Curriculum development, new learning environments and transfer of innovations in Europe

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CURRICULUM DEVELOPMENT, NEW LEARNING ENVIRONMENTS AND TRANSFER OF INNOVATIONS IN EUROPE

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1. CURRICULUM DEVELOPMENT AND NEW LEARNING ENVIRONMENTS IN EUROPE: OUTLINES OF AN EMERGING STRATEGY FOR REPORTING

1.1 Introductory remarks

This section of the report should present underlying theories in the domain of curriculum research and development as well as current approaches in the design of innovative teaching and learning arrangements. The aim is to examine the relations between institutionalised patterns of curriculum (re)design, and related piloting activities with new learning schemes. Moreover, some leading ideas that direct the debates on re-thinking curricular frameworks and curriculum processes should be presented.

These broad and demanding aims could not yet be reached in the process of preparing this report. This, to some extent, is related to the current situation in which several major European projects have been launched in the field (and could be seen as major contributors). However, the projects have not reached the stage of work that research-based conclusions could be summarised on the basis of their reported research results.

The following article develops a framework for a more systematic reporting instead of trying to present a European ‘state of the art’ report on the basis of analysed results. Consequently, the next European Report on VET Research and Development (to be published in 2000) is expected to make use of CEDEFOP’s networking activities and to bring the results of the ongoing projects into a ‘group picture’.

Thus, the following article should be regarded as the first step towards a process of cumulative reporting. The aim is to develop a European ‘group picture’ of different systemic and cultural frameworks and to raise questions on pattern maintenance and on ‘paradigm shifts’. Moreover, the approach paves the way for analyses of the (potential) contributions of different national approaches to (future) transnational cooperation. Finally, the article paves the way for further reflections on the prospects for mutual learning in transnational co-operation projects.

1.2 Starting points for further reporting: Explorations on ‘key qualifications’, ‘flexibility’ and ‘curriculum development’

The considerations that are presented in the following article lay the foundation for further synthesis work to be undertaken in the coming years. For this purpose two major issues - ‘flexibility’ and ‘key qualifications’ - are explored as the central themes. Subsequently, some basic remarks are made on current tendencies in curriculum development. Finally, these analyses are related to current problems in policy-development for VET and to reflections on possibilities for developing European cooperation in this field. In detail, the subsequent main sections will deal with the following aspects:

- The second main section focuses on the ‘flexibility’ and explores common challenges to which all VET systems (and related curriculum development approaches) have to respond.
- The third main section presents an overview on ‘key qualification debates’ and develops an interpretative framework to relate parallel concepts to the respective systemic and cultural contexts.
- The fourth main section analyses current tendencies in policy frameworks for curriculum development (in order to link ‘key qualification debates’ and ‘flexibility’ debates to these tendencies. Moreover, the section gives examples of different approaches to developing transnational cooperation in this field.

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1 This article is partly based on a study on "Vocational education and training in Europe in the process of change" submitted to CEDEFOP 1997 by J. N. Streumer and L. Odenthal.
In the final main section the central themes are confronted with a set of new structural problems that give respectively new accents to the debates on ‘flexibility’ and ‘key qualifications’. Subsequently, a further step is taken to develop a framework that relates the debates and the current problems to each other via different levels of ‘modernisation agendas’ for European VET systems. However, the section does not provide any final conclusions or recommendations. Instead, some questions are raised for further analyses (and for respective synthesis work that should contribute to the next European report).

2. THE CHALLENGE OF FLEXIBILITY

2.1 Current societal challenges for modernisation of VET

In the European Commission’s White Paper “Training and Learning, Towards the Learning Society” (1996) it is concluded that as this century draws to its close the causes of the change in society have been diverse and have affected the education and training systems in Europe in different ways. First of all there is the impact of technological and social changes (in particular linked to uses of information and communication technology), secondly the impact of demographic changes and thirdly, partly as a result of the above mentioned factors of upheaval, the structural changes in the economy and industry.

Technology is penetrating society at a huge speed, originally more hidden, and hardly visible; nowadays technology is dominating life and disseminated in all processes of profit-making and non-profit making organisations (Nijhof and Streumer, 1994). A major factor in innovation in vocational education and training results from the responses of the VET system to the technological and social changes in the workplace. As technology has advanced there has been a reversal in the demand for unskilled workers. Whereas the demand for unskilled workers increased during the earlier phase of mechanisation, and that demand was obviously easy to meet, the demand for unskilled workers is decreasing nowadays (Prais, 1995). A considerable amount of manual, repetitive and routine jobs, has already disappeared and it is expected that this process will proceed.

At the same time there seems to be a general upskilling of jobs. Technological developments require employees to perform a greater variety of tasks ranging from planning to evaluation. At the same time there is increased emphasis in business and industry on polyvalent skills, on the multi-function employee. These changes put a strong pressure on mental flexibility and a (meta-)cognitive orientation to cope with a variety of products and production processes and problems which are interrelated and require higher problem-solving skills (Nijhof and Streumer, 1994). In addition Hughes remarks (1994, p. 149) that technological changes also lead to a clear tendency towards more team-work: the man-machine relationship is being replaced by an interaction between teams and technical systems. As a consequence of the rapid changes in technology it is becoming evident that the intervals between training and work are becoming shorter.

Demographic trends have increased life expectancy and at the same time change the age structure of the population, whereby increasing the need for continuous learning (European Commission, 1993). As a consequence of decreasing birth-rates, at least in Western societies, the proportion of older people is growing and this has major consequences for the labour market and the skill structure (Nijhof Streumer, 1994). According to the Industrial Research and Development Advisory Committee of the Commission of the European Communities (IRDAC) the demographic evolution of European population is such that by 2000 the number of those retiring will exceed the number of new entrants to the labour force. In Europe, next to a shortage in terms of quantity, this can lead to a shortage of skills in terms of quality. The information revolution is rendering much previous education and training obsolete, or simply irrelevant.
The last decade can also be characterised by *structural changes in industry and the economy*. Technological developments have created a global market place and global competition (IRDAC, 1991). Today, markets for most products are global in scope and for high-technology products the markets are driven by product innovation (IRDAC, 1991). In this global economy in which shorter life cycles of goods and services are becoming a key feature, the human resources and their working potential have become the decisive factor in competition and for the success of the enterprise, being the source of creativity and innovation. This means that it is no longer the sole investment in new technologies, but rather the intelligent application of technologies as well as new ideas for products, services and efficient work processes which constitute the decisive advantages in competition and success (European Commission, 1993).

There is a further factor in this globally competitive arena. *Competitiveness* depends not only on creating and applying *new knowledge* to innovate the product and the manufacturing process but it needs to be achieved *faster than the competitors*. Thus the time from research output to application across industry is decreasing rapidly and this accelerated technology transfer is aided by collaborative working between industry and academia (or other research centres) or by movement of research workers from academic life to industry (IRDAC, 1991). At the enterprise level, attempts are undertaken to manage the new market developments by innovative rationalisation strategies. These developments are based on the shift from mass-market to customer-oriented markets, characterised by frequently changing requirements, demanding a broad and diversified range of products and services.

The changes discussed above in society and work have an undeniable *impact on vocational education and training*. Limited scope training with a fixed set of qualifications (knowledge, skills and attitudes) is no longer sufficient; employees will require not only *higher order skills* but the *capacity to adjust to and master new situations* (Hughes, 1994). Multi-skilling or the *ability to perform tasks across a number of skill areas*, combined with the *ability of rapidly acquiring new skills* is becoming the expected norm (Chrosciel and Plumbridge, 1995).

### 2.2 Reflections on flexibility as a perspective for developing VET

Since the mid-1980s the issue ‘flexibility’ has been a key element in the debates that have been related to themes like ‘introduction of new technologies’, to ‘new production concepts’, to ‘global networks’ in production and marketing and to ‘organisational innovations’. In the following some selected statements are presented to illustrate the different accents that have been proposed with the perspective ‘more flexibility’ within VET:

- As a result of technological, commercial and organisational developments, employers are making different, and perhaps even more and greater, demands on employees than ever before. In general, there is a visible tendency towards an increasing interest by employers in ‘*flexible, broadly-skilled employees*’, who possess a range of more general qualifications (cf. for example, De Jong et al, 1990; Moelker, 1992; Van Zolingen, 1995).

- The required flexibility is not just a matter of *short-term flexibility*, which is facilitated by the growth of various forms of a typical employment relations such as part-time work, temporary contracts, etc. Long-term flexibility is also crucial. *Long-term flexibility* refers to the ability of workers to adapt quickly to new technologies or production processes.

