Evaluating systems reform in vocational education and training: learning from Danish and Dutch cases

Loek Nieuwenhuis, Hanne Shapiro

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Impact of education and training

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Abstract
This paper refers to the use of evaluation in the policy of VET system change. Recent reforms of the VET systems in Denmark and the Netherlands are used as case studies to underpin the analysis. Changing VET systems is a complex issue. Social systems such as VET are multi-layered and to be effective, system change should be consistent at all levels. Furthermore system change is not a one off event, but a continuous process of overlapping developments. Within such complex change policies, evaluation can be used in different ways, from more positivistic approaches to participatory approaches. Positivistic approaches are more compatible with controlling policies whereas participatory approaches fit learning policies better.

Two reforms are described extensively, particularly concerning the way evaluation and research has been used by the reform policy. Reform 2000, the Danish reform of the VET system since 1999, is a good example of the participatory approach. This reform tries to combine national debates and policies with local and regional experiments with new pedagogical tools and steering mechanisms; evaluation and research were used in a learning methodology. The introduction of WEB, the 1996 Dutch Act on VET, is evaluated in an ex post way in 2001, checking whether the WEB objectives have been reached after five years of implementation. The use of evaluation in the WEB case has to be assessed as rather positivistic. The use of evaluation as an instrument for policy learning has been successful in Denmark, but failed around WEB.

The emergent knowledge based economy demands VET policies built on a contingent development strategy in which evaluation and research serve as continuous feedback mechanisms. Adaptive policies imply a learning approach, allowing concurrent adaptation, instead of a prescriptive approach, in which the solution is presented as a blue-print. The development of a culture of learning VET policy is still in its infancy.
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1. Governance of change in vocational education and training

Vocational education and training (VET) is a complex social system because it is located on the edge of two basic human activities: learning and working (Ellström, 1999). For both activities, systems have to be built at local, national and European levels. Within VET, these systems are intertwined in many ways. Changing VET is, therefore, a long term enterprise, requiring interaction and debate between the different interest groups in the system.

According to Edquist and Johnson (1997), social systems are specific creations of institutions and organisations. Social systems are designed incrementally to reach societal goals:

(a) institutions can be defined as sets of common habits, routines, rules or laws that regulate the relations and interactions between individuals and groups. Functions of institutions are, for example, the provision of information and the reduction of uncertainty; managing conflicts and cooperation; the provision of incentives; the channelling of resources;

(b) organisations are formal structures with an explicit purpose; they are consciously created and they are players and actors in the system.

Figure 1: A framework for analysing educational change in skilling systems

Source: adapted from Nieuwenhuis et al., 2001.
VET is a social system for which, in each country and/or economic sector, a specific set of institutions and organisations has been developed over time. Governments, business and industry, unions and educational organisations have built an institutional system for VET, which is rooted in social, cultural, and economic patterns. Because of these roots, VET institutions are difficult to change and sometimes are even obstacles to innovation. Changing VET is not only about the educational system, but also of the socio-economic system and of cultural traditions. Examples of VET institutions are: laws on education and labour; public-private arrangements; training funds; collective labour agreements; pathways to becoming skilled; qualifications and wages; occupational identity; training traditions.

In theory, organisations are easier to change than institutions, but organisations depend on the institutional system. Thus, technical-rational arguments (e.g. instructional science for VET) for a systems change are not convincing if they are not compatible with the institutional arrangement. This is an important observation for understanding the design and restructuring of VET systems. Policies for change cannot be organised top-down (Bashkar in Sanderson, 2000). Changing VET and its evaluation has to be directed simultaneously at all the levels involved. Interactivity and consistency between the different layers are the main requirements for effective change. The government is one of the players in a complex policy system. Policy, intermediary structures, colleges, companies and teachers should interact in the change process; managing this process is like directing a large orchestra: if one party is out of tune, the whole performance is endangered.

