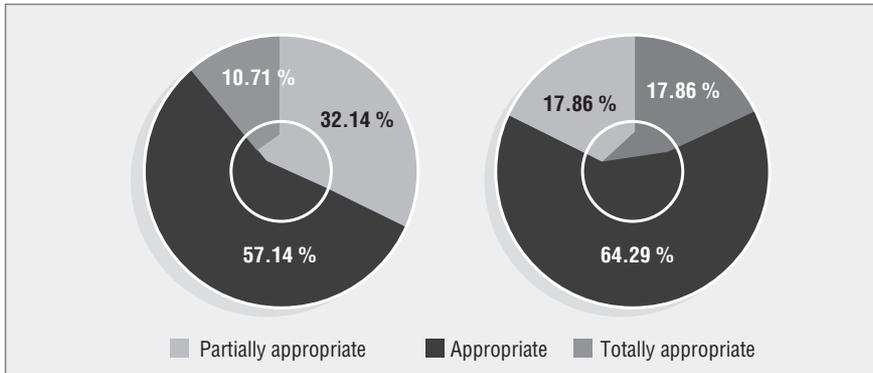
Around 75 % of the groups felt that the work presented to the tutor gave their members satisfaction (satisfaction or great satisfaction).

Conclusions

It appears that problem-based learning or the analysis of real business situations in companies and organisations helps to meet the expectations of two types of stakeholders of fundamental importance to higher polytechnic education institutions: students and local companies/organisations. Although some students pass exams in examination periods when this method is not used, the results for the target subjects in the three academic semesters analysed unambiguously show that participation in group work in a real context is associated to the success obtained. Such participation is therefore relevant to student success in terms of developing skills, though it is not a necessary condition for achieving that objective.

The following explanations can be given for this link:

- participation in preparing a group project of this type equips students to reflect and to integrate theory into practice. Students who take part in projects thus acquire skills that may not be acquired by others who do not use this tool.
- students who subscribe to a group project will be the students with better basic know-how, or who are predisposed to joining working teams and investing time and effort in them. These are the students who are expected from the outset to be more successful.

In the first case the group work produces effects, while in the second it demonstrates the effects. However, although further research is required, it seems clear that students benefit from carrying out group work in a real context.

The satisfaction shown by managers in the region who were contacted reinforces the conviction that interaction between the School and the business environment is essential for companies. Because of their receptiveness to cooperating with the School, however, care must be taken in interpreting that satisfaction, since it may be coloured by a certain paternalism.

The fact that the students surveyed consider the group work to be appropriate, both as a tool for assessing knowledge and for generating learning, also reinforces the importance tutors attach to the learning methods under study.

On the whole, the results obtained in the validation semester confirm the findings of the exploratory study carried out on the basis of data relating to the 2004/2005 academic year.

Finally, we believe that the 'Bologna Process' favours already enshrined student-centred learning methods. It can be seen that the majority of students who took the subjects of OMP and PMC and some of the businesses in the region surrounding the ESCE now demonstrate a spirit of cooperation. This is reflected in the integrated development of general and specific skills in areas of knowledge in business sciences and in interpersonal skills (related to problem solving, decision taking, learning to learn, research and the use of relevant information, reasoning, communication, cooperation, independence and creativity). The teacher acts as tutor or facilitator, focusing the teaching on the students, asking questions and helping them to be proactive.

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Students' experiences of workplace learning in Finnish VET

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SUMMARY

The Finnish vocational education and training system underwent remarkable transformations at the turn of the century. One of the biggest changes was introducing compulsory and guided on-the-job learning periods in all study programmes. In this article, students' experiences of on-the-job learning and in particular of integrating school-based and work-based learning and guidance of students are examined. Data were gathered by an Internet questionnaire of final-year students at vocational institutes in the City of Helsinki (N=1282). The questionnaire was answered by 41 % of the students. In general, students were satisfied with connecting school-based and work-based learning and guidance in vocational institutes and at workplaces. However, there were clear differences between fields of study. On-the-job learning seemed to function best in social and healthcare.