- According to De Grip and Hoevenberg (1996), the main source of this long-term increase in flexibility of the labour force is continuing vocational education and training, while Chrosciel and Plumbridge (1995) find it apparent that a need exists for a *flexible curriculum design in modular form*:
  a) for broadly-based initial training in basic enabling skills and fundamental technical information and theory; and
  b) to accommodate frequent updating and retraining in appropriate mixes of specialised skills, technical information, and applied theory.
• Nijhof and Streumer (1994) make a distinction between competitive flexibility (a low skill approach) and flexible specialisation (high skills approach). The first approach is job specific, fast and restrictive. This strategy is focused upon the short-term needs of a company. Flexible specialisation, however, is oriented on the long-term needs of companies and their employees (e.g. knowledge workers with more job security). Accommodation and adaptation to change is the key role of this strategy which includes the demand from employees to be trained and educated continuously to stay employable.

• Raffe (1994) defines four forms of flexibility: individual, curricular, pathway and delivery flexibility. Individual flexibility is the result of training, the ability to apply skills in different situations and roles and it refers to the ability to apply what has been learned to different situations. In this sense, flexibility is identical to transferability, and flexibility indicates the versatility of employees. With curricular flexibility the responsiveness of the curriculum over time, across space and across individuals. Flexibility of delivery has to do with variation in methods of learning, different institutional contexts and different time periods (for the same curriculum). Finally flexibility of pathways which enables students to follow different trajectories and hold open future options. (In section 4.2 these forms of flexibility, with an exception to individual flexibility, will be elaborated in more detail.)

2.3 Flexibility in VET - a systemic framework

In order to specify the particular meaning of the concept ‘flexibility’ for the development of vocational education and training Nijhof and Streumer (1994) portray education and training as a system. Flexibility is seen as a consequence of countervailing forces in the past, present and future. The pressure from these forces do have an effect on educational institutions in different ways, just as they have on society in general. In taking a systems view, Nijhof and Streumer distinguish between context, input, process, and output factors. Different kinds of feedback loops and relations can be traced between these factors. In order to keep their explanation rather simple they sketch the following figure (see Figure 1).

Figure 1.1:

Flexibility within a systems concept (Nijhof and Streumer (1994, p. 3))

<table>
<thead>
<tr>
<th>Context</th>
<th>Input</th>
<th>Process</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>new technologies</td>
<td>responsiveness</td>
<td>flexible system time (pacing)</td>
<td>transferability</td>
</tr>
<tr>
<td>global economy</td>
<td>platforms</td>
<td>pathway (individualization and/or differentiation)</td>
<td></td>
</tr>
<tr>
<td>demography and cultural changes</td>
<td>interfaces between tripartite actors</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>institutionalization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>labour market changes</td>
<td>qualification structure</td>
<td>new content &amp; skills</td>
<td>expertise higher (order) skills</td>
</tr>
<tr>
<td></td>
<td>accreditation of prior learning certification</td>
<td>learning environment (simulation, classroom, on-the-job, off-the-job)</td>
<td>key qualifications</td>
</tr>
<tr>
<td></td>
<td></td>
<td>flexibility of entrance and leaving conditions</td>
<td>transition skills</td>
</tr>
<tr>
<td></td>
<td></td>
<td>modular structures (modularization)</td>
<td>transferable skills</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>mobility certificate (partial or whole)</td>
</tr>
</tbody>
</table>
In their theory, the authors try to describe a process in which contextual factors play a decisive role in putting pressure on educational institutions to respond. Flexibility in this context takes the form of responsiveness. The readiness and skill to react to observed mismatches between demand and supply on the labour market shows the flexibility of an institution (to counteract context factors such as new technologies, changes in skill structure etc.).

This kind of responsiveness will lead to decisions regarding content, skills, certification and qualification structures. It will also lead to new platforms and interfaces between labour market and vocational education and training. So, flexibility takes the form here of a responsible set of institutions, often guided by tripartite structures of government, social partners, and VET institutions.

The processes have mainly to do with the internal conditions of VET. Here a lot of instruments to match goals and means can be seen: in many cases VET has changed from a rather traditional form into a flexible, highly individualised system of training and education. Flexibilisation of time and content (and of the whole learning environment) is a dominant reaction of many contemporary systems to the pressures of the labour market.

In this respect new curricular strategies or ‘curricular vehicles’ are being developed as input factors (which often are related to innovative applications of information and communication technologies in training and education). As such ‘curricular vehicles’ can be mentioned

- teaching/learning environments that are based on simulations and games;
- flexibility clauses in entrance and leaving conditions,
- the uses of credit accumulation frameworks that may be related to modular structures of curricula.

These means have to push forward the students and teachers in the direction of generic skills, basic skills, transferable and key qualifications. These concepts express a new direction of vocational education into a general vocational education. The main assumption behind this element of flexibility is transferability, which means the competence or ability to apply new skills in new situations. Transferability is also part of a cognitive map of flexibility.

The third category of flexibility has to do with systems output: transferability and all underlying components. When transferability is the potential to perform in new and different situations, we can indicate the potential to transfer

- from a particular content to a related content (e.g. maths into algebra);
- from particular skills to related skills (e.g. from riding a bicycle to driving a car as regards the highway code);
- from a particular content to related skills (e.g. learning about computers to learning how to program);
- from particular skills to a related content (e.g. from the construction of an electronic circuit to electronics).

These forms of transfer are related to transferable skills, which can be used in different settings, content areas. Besides these, we have to distinguish between outputs with a restricted and an extended possibility of usage. Key qualifications, in the form as they have expressed and discussed (in particular in Germany - see the following section), can be seen as generic skills for a (new) employee to be flexible both in the future and in the workplace now.

3. EXPLORATIONS ON ‘KEY QUALIFICATION DEBATES’

The issue ‘key qualifications’ has been indicated as an essential link between the ‘flexibility’ debates (on diverse levels) and actual curriculum development. In the following the exploration of this issue will proceed in three steps:

a) some bibliographical references are given to indicate the starting positions and the scope of the debates on ‘key qualifications’;
b) an interpretative framework is introduced to make transparent three main strands of European debates (and the relations between these strands and corresponding contexts of curriculum development);

c) some reflections are made on linkages between ‘key qualification’ debates and different patterns of curriculum development.

3.1 Starting positions in the debates on key qualifications

The common denominator of diverse ‘key qualification’ debates can be put in a nutshell by the following recapitulation of the summarising study of the technical assistance office of the Eurotechnet programme:

Due to the new technologies, the workplace and its whole environment has substantially changed; the same is true for the organisation of industrial processes, work organisation and enterprise structure. This requires new qualifications from employees: apart from the "traditional" instrumental skills. Related to a defined job within a specific sector, employees must also acquire key qualifications, such as the ability to work in teams, to learn continuously, to system-thinking, etc. (Eurotechnet 1995b).

The original concept "key qualifications" was introduced by Mertens (1974). His opening contribution was an extended presentation of his prior reflections on the difficulties to use labour market prognoses as a basis for future-oriented curriculum planning. As a contrast, he introduced a concept of future-oriented qualifications that would prepare the trainees for a changing labour market.

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**Mertens’ concept of key qualifications**

**Basic qualifications** (Basisqualifikationen) are qualifications of a higher order (or common denominators of specific abilities); they enable a vertical transfer towards different contexts of knowledge utilisation (which respond to specific performance requirements and to diverse societal and occupational demands);

**Horizontal qualifications** (Horizontalqualifikationen) enhance the ability to process information in such a way that one’s knowledge basis will become broader and one is equipped for knowledge transfer between different spheres of knowledge;

**Transversal knowledge elements** (Breitenelemente) are components of knowledge or qualifications that are required or utilised as elements of a ‘shared knowledge basis’ within different contexts;

**Vintage factors** (Vintage-Faktoren) refer to particular needs for accumulation of knowledge and abilities that arise from qualification gaps between different generations or from essential changes in the required knowledge-basis.

Mertens saw key qualifications as tools that help the individuals to survive in an increasingly complex and changing world. At the same time - from the societal point of view - he considered them as strategic tools for innovation and social change. Mertens advocated the creation of a flexible and future-oriented skill potential of all individuals - not only those in the labour market. Key qualifications should provide "the key for a fast frictionless revelation of changing specific knowledge. Key qualifications are not restricted to be mediated at schools, or in training. but should be provided and acquired from pre-school age up to retirement.

In a later phase of debates Bunk, Kaiser and Zedler (1991) introduced a somewhat revised interpretation of key qualifications. Here Bunk (1994, p. 11) distinguishes four dimensions of job performance competence², which can be considered as an alternative way to indicate the main aspects of key qualifications:

- **Vocational competence**: Ability to carry out work independently in a specific field of activities and without supervision.
- **Methodical competence**: Ability to react in a systematic and fitting manner to any difficulties and to be able to apply the experience gained in a meaningful way to other problems encountered in the work.

² note that the German use of "competence" is not exactly identical with those used in French or English discussion
• **Social competence**: Ability to communicate with others and to work with them in a cooperative manner, to display group-oriented behaviour and empathy.

• **Participative competence**: Ability to shape one’s own workplace and the working environment in a broader sense, to be able to organise and make decisions, and be prepared to take responsibility.

### 3.2 Diversity of ‘key qualification’ debates within different VET cultures

The literature references give rough indications of the common denominator and of the scope of debates. However, the debates at a national level cannot be brought under one integrative concept which could be taken as a basis for a unified European approach. Instead, on the basis of different national traditions (and institutional contexts) the debates have been based on respectively different concepts. It is worthwhile to note that differences in terminology refer to real differences between the underlying approaches.

In the following, an interpretative framework is introduced in order to make the national debates (and underlying approaches) more transparent on European level. The basic assumption of the framework is that the most influential national debates can be grouped into three main strands according to the following criteria:

- what is the main focus (or the frame of reference) of the basic concept;
- what is the main thrust to develop a new quality of vocational learning (and to promote a new quality in the utilisation of the outcomes of learning);
- what kind of tools and instruments are considered as the main ‘vehicles’ for developing appropriate curricula for vocational learning;
- what kind of implications the basic concept has for lifelong learning.

#### 3.2.1 Debates on ‘Key skills’

In a European comparison the debates in the United Kingdom (UK) related to the concept ‘key skills’ can be characterised in the following way:

- The **basic concept** in these debates refers to a particular set of identified ‘skills’ that are assumed to provide a support structure for more content-specific learning in educational system and for lifelong learning (after the initial education and training period). Currently the UK authorities relate the concept to such skills as ‘communication’, ‘application of number’, ‘application of ICT’, ‘decision-making’, ‘team-working’, ‘improving own learning’.

- The **main thrust** of the concept has been introduced to enhance the skills of individual learners and to enrich the (hitherto narrow) vocational learning. The concept ‘key skills’ aims to transcend the particular (vocational) contexts.

- In the context of curriculum development the concept of ‘key skills’ is related to specific modules or units that are complementary to the foundation elements of the curricula (‘basic skills’, ‘specific skills’). These modules or units are to be assessed as essential components of the learning outcomes.

- Concerning the perspective of ‘lifelong learning’ the concept of ‘key skills’ is mainly related to the perspective of improving the prospects for individual competence accumulation and for individual mobility.

#### 3.2.2 Debates on ‘Key/Core competences’

The more diversified set of particular approaches and debates the are here aggregated under the notion ‘key/core competences’ can be conceived as a ‘middle field’ between two poles. The main characteristics of these approaches are the following:
• The concepts have been used more vaguely and on a more occasional basis. They refer in a more global way to a set of competences that transcend traditional divisions of labour and traditional occupational profiles. Very often these competences are referred to using negative definitions (‘extra-functional’ or ‘process-independent’ competences) or by indicating a broader range of utilisation (‘broadly applicable competences’, ‘transversal competences’).

• The debates are not taking a particular set of ‘skills’ and the enhancement of individual learning processes as their starting point. Instead, they are primarily related to the needs for ‘organisational learning’ (i.e. group- or system-related working, learning and participation) within ‘new production concepts’. Thus, the enhancement of the competence-basis of (individual) learners is related to needs to promote an organisational learning culture and to improve collective work performance and collective mastery of production processes. (As examples of such approaches one can consider the ‘working interfaces’ between (continuing) vocational training and organisational innovation projects in countries like France and Denmark and related orientations in the innovation plans of the regional colleges in the Netherlands.)

• From the perspective of curriculum development the main thrust of such debates is not in particular units or modules but in learning designs that promote the ability of organisational actors to relate the individual competences to the respective organisational context and to contribute to the development and improvement of the work performance. (As examples of such approaches one can consider project-specific curriculum (re)designs and attempts to incorporate such models in ‘regular’ curriculum development e.g. in the Danish AMU framework.)

• From the perspective of lifelong learning the debates emphasise the ability of organisational actors to maintain a culture of ‘organisational learning’ and to respond and contribute to constant changes in working life by developing their organisations as ‘learning organisations’.

3.2.3 Debates on ‘Key qualifications’

The third set of debates can be conceived also as a particular variant of the second set of debates. However, in the (mostly German) debates on ‘key qualifications’ there are particular additional features that require separate attention:

• The initial debates on ‘key qualifications’ were launched by a future-oriented vision (from early 1970s) that challenged radically the established structures of vocational qualifications and related patterns of vocational training. In the further debates the concept was reinterpreted and related to approaches that promote the ‘inner modernisation’ of vocational qualifications.

• In a further stage of debates the notion ‘key qualifications’ was related to three kinds of concepts via different conceptual re-interpretations and through a pragmatic ‘canonisation’. Thus the notion ‘key qualification’ has been either
  a) reduced to particular extension characteristics of individual (vocational) learning (in line with the UK concept of ‘key skills’),
  b) ‘canonised’ as qualification goals concerning self-organised action within ‘organisational learning’ cycles (self-organised information retrieving, self-organised planning, self-organised task-implementation, self-organised quality assessment);
  c) refocused (and renamed) as an integrated occupational competence (integrieres Handlungskompetenz) which refers to an integrity of specialised knowledge-basis (Fachkompetenz), social and participative competence (Sozialkompetenz) and methodological mastery of new challenges in changing work situations (Methodenkompetenz).

• From the perspective of curriculum development the reductionist interpretation (point a) drew attention to assessment. The integrative approach (point c) has emerged in the
context of curriculum redesign and piloting with ‘learning designs’ that integrate diverse elements of the curriculum to a ‘whole curriculum approach’. The ‘canonisation’ has related these two poles to each other with common quality criteria that are to be promoted both within curriculum development and within renewal of assessment patterns. It is worthwhile noting that the ‘reductionist’ position and the ‘canonised’ interpretation are not necessarily related to a revision of qualification structures. The ‘integrative’ position is promoting new links both on the level of qualification frameworks and on the level of delivery.

- The perspective for lifelong learning is not only related to individual skills development or to being involved in organisational learning. Due to the established qualification structures, the renewal of competence-basis is linked to debates on career progression models and on the degree to which the new curricula can contribute to an ‘upgrading’ of the VET provisions.

3.3 Instead of a synthesis - some interpretative remarks

The common denominator of all types of ‘key qualification’ debates that have been referred to above is an awareness that the traditional way of defining ‘skills’, ‘competences’ or ‘qualifications’ needs to be supplemented by a qualitatively new level. It is also common to all approaches that the new quality should equip the learners to meet the following kinds of challenges due to rapidly changing working life. From this perspective the following needs are addressed to some extent in all debates but with a different emphasis:

- readiness to acquire new knowledge and to adjust one’s own knowledge-base to new demands;
- readiness to adjust one’s own knowledge and skills to the demands of ‘learning organisations’ and to contribute to emerging patterns of ‘organisational learning’;
- readiness to adjust oneself to changing career prospects and to enhance one’s own mobility by means of lifelong learning.

The differences between the three main strands in ‘key qualification debates’ can be related to several underlying factors within the respective cultures of education and training and within the ways that VET is related to working life. In the following some of these factors are analysed to enable mutual exchanges between the ‘strands’.

3.3.1 Different approaches for identifying and expressing ‘qualification goals’

In different strands there are different basic approaches for identifying the new quality that is required from VET and for expressing it as ‘qualification goals’:

a) the ‘characterological’ and atomistic approaches

The ‘characterological’ and atomistic approaches attach the basic concepts (‘key skills’ or ‘key qualifications’) to separate characteristics of ideal personality (or of ideal learning outcomes) that are defined as qualification goals. The point of reference is the individual learner and the promotion of individual ‘higher order’ skills and abilities that are perceived as being context-indifferent. This leads typically to lists of quasi-universal qualification goals (e.g. ‘communication’, ‘application of number’ etc.) which are to be attached to the more context-specific qualification goals.

b) the ‘constructivist’ and holistic approaches

The ‘constructivist’ and ‘holistic’ approaches attach the basic concepts (‘key competences’ or ‘key qualifications’) to new production concepts or to new initiatives for organisational learning. The point of reference is the new demand for qualified and self-organised group work (or work within networks). Therefore, the competences or qualifications of ‘higher order’ draw the attention to working interfaces between different occupations in such settings and to mastery of joint ‘systemic’ responsibilities that go beyond each ones’ occupational tasks. This is reflected by definitions of such competences that refer to a context and to
process-structure but independently of the particular characteristics (i.e. ‘self-organised
acquisition of information’, ‘self-organised planning of tasks’, ‘self-organised implementation
of tasks’, ‘self-organised assessment of the outcomes and the performance’).

Another fundamental difference can be distinguished between basic principles for designing
curricula. According to the classic distinction of Basil Bernstein (see Bernstein, 1977 [1971]
and Fingerle, 1983) the extreme poles can be characterised as different curricular codes:
a) the collection code and
b) the integrative code.