Introduction

In Finland ([1]), vocational education and training (VET) has until recently been strongly school-based, with only short, often unguided, practice periods. Compared to the European field of VET, the Finnish VET system is largely similar to the French system, which has been described as 'a bureaucratic, State-regulated model' (Greinert, 2004, p. 21). As in France, VET largely takes place at schools and the State has a significant role in organising and financing VET. However, in 2001 the Finnish VET system was reformed: curricula were revised; vocational study programmes were extended to three years in all fields and compulsory, systematically organised, guided and evaluated on-the-job learning periods (lasting at least six months) were introduced in all study programmes. In addition, the present legislation of Finnish VET requires that vocational institutes cooperate with workplaces. It is hoped in this way VET can respond better and quicker to the needs of working life.

According to new VET curricula, some degree requirements have to be fulfilled at the workplace. These requirements are negotiated with the student, the teacher and workplace trainers before every on-the-job learning period. In the early stage of studies, on-the-job learning periods are often short, while towards the end of studies, when students have more skills and knowledge, on-the-job learning can be extended and become more specific. In other words, there are certain requirements for what students have to learn at the workplace during each on-the-job learning period. This is one of the areas where the new system differs from former workplace practices.

Another difference is systematic guidance of students at the workplace. Now there is someone at the workplace, a workplace trainer, who, besides their own duties, supports students at the workplace, gives feedback to students and – ideally – supervises students to reach their goals during the on-the-job learning period ([2]). Teachers also coach students before and dur-

([1]) The Finnish educational system has three levels: (a) basic education, (b) upper secondary education and training (which is divided into (i) general education and (ii) vocational education and training), and (iii) higher education (which consists of two complementary sectors: polytechnics and universities). The nine-year basic education is compulsory for every Finnish citizen. After comprehensive school (basic education), the whole age class (92 %) continue their studies in upper secondary education and training (two thirds in general education and one third in vocational education and training). Both forms generally provide eligibility for further studies at universities and polytechnics (Education and science in Finland, 2006).

([2]) Workplace trainers' education and training started simultaneously with the on-the-job learning system, and it is organised by VET providers as two-week courses. So far trainers' training has been mostly carried out as separate projects funded by the European Social Fund. Educating workplace trainers focuses on supervising students, realisation of on-the-job learning, cooperation between vocational institutes and working life, and assessing students at the workplaces. Although tens of thousands of workplace trainers have taken the two-week training course, about half those who act as workplace trainers have not yet participated in trainers' training.

ing on-the-job learning periods. According to the new VET curricula, teachers are responsible for preparing students for the on-the-job learning periods in vocational institutes. Students' success in on-the-job learning is assessed in a three-way partnership of the student, the teacher and the workplace trainer.

Based on an evaluative study, we will examine in this article what kind of experiences students have with respect to guidance in on-the-job learning and how they assess the integration between school-based and work-based learning.

Learning from work experience and support for learning

When different forms of on-the-job learning are developed for the VET system, there is a risk that theory and practice will slide away from each other. However, recent theories of vocational expertise have stressed that integrating theoretical and practical knowledge is core to developing high-level competences (Bereiter and Scardamalia, 1993; Leinhardt et al., 1995; Collin and Tynjälä, 2003; Tynjälä et al., 2003; Eraut, 2004; Tynjälä et al., 2006; Le Maistre and Paré, 2006). Further, it is emphasised that what Bereiter and Scardamalia (1993) called self-regulative knowledge also forms an integral part of expertise. Self-regulative knowledge refers to reflective and metacognitive skills. In other words, it involves the knowledge and control people have over their own activities such as working habits, and ways of thinking and learning. As acquiring expertise requires all types of knowledge – theoretical, practical and self-regulative – to be integrated into a whole (Le Maistre and Paré, 2006; Tynjälä et al., 2006), it is important to develop such forms of learning where theory, practice, and self-regulation skills are combined. This kind of pedagogical approach has been called integrative pedagogy (Tynjälä, 2005; Wikström-Grotell and Noronen, 2005). Easing student learning through guidance, dialogue and mentoring is an important element in integrative pedagogy as well (Tynjälä, 2005). Each student has a supervising teacher from school and a mentor from the workplace and these three partners meet one another and discuss regularly during workplace learning. Assessing workplace learning is similarly based on the tripartite principle. In the following sections, we will describe first how theory and practice have been combined in European VET systems and then we will discuss the role of students' guidance in work-related learning.

Models of work experience
Guile and Griffiths (2001) analysed the forms of organising VET in Europe and especially, how students' work experience has been used in VET systems.

They identified five models of work experience, which are briefly described below:

- The traditional model: students are just launched into the workplace, and they have to adjust to the requirements of the workplace. In this model it is assumed that learning takes place automatically, so there is no need for any special guidance or help. Instead, workplace experience is managed through traditional supervision. There is only minimal cooperation between vocational institutes and the workplace, and there is a sharp division between theory and practice.

- The experiential model: in this model, and according to the experiential learning theories (Kolb, 1984), reflection on the work experience has an important role in the learning process. The social development of students is also emphasised. Therefore, it is necessary to develop pedagogical practices that support reflection and conceptualisation. Consequently, cooperation between vocational institutes and the workplace is essential.

- The generic model: work experience is seen as an opportunity for developing generic skills needed in working life. Students collect material for their personal portfolios to show their development in acquiring key skills. They also take part in assessing their skills. The teacher's role is to ease this process. The relationship between theory and practice remains unclear.

- The work process model: students should develop a holistic understanding of the work process. The intention is that students learn skills that can help them work in different work environments. The model requires integration of theory and practice, and hence collaboration between vocational institutes and the workplace is important.

- The connective model is presented as an ideal way to organise workplace learning for students. The core of this model is the 'reflexive' connection between formal and informal learning, and between conceptual development and developing capacity to work in different contexts. The idea is to resituate learning in a way that requires integration of conceptual learning and work experience. The aim is to develop polycontextual skills which help students towards 'boundary crossing', that is, the ability to work in changing and new contexts. This requires close cooperation between vocational schools and workplaces, and therefore the central role of the education and training provider is to develop partnerships with workplaces to create environments for learning. One difference between the work process model and the connective model is that in the former it is assumed that work experience itself promotes work process knowledge, whereas the connective model emphasises that it needs to be mediated. This can be done, for example, by introducing concepts and subject knowledge which can take place at the workplace.

According to Guile and Griffiths, all these models, except for the ideal connective model, can be recognised in European VET systems in one way or another. For example, the generic model is represented in the British national vocational qualifications system. The German dual system of VET (in which education takes place both in vocational institutes and at workplaces) aims at the work process model, although the principles of the model may not be implemented in practice. The ideal connective model of organising workplace learning for students emphasises connecting formal education and workplace practice. This means that workplace learning is a central part of the curriculum and it is connected with vocational and core subjects, such as languages and mathematics. It can be done by arranging students' learning tasks so they need to integrate theoretical, conceptual knowledge with practice. The connective model also emphasises the connection between people; collaborative work is favoured. Implementing the model requires that schools and workplaces together create learning environments where all parties can learn.

Students' guidance – Work community as a place of learning

For the holistic development of vocational competence, work experience itself is not enough. Student learning at work without a theoretical basis and guidance from experts remains often unsystematic and incidental. It is also worth noting that learning may also lead to unintended and undesirable results, such as bad practices (see e.g. Tynjälä and Virtanen, 2005). Therefore, in Finland much attention is paid to developing student guidance in on-the-job learning. According to the new VET curricula, students should be coached for the workplace at vocational institutes, and workplace trainers should pay special attention to supervising, guidance, assessing, and giving feedback to students at workplaces (*On-the-job learning […]*, 2006).

In the present study, we use guidance as a general term to describe the support that teachers and members of the work community give to students during on-the-job learning periods. Guidance is essential for developing vocational expertise: through guidance theory, practice and self-regulation skills can be integrated (Tynjälä, 2005; Tynjälä, Välimaa, and Sarja, 2003; Räkköläinen, 2001). As described in the connective model, this integration requires close cooperation between vocational teachers and workplace trainers. Integration can be promoted by different tools of guidance, such as various assignments, projects, learning diaries, portfolios, and discussions (Tynjälä, 2005; Uusitalo, 2001; Mäntylä, 2001).

Guidance can be seen not only as a process taking place between individuals but also as an organisational phenomenon. In fact, in the connective model, Guile and Griffiths (2001) paid attention to learning at the level of organisation. More specifically, they saw the workplace as an environment in which students can learn and develop in interaction with experienced employees.