With a particular emphasis on curriculum design for VET the distinction between these poles
can be described in the following way:

a) The collection code is based on principles for classification and framing (of the contents of
the curriculum) that emphasise divisions and distinctions. Thus, classifications of contents
emphasise distinctions between bodies of knowledge (or domains of expertise) and
different levels of mastery. Consequently, the framing of the contents provides a ‘table of
contents’ or a ‘menu of options’ in which different elements of curricula are presented as
separate entities.

b) The integrative code is based on principles for classification and framing (of contents of
curriculum) that emphasise the interplay of diverse elements in the ‘whole curriculum’. Thus, classifications of contents may have introduced clusters of fields of subjects, joint
orientative elements and joint summarising elements. Moreover, the framing of the
contents may provide room for shared ‘working interfaces’ or combined ‘teaching/learning
arrangements’ which promote an overview on different options and synergy between
complementary fields of expertise.

3.3.2 Differences in ‘curriculum regimes’ that regulate processes of curriculum
development

The third main factor is that the strands are related to different ‘curriculum regimes’ (i.e.
patterns of planning, decision-making and implementation that are related to curricula for
VET) that regulate the processes of shaping and redesigning of curricula (as well processes
of piloting and experimenting). Following the distinctions that have been made above
between one can identify two main types of curriculum regimes:

a) bipolar curriculum regimes

Bipolar curriculum regimes are characterised by a dichotomy between ‘framework’ (i.e. the
curriculum document that is prepared as a political decision and the related context of
policy-preparation and policy-assessment) and ‘coursework’ (the actual curricula that are
being implemented in the respective pedagogic contexts).

b) integrative curriculum regimes

Integrative curriculum regimes that are characterised by working interfaces between the
renewal of ‘frameworks’ (e.g. via experimental model/pilot schemes) and innovatory
redesign projects within the pedagogic contexts (e.g. as spin-offs from earlier model/pilot
schemes or as ‘root projects’ for generating new schemes).

The analytical distinction between two basic approaches in ‘key qualification debates’ and
the respective distinction between ‘curricular codes’ and ‘curriculum regimes’ gives an
impression of fundamental differences. This could easily lead to a conclusion that European
cooperation is possible only between closely matching approaches and curricular strategies.
However, the preconditions for European cooperation and for within curriculum development
are not entirely dependent on the basic approaches and curricular codes. In fact, in the
domain of curriculum development there is much more room for flexibility and for mutual
learning than one could conclude on the basis the analytical distinctions that have been
presented above.
4. NEW VIEWS ON CURRICULUM DEVELOPMENT FLEXIBILITY AND KEY QUALIFICATIONS

The following section will explore the general preconditions and some new inputs for European cooperation in the field of curriculum development for VET. The first sub-section tries to give a picture of different cultural patterns related to curriculum development. The second sub-section provides a bridge from the more general ‘flexibility debates’ towards a more specific look on flexibility in the context of curriculum development. The third sub-section presents three examples how ‘key qualification debates’ can be transferred to curriculum development initiatives (or provide support for further development of such initiatives).

4.1 New tendencies in curriculum development

In the following some brief remarks will be given on the main characteristics of ‘curriculum regimes’ and on the recent developments in some Member States. In particular attention is drawn to the particular role that ‘key qualification debates’ have had in the recent developments. The examples are related to the three main strands of the ‘key qualification debates’ (see above section 3.2.). The nutshell characterisation of the developments in the United Kingdom (primarily referring to England) illustrate a development context in which curriculum regimes are essentially influenced by ‘assessment regimes’. The ‘middle strand’ is covered by a set of countries which illustrate different ways of generating diverse project-based ‘innovation spheres’ within curriculum regimes. Finally the third main strand of ‘key qualification debates’ is related to the respective developments in the curriculum regime of the German VET system that is based on the “Beruf” principle and on the corresponding “whole curriculum” approach (see on the developments in UK the article of Oates and on the “Beruf” principle the article of Reuling in Nijhof/Streumer, 1998).

4.1.1 Curriculum regimes and recent developments in the UK

The traditional features of the curriculum regime (of VET) in the UK arise from the constellation between ‘education’ and ‘training’ as the upper track and the lower track of the educational system. In this constellation the upper track has been very strongly profiled as the preparatory phase for higher education (with respectively specialised programmes). Respectively, the lower track has been the segment for secondary options. The attractiveness of VET provisions (traditional apprenticeship) was not high and it suffered even more from the collapse of the youth labour market in the late 1970s. Consequently, the curriculum regime within the educational system was characterised by a dichotomy of framework (indicating the range of subjects and the level of attainment that was required) and coursework (which was to be developed locally). In the segment of VET there were different parallel awarding bodies with awards of their own.

- The education and training policies of the 1980s launched new frameworks for more centralised quality control to cover the both general education (the “National Curriculum” - NC) and the VET provisions (the “National Vocational Qualifications” - NVQs). In both cases the main thrust was not to intervene in the pedagogic shaping of teaching/learning environments but to establish national criteria for the assessment of the outcomes. In particular in the domain of VET the new framework was to bring diverse VET provisions under unified quality criteria which were to be developed by relying on the unit-based approach.

- The NVQs were designed to provide an assessment framework for qualifications that were designed for trainees that were to enter directly working life. Thus, the NVQs became more closely attached to the apprentice training and/or to the youth training schemes. However, as a response to a new demand for more polyvalent VET provisions that would open an progression route towards higher education, a parallel framework was introduced (the “General National Vocational Qualifications” - GNVQs). The UK approach of ‘core skills’ (latterly ‘key skills’) was established as a part of making the GNVQ framework (and then gradually introduced to the NVQ framework).
• The most recent development is the policy towards unified frameworks for ‘education’ and ‘training’. The policy has already materialised by the merger of the main agencies and it can draw upon the common features of assessment-led curriculum regimes and upon the parallel Scottish developments on modularization as a particular vehicle for unification.

From the perspective of transnational cooperation it is worthwhile to note that the policy towards unification has raised new questions concerning the limitations of previous frameworks and concerning a possible new role for group awards. Moreover, the new policy context requires a closer look at the pedagogic interfaces between ‘education’ and ‘training’.

4.1.2 Curriculum regime and recent developments in the ‘middle strand’ countries

In the second ‘main strand’ it is not possible to indicate a common focal point for positioning the ‘key qualification debates’ in the curriculum regimes (as in the UK-based debates the concept of ‘key skills’ within the frameworks of NVQs and GNVQs). In the middle strand the respective national debates (on ‘key/core/transversal competences’) arise from different ‘interface areas’ that link the contexts of ‘organisational learning’ to particular curriculum designs that support these ‘interface areas’. Thus, one has to take into account that curriculum regimes for different parts of VET (and CVT) are more parcelled. Moreover, there are different approaches to incorporate such interface areas as ‘vehicles for promoting innovative training and development cooperation’ in the diversified curriculum regimes. Therefore, current tendencies in the ‘middle strand’ are covered by examples from several countries that illustrate the diversity of patterns.

4.1.2.1 France

In France the policy context for curriculum development is originally based on a three-track system. Consequently, the curriculum regimes for general education, for intermediate (‘technological’) education and for vocational education and training have been developed separately from each other. Moreover, within the ‘vocational’ track there is a co-existence between two generations of parallel diplomas (the CAP and the BEP diplomas). Finally, the public intervention to encourage participation in CVT provisions and to link CVT with innovations in working life has taken the shape of diverse support measures beyond curriculum development. In view of this background the links between ‘key qualification debates’ and the renewal of curriculum regimes can be related to the following developments:

• The major educational policy goal of the 1980s has been to provide an access to the baccalaureat level (entrance qualification to higher education) for 80% of the respective youth cohorts. In addition to the already existing (and closely related) baccalaureats for the general and intermediate tracks (Bac, Bac Tn) this has led to the creation of the specific baccalaureat for the vocational track (Bac Pro). However, the Bac Pro was not introduced as a curricular vehicle to stimulate a unification between the curriculum regimes of the three tracks. Nor was it introduced to replace the existing diplomas of the initial VET. Instead, the Bac Pro was designed as a further education (on top of an initial vocational qualification) that would upgrade the knowledge-base and the competence-base of the trainees either for studies within (vocational) higher education or for work-related competence accumulation.

• Parallel to the introduction of the Bac Pro (with more transversal training profiles) there have been parallel efforts to create more room for transversal learning environments within the initial VET provisions (in particular within the frameworks of the BEP diplomas).

• The major arenas for developing linkages between ‘organisational learning’ and organised training provisions have been diverse contract-based interfaces between private enterprises and public (or para-public) CVT providers. However, in terms of curriculum development these arrangements are not based on a shared national framework but more often on specific frameworks that have been launched by major CVT providers. At times there have major policy initiatives to develop specific curricular frameworks and new
workplace-linked training interfaces. However, these have not promoted a tendency towards an overarching framework to cover the CVT provisions.