In the same way, Fuller and Unwin (2004) emphasised the significance of the work community as a source of learning opportunities. They presented a continuum of expansive-restrictive work communities, which describe how the work community fosters its members learning (including students). An expansive work community offers opportunities to take part in many different communities of practice, whereas a restrictive work community limits opportunities for participation. An example of an expansive work community is a workplace where students can familiarise themselves with different tasks, different phases of the work process, and the persons working at different tasks. In this type of community students also have an opportunity to take part in developing work and the work community.

Aim and method of the study

The purpose of the study was to examine the newly reformed on-the-job learning system of Finnish VET from students' points of view. More specifically, research focused on the following topics: (a) integrating school-based and work-based learning (the connective model of work experience), and (b) students' guidance and easing learning at the workplace.

The subjects of the study were all final-year students at three vocational institutes in the City of Helsinki (N=1282). The vocational colleges represented technical education, social and healthcare and service sectors (catering, fashion and beauty). Data were collected with an Internet questionnaire. The questionnaire consisted of questions pertaining both to the process of students' on-the-job learning (how learning took place, with whom, and how guidance and mentoring was organised) and the products of learning (conceptual, practical and self-regulative knowledge). This article focuses on the process variables. The reliability and validity of the questionnaire was assured by careful testing. The questionnaire was also used in other studies (Tynjälä and Virtanen, 2005; Virtanen and Tynjälä, 2006) in which variables and scales proved to function similarly to the present study. In total, 531 students (41 %) answered the questionnaire.

Results

Connectivity – Integrating school-based and work-based learning
We described earlier the integrative pedagogy, in which theory, practice, and developing self-regulation skills are connected with one another. The connective model of work experience by Guile and Griffiths (2001) is ideal for integrating these elements of vocational expertise. In our study, implementation of

connective pedagogy was examined in 13 statements about the connection of school-based and work-based learning. The statements related to integration between school-based and work-based learning were subjected to the factor analysis. Table 1 presents the aggregate scales formed based on results of the factor analysis.

Table 1: **Results of the factor analysis: the aggregate scales describing the connectivity**

Sum scale	Cronbach's alpha	Items	Correlation of the item with the aggregate scale
Connectivity	0.79	• During on-the-job learning periods I was required to apply theoretical knowledge learned at school.	0.62
		• Situations that arise during on-the-job learning periods have been discussed during lessons in vocational subjects.	0.60
		• On-the-job learning and school-based learning are very well integrated with each other.	0.59
		• Classroom instruction covered topics that were very useful during the on-the-job learning periods.	0.55
		• Situations that arise during on-the-job learning periods have been discussed during lessons in common subjects (e.g. mathematics, languages, etc.).	0.46
Unconnectivity	0.52	• On-the-job learning periods included assignments from school.	0.44
		• The people at school do not seem to be very clear about what goes on in work-based learning.	0.42
		• There was little relation between classroom instruction and work-based learning.	0.36
		• After work-related learning I see school learning in a critical perspective.	0.23
Diverse tasks and boundary crossing	0.57	• I noticed during my work-based learning periods that I need both manual and thinking skills.	0.40
		• I could perform the same tasks at another workplace.	0.40

The aggregate scale of connectivity consisted of statements such as 'During on-the-job learning periods I was required to apply theoretical knowledge learned at school', 'On-the-job learning and school-based learning are very well integrated with each other' and 'Classroom instruction covered topics that were very useful during the on-the-job learning periods'. The aggregate scale of unconnectivity describes the opposite situation with statements such as 'The people at school do not seem to be very clear about what goes on in work-based learning' and 'There was little relation between classroom instruction and on-the-job learning'. The third aggregate scale, diverse task and boundary crossing, was formed by variables measuring students' possibilities to engage in diverse tasks in their on-the-job learning and judgement that students have learned to work in different work contexts. The mean values

and standard deviations of variables in different fields of study are presented in Table 2.