- Corollary to some of the above mentioned tendencies there have been efforts to create several kinds of guidance and counselling services that would enhance the awareness of (adult) learners' awareness of their learning potentials and of diverse learning adult-adjusted learning opportunities that are available. ‘Key qualification debates’ have also been linked to debates on how to link this kind of support to diverse education and training provisions.

4.1.2.2 Denmark

In Denmark general and vocational education have been perceived as two parallel subsystems of the upper secondary education. However, within the initial vocational education there was a period of co-existence between the traditional apprenticeship model and a experimental ‘alternance’ model. On the policy level this period was characterised by the decline of the older model and problems of acceptance related to the newer model. Corollary to these contradictions within the initial VET the national authorities for employment policy were developing a separate infrastructure for public CVT provisions (the regional AMU Centres). From the perspective of curriculum development these CVT provisions were linked to the traditional category of semi-skilled workers and to the respective training profiles. Concerning recent developments and in particular concerning the development of the ‘curriculum regimes’ the following tendencies are worth noting:

- In the beginning of the 1990s the two parallel models for the initial VET were merged into one basic model which provided a unified curricular framework for trainees (with an apprentice contract) and pupils (taken into schemes with an ‘alternance’ structure). Concerning the ‘curriculum regime’ the role of national (tripartite) curriculum commissions was limited to setting the qualification goals whereas regional VET colleges were encouraged to make their own designs - in particular concerning interfaces with workplaces or concerning simulation-based practical training periods. This kind of curricular empowerment was accompanied by the new regime for financing (which abolished fixed regional recruitment areas and invited the VET colleges to a competition on a national ‘training market’. The implementation of this reform was accompanied by supporting provisions of in-service training and consultancy for the VET colleges.

- Parallel to these developments there has been a movement within the public CVT (AMU) provisions to develop interfaces between standard courses and ‘organisational learning’ projects within client enterprises. This movement has been supported by accompanying research projects which have focused both on the organisational and pedagogic aspects of such interfaces. Recently, an official government report has summarised the outcomes of the main research projects and proposed conclusions for the further development of the curriculum regime of the public CVT (AMU) provisions. The main feature of these projects has been to support the development of the AMU centres into support structures that are capable to coach the ‘organisational learning’ projects that are to be launched alongside the standard AMU courses.

4.1.2.3 The Netherlands

In the Netherlands education policy has been traditionally based on a multi-track system both on the lower secondary and on the upper secondary level. Within the sub-system for VET there is a coexistence between a well-established segment of school-based VET provisions and a relatively strong segment of apprentice training. However, due to new demands in emerging sectors and due to particular needs of special target groups there was a need to introduce a separate infrastructure for adapted (short-cycled) VET programmes. Moreover, in order to serve the needs of immigrants and other target groups in the labour markets there was a need to expand public CVT provisions which also included components of general adult education.
In the 1990s several successive policy initiatives have been taken to introduce more coherence in the VET system and to promote organisational synergy and flexibility on the regional level. The most essential measures and their respective implications for the integration of the ‘curriculum regime’ for VET have been the following ones:

- The first merger operation within the initial VET (the “SVM-operatie” of the early 1990s) introduced a new curricular framework that subsumed the existing programmes under 4 macro-sectors (technological, agricultural, economic and administrative, health and service sector). Moreover, it launched a campaign to merge the monosectoral colleges for traditional VET programmes with the multi-sectoral colleges that provided short-cycled programmes.

- The successive merger operation (the “BVE-operatie” of the early/mid 1990s) covered the whole range of initial VET as well as the public provisions for adult education and CVT. The aim of this operation was to create strong regional colleges which covered the whole range of training provisions within initial VET and CVT and which were able to allocate and reallocate their resources to the kinds of provisions that could best match current and prospective needs in the respective regions.

- The regional implementation of the merger operation was stimulated with a new mode of funding which was related to a target size of colleges (with reference to the kind of programmes they were providing) and to an innovation plan which was to demonstrate how the colleges were responding to particular regional needs. Corollary to the introduction of the new mode of regional planning there was a campaign to encourage a transition towards a German-like “dual” model of delivery (or similar cooperation arrangements that would ensure appropriate opportunities for practical learning).

- Parallel to the organisational mergers the national tripartite curriculum commissions were merged to one set of sectoral bodies with a joint commission. On conceptual level this paved the way to a transition from separate sets of qualification goals towards a coherent national qualification structure. Recently, special efforts have been made to avoid making too close linkages between the qualification goals and actual curricula and to make room for innovative shaping of the curricula (e.g. by launching national support programmes). In particular emphasis has been given to the need to incorporate ‘key qualifications’ in the curricula with learning designs that create linkages between different elements of the curricula.

4.1.3 Curriculum regime and recent developments in Germany

In Germany the 1969 legislation and the creation of the national agency (BBF, latterly BiBB) to support the development of the VET system provided a crucial turning point in the ‘curriculum regime’. On the basis of the said legislation and due to the support of the national agency for VET-related research and development there was a possibility to proceed towards a reshaping of occupational profiles and to introduce modern patterns of curriculum development. At the same time this turning point introduced the principle of tripartite participation in the decision-making on the training regulations. In the ‘curriculum regime’ the dual model of organising the VET provisions was transferred by the duality between curricula for the workplace-based learning (to be established on the federal level) and syllabi for the school-based learning (to be established on the level of federal states). The process of giving a shape to a modern ‘curriculum regime’ and the subsequent steps to adjust it to quite recent challenges can be characterised in the following way:

- The first phase (1970s and early 1980s) was characterised by conceptual preparation of the new frameworks for broader occupational fields and for regrouping the specialised occupations to be developed as ramifications that are based on a common foundation phase. The process of preparing the political (tripartite) consensus was also characterised by stock-taking from several sets of model/pilot schemes (in which different aspects of the emerging concept were piloted).
• The political consensus was first reached in some ‘pioneering’ sectors and formulated in the ‘prototyping’ training regulations (in the mid-1980s). In these regulations the ‘canonised’ interpretation of key qualifications (see above) was given as a thorough-going principle for the development of curricula, teaching/learning environments and the assessment of learning outcomes. The emphasis of piloting was shifted to the transfer of the new concepts to other sectors, to different ‘vehicular designs’ to improve teaching/learning arrangements and/or to create linkages between different part of the curricula and to development of new patterns of assessment.

• In the most recent generation of model/pilot schemes and in the subsequent training regulations new structures have been introduced that go beyond the earlier ‘modernisation’. In some of these concepts different occupations have been grouped into combined training arrangements which reflect a common systemic or organisational core (to which the respective specialised trajectories are related). In some cases such models have been introduced for related groups of occupations (e.g. the cluster of occupations related to maintenance and marketing of computer systems). In other cases such models have been introduced for different occupations that can be combined in production-relevant teaching/learning environments (with a common organisational reference structure).

4.2 Implications of ‘flexibility debates’ on curriculum development

As has been indicated, several major reforms in initial VET and within CVT are underway in many countries. These reforms can be characterised by an emphasis on free access, varied pathways, fewer specialisations, modularised curricula, new teaching and learning methods to enable students to adequately react on core problems in their working situation by applying broad applicable key qualifications in combination with occupation and/or job specific knowledge and skills.

The responsiveness of vocational education and training relates to the opportunities for vocational education and training to react to all sorts of unpredictable changes on the labour market. Recent research of the International Labour Organisation (ILO) reflect a clear, rational and deliberate effort to design curricula for occupational flexibility. These respective curriculum designs have been and continue to be developed in response to changes in occupational profiles and employment patterns characteristic of many industrialised and developing economies world-wide (Chrosciel and Plumbridge, 1995).

The measure of responsiveness of vocational education and training institutions can be observed in the external flexibility and the internal flexibility of an institution. By external flexibility is meant the way institutions respond to the changes in the labour market. Internal flexibility concerns all the efforts an institution is making to meet the external flexibility. These efforts concern besides necessary organisational changes innovations in the education and training programmes. In relation to this curricular flexibility; flexibility of delivery and flexibility of pathways is discussed here.

4.2.1 Curricular flexibility

In fact, this is more than one dimension, since we can identify curricular flexibility over time, across space and across individuals. Curricular flexibility over time refers to the capacity of vocational education to update its curricula in response to changing skill needs. Flexibility across space is the ability to tailor programmes to respond to local circumstances and local labour markets. Flexibility across individuals involves tailoring programmes to respond to student choice, or to meet the particular needs of individual students, especially the disadvantaged. Curricular flexibility may be pursued through modularization or other changes in the structure of the curriculum, through decentralising control in education, through a greater reliance on the ‘market’ to ensure responsiveness to economic changes and through promoting closer links with the world of work, at national and local levels.
4.2.2 Flexibility of delivery

Flexibility of delivery allows different students to follow the same curriculum by different methods, contexts, or time periods. It should enable the system to cater for and attract students with different backgrounds and circumstances, and especially adults, disadvantaged students and dropouts or those at risk of dropping out, for whom conventional styles of delivery are less suitable.

Flexibility of delivery can also be a way to reduce costs and increase efficiency; only the outcomes of education are fixed and the market can be used to see that these are achieved in the cheapest way. Flexibility of delivery may be pursued by encouraging greater diversity of pedagogic approaches and institutions providing education, by introducing or expanding apprenticeships, by encouraging open learning and work-based learning, by decentralising control, by fostering 'markets' in education and training and by introducing systems of funding and control based 'outcomes' which allow inputs or processes to vary more freely.

It is thus possible to achieve flexibility of delivery by varying teaching methods and the place where learning takes place. These possibilities will be examined further because there are currently a great many developments taking place in these areas of attention, partly under the influence of the social developments mentioned above.

4.2.2.1 The place where learning takes place

The place where learning takes place is very important for the degree of transfer of what has been learned. Application in the world of work of qualifications acquired in vocational education and training leaves something to be desired. Moreover, vocational education at school is not suitable for the learning of certain key qualifications, such as the ability to cope with stress. For good vocational training, it is necessary for the learning potential in work situations to be increased; work situations must be made pedagogical and school situations must be contextualised (see Nieuwenhuis and Onstenk, 1994). However, it is worthwhile to note that not only formal, but also informal opportunities for in-service learning and training are receiving increasing attention.

4.2.2.2 Teaching methods

Attention is then focused on the contextualising school situations mentioned above. Teaching methods are the means to arouse and stimulate learning processes. Today it is increasingly often assumed that the teaching method used has an influence on the learning process and consequently on the output factor. It is assumed that for the development of competent, flexible, and broadly-skilled employees, the teaching method is just as important as the learning content. The forms of learning that are mentioned in this context are simulation (the firm used for practice) (Achtenhagen, 1992; Achtenhagen and John, 1992), problem-oriented training (Van Woerden, 1991), the Leittext method (Van den Sanden 1993a, 1993b) and task-oriented teaching methods (context-linked learning), such as learning in open and complex learning situations (Laur-Ernst, 1984; Heidegger and Rauner, 1989), learning from core problems (Onstenk et al., 1990), team learning (cooperative learning). These forms of learning have many characteristics in common (see Odenthal, 1997).

4.2.3 Flexibility of pathways

This involves more open access to education, weaker divisions between students in different tracks or areas of study, easier transfer, and more diversity in the occupational or educational destinations to which each pathway may lead. This should enable vocational education to attract more students, to cope with the uncertainty of future occupational demands or skill needs, to keep individual options open and to raise the status of vocational education (Raffe, 1994). Flexibility of pathways may be pursued by curricular changes to increase breadth and defer specialisation, by modularization, by credit transfer systems, by measures to weaken the boundaries between vocational and general education and to build bridges between them, and by more open arrangements for access, including the recognition of prior learning.
4.3 Approaches to link ‘key qualification debates’ to curriculum development

The previous explorations have indicated that the three main strands are linked to different concepts of curriculum development (see sections 3.2. and 3.3.). Moreover, the explorations on ‘curriculum regimes’ (section 4.1.) have demonstrated that initiatives that are related to ‘key qualification debates’ have different anchorage points in the established patterns and that the reform tendencies that the debates are promoting may have a different impact on the ‘curriculum regime’. Finally, the reflections on the particular curriculum-related consequences of the ‘flexibility’ debates show that there is a broad menu of policy-measures that can be given a different weight in the national strategies for promoting ‘key qualifications’ and flexibility.

From the perspective of European co-operation, it is important that such initiatives are related to each other in a dialogue that

- enables a proper understanding of the underlying preconditions for curriculum development in diverse countries (and a well-based assessment of prospects for curriculum (re)design projects);
- makes transparent the main thrust and the main instruments of the innovatory approach;
- creates awareness of practical possibilities to develop synergy between mutually enforcing initiatives and creates a basis for transfer of innovatory designs.

In order to simulate such a reflection the following sub-sections discuss three kinds of (hypothetical or actual) starting points for European cooperation initiatives that can be discussed in the context of ‘key qualification debates’. The intention is not to suggest any priorities between the different kinds of initiatives approaches. Instead, the intention is to make transparent some preconditions for and limits to successful cooperation.

4.3.1 Development of ‘core curricula’ for VET

The idea of developing ‘core curricula’ for VET has been often discussed in hypothetical terms) as a possible working perspective for European cooperation projects. However, there has been little interest to try to draft a framework for a “European core curriculum” that would be adequate for the diverse VET provisions. Instead, there has been some discussion on particular ideas that could be developed towards European ‘core curriculum’ initiatives.

Very often such hypothetical discussions take the UK debates on ‘key skills’ and modular frameworks for curricula as their starting points. Consequently the task for a European cooperation project would be to agree to a common list of ‘key skills units’ which would be promoted by corresponding ‘key skill modules’ that could be presented as a proposal for a ‘European core curriculum’. However, this kind of project design would develop appropriate tools and instruments only for the kind of ‘curriculum regimes’ in which separate ‘key skills units’ and modularization are part of the established ‘curriculum regime’. Moreover, they would ignore the kind of curriculum designs that promote ‘key/core competences’ or ‘key qualifications’ by initiatives that penetrate the ‘whole curriculum’.

Instead of taking the task of developing models for a ‘European core curriculum’ the Leonardo project “Coreguide” has chosen a less ambitious approach. First the project has provided ‘state of the art’ reports that provide a picture of the national ‘key qualification debates’. Then, on the basis of these working documents the project has developed a mapping instrument for presenting examples of innovatory practice in a compact form. Finally, the project has produced information on innovatory cases to be presented in the mapping instrument.

Thus, the “Coreguide” project has produced reference documents and tools for any further initiatives that aim to develop ‘core curricula’ for VET. However, in view of the diversity of ‘key qualification debates’ and ‘curriculum regimes’ it is obvious that such projects should take a pluralistic position vis-à-vis different preconditions for curriculum development.
Such a position can be developed e.g. for the following kinds of alternative approaches:

- Instead of trying to define both common goals and common ‘core elements’ for a ‘European core curriculum’ it is possible to identify alternative ways to common goals. Thus, instead of trying to define a uniform pattern for common ‘core elements’ it is possible to develop alternative sets of ‘core contents’ which refer to different kinds of curricular frameworks (with different formats).

- Instead of trying to give ready-made shapes to the assumed ‘core contents’ it is also possible to identify common ‘core principles’ for curriculum (re)design. Then, it would be the task of the European cooperation projects to transform the common core principles into actual curriculum designs (and to analyse the outcomes of such transformation in different national contexts).

### 4.3.2 Analysis of occupational core problems as a tool for ‘situative’ curriculum development

Another working perspective is to develop tools for analysing crucial problems in the context of occupational work. The main thrust of such ‘core problems’ approaches is to analyse the situative aspects of skilled work performance (that is required by ‘learning organisations’) and transfer these aspects to curriculum development. In the following an exemplary description is given on the basic reasoning underpinning such an approach.

Onstenk et al. (1990) define as ‘core problems’ the central characteristics of the vocational task in which considerations, choices and decisions are demanded of the employee. These are considerations and choices relating to dilemmas where the application of knowledge and skills, and the use of a correct register of actions will determine whether someone is a more or a less professional employee. An expert in such a situation can act rapidly and effectively, on the basis of a repertoire of experiences of similar situations. Core problems, most typically, are those moments in the practice of work when key qualifications are required. Core problems have a (vocational) skill-related and a situative component.

- The skill-related component involves the identification of the various dimensions of the problem, of possible inconsistencies, of the importance of various elements, of the necessity for reasoned choices, etc. This component touches upon the task areas (core tasks) of the curriculum.

- The situative component refers to the strategic and social dimension in the concrete performance of a task. Strategic behaviour is necessary because a certain task or activity is always performed in a certain situation, in which it is not sufficient to fall back on a particular set of rules for decision-making, but in which decisions, choices and considerations have to be made which fit that specific situation. Social behaviour, oriented towards people, is also characterised by uncertainty and cannot be formalised.

The ‘core problems’ approaches are not directly contributing to curriculum designs. However, they provide frameworks that specify the organisational and contextual aspects (that are central for the debates on ‘key/core competences’) and make it possible to relate them to vocational curricula. Moreover, they provide frameworks for interpreting the relevance of some pedagogic designs that promote self-organised learning (e.g. the ‘Leittext’ applications) in the context of organisational learning.