Table 2: **Mean values of aggregate scales describing the connection between school-based and work-based learning (minimum 1, maximum 4) in different fields**

The connection between school-based and work-based learning	All students n = 501 Mean Value	SD	Technical education n = 221 Mean Value	Services n = 160 Mean Value	Social and healthcare n = 117 Mean Value	Sig. (between the fields)
Connectivity	2.71	0.62	2.46	2.72	3.17	***
Unconnectivity	2.22	0.62	2.37	2.13	2.05	***
Diverse tasks and boundary crossing	3.29	0.64	3.17	3.30	3.54	***

* $p < .05$
** $p < .01$
*** $p < .001$

According to the results, vocational institutes are trying to connect school-based and work-based learning (Table 2). The aggregate mean value for connectivity, describing integration of school-based and work-based learning was moderate (2.71, max. = 4). The corresponding mean value for unconnectivity was somewhat lower (2.22). As mentioned earlier, this aggregate scale describes the failure in integration between school-based and work-based learning. The aggregate mean for diverse tasks and boundary crossing was the highest (3.29) of these three indicators.

There were statistically significant differences between vocational fields. School-based and work-based learning were most closely linked with each other in social and healthcare, with the mean value of connectivity over three (3.17). The lowest mean value for connectivity was found in technical education. Correspondingly, the mean value for unconnectivity was highest in technical education. Also the mean for diverse tasks and boundary crossing was highest (3.54) in social and healthcare.

Guidance for students
The variables measuring the different forms of guidance were subjected to factor analysis which produced three aggregate scales: (a) discussion with the teacher and the workplace trainer, (b) discussion with employees (workmates), and (c) self-assessment and reflection. In addition, a single variable of as-

signments from school was used. Table 3 presents the aggregated scales formed based on the results of the factor analysis.

Table 3: **Results of the factor analysis: the aggregate scales and a single variable describing the forms of guidance**

Sum scale	Cronbach's alpha	Items	Correlation of the item with the aggregate scale
Discussion with the teacher and the workplace trainer	0.69	• Talking with the teacher and the workplace trainer together • Talking with the teacher at the vocational institute	0.53 0.53
Discussion with employees (including workplace trainer)	0.48	• Talking about work with permanent employees • Talking with the workplace trainer	0.31 0.31
Self-assessment and reflection	0.34	• Self-assessment of my own work • Keeping a learning diary	0.21 0.21
Assignments from school		• Assignments from school	

The results indicate that the most widely used form of guidance during on-the-job learning periods was discussion with employees. The mean value for this aggregate scale was 2.25 (max. = 3). This indicator measured how often students were advised by their workmates at the workplace, including their own workplace trainer. Also, guidance related to self-assessment and reflection was usual, as indicated by the mean value of 2.12 (Table 4).

There were significant differences between different vocational fields in terms of specific types of guidance and all forms of guidance. There was a logical trend: all forms of guidance were mostly used in social and healthcare, se-cond came services, while any form of guidance was most rarely used in technical education (Table 4).

Table 4: **Mean values of aggregate scales and a single variable describing the forms of guidance (minimum 1, maximum 3) in different fields**

Forms of guidance	All students n = 507 Mean Value	SA	Technical education n = 224 Mean Value	Services n = 160 Mean Value	Social and healthcare n = 118 Mean Value	Sig. (between the fields)
Discussion with the teacher and the workplace trainer	1.84	0.51	1.81	1.91	2.05	***
Discussion with employees (including workplace trainer)	2.25	0.50	2.19	2.23	2.41	***
Self-assessment and reflection	2.12	0.54	2.02	2.19	2.22	***
Assignments from school	1.98	0.72	1.64	2.15	2.40	***

  * $p < .05$
 ** $p < .01$
*** $p < .001$

Table 5 describes how students assessed the role of workplace trainers during their on-the-job learning. It can be seen that 88 % of students agreed with the statement 'The collaboration with the workplace trainer worked' (Table 5). Almost as many students (82 %) agreed with the statement 'The workplace trainer was available whenever I needed them'. For these statements there were no differences between vocational fields.