### 4.3.3 Development of ‘complex teaching/learning arrangements’ or ‘integrative working and learning assignments’

The third kind of working perspective is related to curriculum redesign approaches that have a focal project area and are based on the work of accompanying research and development projects. In such cases the research work that is in-built in the process of curriculum redesign has the task of supporting the development work (but also of creating the awareness of shortcomings and of the limits of transferability). This kind of project is usually
developed to a certain degree as national pilot projects (or model/pilot schemes) and the level of European cooperation may then serve as a platform for further analyses of transferability.

In the following, two examples will be given of such projects with somewhat similar research and development approaches. The first one (which focuses on development of *complex teaching/learning arrangements*) refers primarily (although not exclusively) to school-based learning environments. The latter one (with a focus on development of *integrative working and learning assignments*) refers to collaboration between school-based education and workplace-based training. Both of them have first been launched as national model/pilot schemes. In a later phase they have either themselves launched a broader European platform or joined European cooperation projects as national counterparts:

- The University of Göttingen supported and accompanied a model/pilot scheme that focused on development of *complex teaching/learning arrangements* for commercial education (in the early 1990s). In the initial phase the curriculum redesign focused on two content areas (business administration and accountancy). In the redesign process these were converted to (simulation-based) complex teaching/learning arrangements which required a great amount of self-organised involvement of trainees. Later on the redesign process has transformed other elements of curricula to similar teaching/learning arrangements or to case studies etc. that are linked to an covering narrative framework for the ‘activity dimension’ of the curriculum. On the basis of this prior experience the university of Göttingen has been developing (in collaboration with the university of Twente and the university of Edinburgh) an international initiative within the framework of the COST Programme. The project explores similar initiatives in 16 countries.

- The university of Bremen (research institute ITB) is supporting and accompanying an ongoing model/pilot scheme in southern Brandenburg (Schwarze Pumpe). The main aim of the experimental curriculum is to provide an entrance qualification to (vocational) higher education (Fachhochschulreife) corollary to the regulated qualification of a skilled worker (Berufsausbildung). In the experimental curriculum a particular role has been given to *integrative ‘working and learning assignments’* which link the subject-based components to workplace-related assignments that provide focal points for the whole curriculum development. This model/pilot scheme has also provided a basis for the national contribution of the ITB in several European cooperation projects (in particular in the Leonardo-projects “Post-16 strategies” and “Intequal”).

The involvement of the said projects in European cooperation provides an example of how such approaches (which are originally developed as redesigns within ‘whole curriculum’ framework) can provide and can contribute to mutual learning and exchanges of ideas with European partners that work under different preconditions.

5. INSTEAD OF CONCLUSIONS: ELEMENTS FOR NEW EUROPEAN ‘WORKING AGENDAS’

5.1 Structural problems as new policy contexts for ‘key qualification debates’

In previous sections the recent ‘key qualification debates’ have been related to the more general theme ‘flexibility’. In this context the ‘key qualification debates’ have had a preventive or a prospective function. On the one hand there has been an expectation that the new concepts could effectively prevent VET systems from getting into structural difficulties and facilitate inner reforms. On the other, there has been an expectation that the new concepts could provide a basis for new solutions which could compensate partly the problems that have occurred in the traditional VET provisions. In this respect the debates have been accompanied by an optimistic atmosphere and by an innovatory effort to find future-oriented solutions.
However, recent policy debates on VET (and in particular on the development of initial VET systems) give a general picture of fundamental structural problems. The general character is that VET systems (as border systems between the educational system and the labour market) are subject to structural pitfalls and to contradictory expectations. Often these difficulties tend to be related to each other as problem constellations. In the following, some of these structural problem constellations are discussed briefly:

5.1.1 The double function of VET as an option within the educational system and as an entry to labour market

Recently initial VET provisions have been facing a twofold problem: on the one hand they have been suffering from a disparity of esteem (as a “lower track” of the educational system). This has led to an increasing social demand for education that provides an access to higher education. The general response in many educational policies has been the expansion of the general or ‘academic’ provisions or the introduction of ‘middle track’ provisions. As a consequence, graduates of these provisions are increasingly opting for higher education or demanding higher (post-secondary) vocational provisions (“academic drift”).

At the same time the initial VET provisions have been experiencing difficulties in providing immediate or adequate access to the labour market. This has either weakened the interest in traditional VET provisions (“opting out – drift”) or encouraged efforts to create new vocational progression routes towards higher (vocational) education. Thus, the difficulties with the entry to the labour market are either reducing the effectivity and credibility of initial VET as an entry point. Either it has the risk of being considered a ‘parking place’ (without a real perspective to labour market) or as a ‘transit phase’ within alternative pathways towards higher education.

5.1.2 The decreasing number of work-related training opportunities and the increasing demand for adequate work experience

As a consequence of the recent tendencies towards ‘systemic rationalisation’ in enterprises (“lean organisations”, “outsourcing”) there are increasing difficulties in finding scope for work-related training opportunities. The tendency towards outsourcing the training leaves the remaining companies (which continue their training activities) as recruitment pools for competitors. With this kind of ‘opting out’ tendency there is a risk of a self-enforcing vicious circle.

At the same time, due to the very same rationalisation tendencies, the labour markets put greater emphasis on actual work experience on top of formal (vocational) qualifications. However, when enterprises are generally reducing their direct involvement in initial VET, it is getting increasingly difficult to bridge this gap between existing opportunities for work-related learning and growing demands for actual work experience.

5.1.3 The increasing need for a well-structured and well-focused training and for measures to prepare for alternative employment prospects

The third problem constellation arises from the tendencies that have been mentioned above. On the one hand, the growing demand for adequate work experience (or ‘work process knowledge’) requires well-structured and well-focused training programmes. On the other, it has become obvious that completion of VET programmes (or acquisition of higher qualifications) does not increase employment opportunities in the traditional labour markets or create automatically new employment opportunities. Therefore, there is a need to design the VET systems in such a way that they support mobility beyond the original focus of the initial VET. Moreover, there is a need for providers of VET to launch support measures to facilitate transition to working life (e.g. through preparing for self-employment and supporting job-creation initiatives).
5.1.4 The difficulty for providers of VET to keep pace with changing demands of ‘learning organisations’ and the need to adjust training with the perspective of constant changes in working life

The traditional interpretation of the function of initial VET as a provider of ready-to-work employees (and as a provider of a relatively solid orientation ground for a further career in working life) is increasingly challenged by constant changes in working life - in particular in ‘learning organisations’. From this perspective, external providers of VET are increasingly lagging concerning the actual technology and the knowledge-basis that is being developed and utilised in the forefront of developing and using new technologies. Therefore, the assumption that VET provisions could serve as vehicles for the insertion of new technologies and related competences is hardly valid for such sectors in which there are the best prospects for job growth.

However, because of this fact, an adjustment to continuing technological changes and a need to contribute to a culture of ‘organisational learning’ (that enables the organisations to master such changes) becomes increasingly necessary for the providers of VET.

5.1.5 Limited prospects of VET provisions as training opportunities for their traditional clients (and difficulties in getting new clients)

In many countries providers of VET have been very clearly adjusted to certain traditional client groups with a distinct social status and a respective career expectation. In view of the demographic tendencies and in view of the competition pressures (between academic drift and opting out drift) it is obvious that such VET providers that are only limited to their traditional clientele cannot expect to be successful in the future.

In order to ensure their possibilities in view of the current changes, providers of VET need to extend their activities beyond traditional qualifications of initial VET and to create new (bridging) provisions either within the educational system or as ‘training and development’ partnerships that include also CVT provisions. This requires new efforts to make the new arrangements acceptable within the educational system or among the potential counterparts in working life. This also requires a new kind of organisational responsiveness and flexibility among the providers of VET.

All these problem constellations indicate that an adequate development of VET systems cannot be based on an isolated view of the inner modernisation of current VET provisions with reference to their traditional clients. Instead, structural rethinking is needed - but it has to be based on initiatives that link internal modernisation to structural innovations as well as innovations within the pedagogic and curricular renewal of VET.

5.2 Coordinates for European ‘working agendas’ for the modernisation of VET

The problem constellations that have been discussed above indicate that all major VET systems are challenged to search for new solutions. Moreover, they are challenged to take measures that go beyond the traditional scope of developing existing VET frameworks (or beyond introduction of particular new provisions within the existing frameworks). The awareness of the need for deeper changes is growing in the recent debates on national level.

A particular indication of such problem awareness is a new kind of interest in cross-cultural comparisons and in transnational cooperation projects. Previously such projects have often provided the participating countries demonstrative platforms for presenting the advantages of their respective VET systems. In more recent projects there is more effort to learn from each others’ models and from the underlying culture of VET. Moreover, there is a growing awareness that such learning does not need to result in transplantation of ‘alien’ models as such. Instead, the kind of ‘mutual learning’ that has been taking place in recent European cooperation projects is opening prospects for new ‘transitional spaces’ between different system models. In some cases such cooperation projects are paving the way for new patterns of piloting, experimenting and promoting the transfer of innovations.
In the following, some reflections will be presented on how to proceed from the current state of ‘flexibility debates’ and ‘key qualification debates’ towards more focused transnational cooperation projects (that could respond to the new challenges that have been discussed above). These reflections will not be presented as direct proposals for the agenda-setting of new European cooperation programmes. Instead, they are presented as tentative ‘working agendas’ for CEDEFOP for the purpose of accompanying the ongoing and forthcoming work of European cooperation projects and for summarising the outcomes for broader European reflection.

The ‘working agendas’ are related to three levels of modernisation in European VET systems and try to indicate how different starting positions can be brought into dialogue within European cooperation. In particular the ‘working agendas’ try to indicate in what way the ‘flexibility debates’ and ‘key qualification debates’ can be developed further on these respective levels. The levels in question are the following:

5.2.1 The level of inner (conceptual) modernisation of VET

Concerning the level of inner (conceptual) modernisation there is a tendency to seek more flexibility beyond the traditional formats of vocational qualifications. In recent years all major VET systems have tried to adjust themselves to constant changes by modular frameworks or by holistic frameworks that are based on broad occupational foundations and on successive specialisation. In recent development initiatives new models have been developed in order to regroup related occupational profiles on an alternative basis. Such tendencies can be seen in VET cultures that rely on holistic concepts as well as in VET cultures that rely on atomistic concepts.

Within holistic VET cultures there are tendencies to review the traditional perception of occupational core structures. A symptomatic example is provided by the recent German training regulations in the domain ‘information and communication technologies’. The new occupations are no longer related to a traditional occupational main field (e.g. ‘technical’ or ‘commercial’ field). Instead they are introduced as special trajectories that are attached to a joint core structure that refers to the ‘system-related’ knowledge .) Corollary to such new features, there are initiatives to introduce new kinds of core structures (“core qualifications”) that would open the skilling process for organisational adjustment and for mobility. These ideas are closely related to reflective uses of modularisation.

Within atomistic VET cultures there is new interest on ‘group awards’ and on curricular strategies to avoid excessive fragmentisation of vocational learning processes. In particular this interest is linked to the fact that merely unit-based assessment frameworks do not give a picture of competence accumulation within integrated organisational working and learning contexts.

5.2.2 The level of structural modernisation of VET;

Concerning structural modernisation of VET the new challenges are raising the question whether (initial) VET systems in the future can fulfil their function effectively if they only maintain the accustomed patterns. If they merely concentrate on their traditional target groups (sticking to accustomed divisions within the educational systems and preparing their clients only for accustomed career prospects) they run a risk of losing their attractiveness and of becoming isolated. In this respect the following tendencies towards rethinking can be noted:

5.2.2.1

Policy approaches that try to enhance the educational attractiveness of initial VET are making efforts to improve parity of esteem between general and vocational options of upper secondary education. From the perspective of ‘key qualification debates’ it is worthwhile to note that these approaches have to find answers to the following kind of questions:
• Is it possible to introduce structural frameworks (and curricular constructs) which link in an integrative way the qualification goals ‘access to higher education’ and ‘access to working life as a skilled worker’?

• Is it possible to develop such ‘vocational progression routes’ towards higher education or towards higher qualifications that would help to overcome the status gaps between the general/academic and vocational options?

5.2.2.2
Policy approaches that try to enhance the role of VET (and CVT) provisions as support for organisational innovations and for lifelong learning within working life have to answer the following kinds of questions:

• Is it possible to develop such cooperation arrangements between providers of VET and CVT that support equally a culture of ‘organisational learning’ and individual competence-accumulation in a systematic way?

• Is it possible to incorporate such ‘training and development’ cooperation arrangements as within curricula that lead to higher (vocational) qualifications?

5.2.2.3
Policy approaches that try to enhance the role of VET (and CVT) provisions as support for job-creation and for finding new employment opportunities have to answer the following kind of questions:

• Is it possible to develop the frameworks of initial VET in such a way that the trainees are preparing themselves for alternative occupational prospects and can themselves influence their range of mobility?

• Is it possible to link support schemes for job-creation and self-employment to frameworks that support a systematic accumulation of competences?

5.2.3 The level of pedagogic and curricular modernisation of VET.
Concerning pedagogic and curricular modernisation of VET there is a need to respond to the challenges that arise from the conceptual and structural ‘modernisation agendas’ but also a need to reflect some new additional questions. In the following some main questions of this level are raised for further discussion:

• The emerging debates concerning the inner (conceptual) modernisation of VET raise immediately the question of a new kind of ‘strategy mixes’ between holistic frameworks and flexible (e.g. modular) forms of delivery. Consequently, there is a need to reflect what kind of transitional models are needed in diverse curriculum regimes to give shape for piloting and provide conclusions on experimental implementation (in order to give a sufficient pedagogic and curricular articulation of the proposed ‘paradigm shifts’).

• The debates on ‘parity of esteem’ (between general/academic and vocational education) raise the issue of new curricular codes that take into account the following aspects:

  a) the necessity to reconsider ‘general education’ in order to achieve a balance between ‘transparency of knowledge structures’, ‘command of actually relevant knowledge’, ‘access to new knowledge’ and ‘experience in retrieving and processing new knowledge’ within curricular frameworks;

  b) the necessity to develop curricular ‘coding and decoding’ approaches that facilitate relating ‘subject-based knowledge’ and ‘work process knowledge’ to each other as parallel strands of knowledge accumulation within vocational learning processes;
c) the necessity to develop quality criteria to assess the extended potentials of aggregated or linked curricular constructs (e.g. ‘complex teaching/learning arrangements’ or ‘integrative working and learning assignments’ or ‘network-supported decentral learning environments’) in order to identify their relative advantages and deficiencies in comparison with each other and in comparison to traditional models of teaching and training.

- The debates on new (multimedial) environments for learning and the prospects with new computer literacy require particular strategic approaches for including the potentials of ‘civic’ multimedial learning and a related support for progress in developing learning-relevant uses (and user-applications) of new media (see on this aspect the article of Straka in this volume).

- The debates on new (self-organised or participative) learning cultures require special strategic approaches for creating adequate spaces for self-organised planning and socio-cultural participation (both concerning the making of actual curriculum as well as within particular components of the curricula). Concerning the mission of vocational education and training it is necessary to reflect what kind of curricular interpretation can be given to the perspective of ‘social shaping of work, technology and human involvement’.

- The demands to improve the prospects of progression and mobility (on the basis of initial VET) require more than a strategic readiness for new curriculum (re)designs within the respective domain of VET. In the future it is of crucial importance that the measures that are introduced to facilitate mobility and progression find resonance within the ‘receiving’ social environments (either in higher education or in work organisations and among providers of CVT). Moreover, it is of crucial importance that there will be no major discrepancies between the respective principles of recognition of the outcomes of learning. (See on this point the article of J. Björnávold on the validation of prior learning in this volume).

5.3 Concluding questions for further synthesis work

As has already been indicated, the aim of this article has not been to conclude a debate with a ‘European synthesis’. Instead, the previous explorations have provided frameworks to analyse national debates and to contextualise them in a European ‘group picture’. Finally, the article has provided some additional coordinates (‘working agendas’) with which it is possible explore in what contexts ‘learning from each other’ can be facilitated within policy-development for VET systems.

In further reports this approach has to be developed further on the basis of actual research results and learning experiences of transnational cooperation projects. Parallel to such elaboration there is a need to reflect the following kind of questions:

a) How can research in the domain of curriculum development affect the design of teaching and learning arrangements?

In what ways can research contribute to curriculum planning, to curriculum implementation and to curriculum redesign? What kind of relations and feedback mechanisms can be developed between the spheres of ‘research’, ‘policy’ and ‘practice’? What kind of conceptual, ‘doctrinal’ or ‘paradigmatic’ implications may these have?

b) How can different institutional constellations between policy frameworks and curriculum development be taken into account in transnational cooperation?

How can transnational cooperation projects reach a level of reporting that they are informative concerning innovative cases but also reflective concerning underlying policy frameworks and ‘leading ideas’? How can transnational cooperation projects be facilitated in mutual learning? How can the outcomes of transnational cooperation projects be delivered in such a way that the ‘processes of mutual learning’ give support for further innovation transfer?
c) How can dialogue between different leading ideas concerning curriculum development (and design of actual learning environments) be facilitated?

To what extent are leading ideas on curriculum development (in particular systemic and cultural contexts) establishing themselves as ‘paradigms’ which tend to exclude alternative models? What kind of models for dialogue between different ‘paradigms’ can be introduced and what kind of processes of ‘paradigm shift’ can be observed? What kind of role can particular case studies (on innovatory pilot models in curriculum (re)design) have for such processes?
BIBLIOGRAPHY