Table 5: **Collaboration with the workplace trainer and availability of the workplace trainer**

Statement in the questionnaire	All students n = 508 %	Technical education n = 225 %	Services n = 160 %	Social and healthcare n = 119 %	Sig. (between the fields)
'Collaboration with the workplace trainer worked.'					
Disagree	12	12	9	14	
Agree	88	88	91	86	ns
Total	100	100	100	100	
Statement in the questionnaire	**n = 502**	**n = 223**	**n = 156**	**n = 118**	**Sig.**
'The workplace trainer was available whenever I needed.'					
Disagree	18	18	16	19	
Agree	82	82	84	81	ns
Total	100	100	100	100	

*   p < .05
**   p < .01
***   p < .001
ns = not significant

    Table 6 shows students' general satisfaction with their guidance experiences during on-the-job learning. The figures show that students were mainly satisfied with the guidance. However, one fifth of the students would have liked to get more guidance. In other words, they felt that the guidance was not good enough or adequate during their on-the-job learning period. There were differences between the fields as well: 13 % of technical education students, 25 % of services students and 35 % of social and healthcare students felt they needed more advice, help or other sort of support during their on-the-job learning period. The difference between the fields is quite interesting considering students of social and healthcare received more guidance than students in the other fields, and yet they wished for more guidance.

Table 6: **The need for additional guidance during on-the-job learning periods**

Statement in the questionnaire	All students	Technical education	Services	Social and healthcare	Sig. (between the fields)
	n = 516 %	n = 234 %	n = 159 %	n = 119 %	
Would you have liked more guidance during your on-the-job learning period in some area?					
No, I would not.	78	87	75	65	***
Yes, I would.	22	13	25	35	
Total	100	100	100	100	

   * $p < .05$
  ** $p < .01$
*** $p < .001$

Conclusions

Integrating theory, practice, and self-regulation is essential in the process in which vocational competence and expertise is developed (Tynjälä et al., 2003; Wikström-Grotell and Noronen, 2005; Le Maistre and Paré, 2006). Guile and Griffiths (2001) took integrating theory and practice furthest in their connective model of work experience, which aims at integrating informal and formal learning. Connectivity was examined in this study through students' experiences. Results showed that the idea of connectivity was realised best in social and healthcare while students in technical education rated the features of connectivity lowest among the three vocational institutes studied. Correspondingly, the highest values in assessments of unconnectivity were given in technical education, whereas in social, and healthcare assessments of unconnectivity were the lowest. The results show that students of social and healthcare experienced, more often than students in the other fields, that school-based and work-based learning were integrated into each other. In another study (Virtanen and Tynjälä, 2006) we obtained similar results from teachers: social and healthcare teachers considered workplace learning as a connective practice, while the values of connectivity were lowest in technical education. Thus, these findings support the results presented here. One explanation for high connectivity in social and healthcare is the a long tradition in organising workplace practice for students, so transition from the former practice system to the new on-the-job learning system has not been a radical change. Further, it is typical of this field that reflective practice – a central component of the connective model – has been considered a central element of vocational competence for a long time. Thus, the foundations for implementing the connective model have perhaps been stronger than in other fields.

One prerequisite for successful on-the-job learning is student guidance involving adequate help with the learning process. Students' experiences of guidance in this study were interesting. Students in social and healthcare reported they had got all forms of guidance, more than students in the other fields. However, social and healthcare students also reported they would have liked to get more guidance at the workplace compared to students in the other fields. One possible reason for this is in social and healthcare, there is a clear majority of female students who appreciate social interaction while young men in technical education felt they did not even need guidance. (Gender differences in experiences of guidance were statistically significant.) On the other hand, critical reflection was more emphasised in social and healthcare, indicating perhaps that students in this field have grown to be more critical than students in the other fields. It also possible that teachers and workplace trainers in social and healthcare may have had more pedagogical training than teachers and workplace trainers in technical education. In another study we found 91 % of social and healthcare teachers had taken pedagogical examinations, while the corresponding figure in technical education was 83 %. Of workplace trainers, 51 % in social and healthcare had taken the two-week training course for trainers, whereas 46 % of technical education teachers had taken the course (Tynjälä et al., 2005).

In sum, introducing compulsory, guided and assessed on-the-job learning periods to the Finnish VET system has succeeded well. From the students' point of view, there seems to be a quite close relationship between school-based and work-based learning. Also, students' experiences of guidance at the workplace were mostly positive. However, there were significant differences between different vocational fields. Social and healthcare seems to have succeeded better than others in developing pedagogical practices for workplace learning with respect to connective and integrative pedagogy in particular. Also students' self-assessed learning outcomes were best in social and healthcare (Tynjälä and Virtanen, 2005), which suggests that the connective model of work experience is – indeed – a successful approach to developing vocational competence.

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