Systems change is not a one off event. Most social systems change is a continuous process of incremental development, sometimes combined with ‘earthquakes’ (dissipative systems: absorbing a lot of change-impulses without any change; then disrupting in a large change; Sanderson, 2000); changes are often irreversible: systems change has evolutionary characteristics. Social systems are embedded: VET sits between economy, education and social affairs (inclusion policies). Changing systems takes time, especially because of institutional embeddedness. Reasons for change can be endogenous and exogenous. Systems change is therefore complex and chaotic because of its multi-layer, multi-actor and multi-purpose character.

In Europe, all states are seeking to make their VET systems more flexible. Old systems were built on stable economies and labour-market institutions (e.g. Germany and the Netherlands) or were built on low-skill equilibrium (e.g. UK; Finegold, 1991). In both cases, powerful economic forces urge that VET systems be upgraded and made more flexible; globalisation of markets, high-speed technological innovation and information and communication technology (ICT) development are examples of these forces. The permanent development of and change in the National vocational qualification (NVQ) system in England; the reform of the dual system in Germany; the shaping and reshaping of VET in Eastern European countries; new legislation in the Netherlands; changes in the Italian VET system: there is no VET system that is not under revision. This revision is not merely a technical debate; societal and political issues are at stake (Coffield, 2001; Nijhof, 2001). Everywhere the search is on for a new balance:
(a) between initial VET and lifelong learning: the old infrastructure is built on the delivery of initial VET; the new one should be able to deliver support for lifelong learning;
(b) between traditional occupations and flexible qualifications: old-fashioned occupations are slowly disappearing but the institutions are still built on the traditional occupational structure and there is no room in the arena for new occupations;
(c) between school-based learning and qualification through work experience: learning steered by attainment targets is to be replaced by learning within changing communities of practice while instruction and training is a proven powerful educational tool;
(d) between social demands and economic markets: should the student be adapted to labour-market demands or can the worker shape his own economical context?
(e) between employment and entrepreneurship: is the ‘new economy’ for employed workers or for entrepreneurial workers?

Policy-makers and other stakeholders try to develop these areas, but in each case the institutional arrangement of VET is at stake. The old
regulations and appointments and the social-economic meaning of VET are changing. The design of new VET means the reinvention of VET-institutions but because of the sociocultural roots of institutions this will take time and be a struggle. Stakeholders (like community colleges, employers, trade unions and the government) should reposition themselves towards the newly developing VET systems.

Crouch et al. (1999) offer a sceptical view of the feasibility of a high-skills strategy in western economies. Analysing skill creation systems in seven OECD countries, they conclude that both state-based and market-oriented strategies are doomed to failure. State-based VET will suffer from low responsiveness and innovation, whereas market-led VET will not be able to up-skill the majority of the workforce. Thus each country should consider this view and rearrange their VET system. Crouch et al. (1999) do not believe in a single best solution at system level; copying best practices from elsewhere needs careful planning and consideration of the institutional history of both source and receiving system.

In most European countries VET systems are under reconstruction. Researching these system changes can be done best from an evaluating perspective. Do the efforts for improvement have the targeted impact on the supply of socially and economically requested skills? In the discussions, two evaluative perspectives emerged, a system perspective (how do VET systems meet performance criteria?) and a constructivist perspective where the main emphasis is on generating learning among the actors that can sustain implementation of change. Changing VET systems can be seen as a kind of governmental learning, depending on the specific problem definition and the specific configuration of institutional and organisational actors and their stakes, policy strategies and targets of systems change should be defined. There is no one right way for VET, although a European approach suggests a convergence of targets and goals. There are no safe recipes for countries to reach these goals and targets. VET policy is a matter of chaos and complexity. Each country has to examine its own system. Examples from other countries can be used as good practice, but should be adapted to one’s own national situation (e.g. Resnick and Wirt, 1996). One important lesson for systems innovation is that the learning and experimentation should be coherent and compatible at all systems levels; from law, through institutions and organisations, up to teaching-learning processes.

The basic perspective in this chapter is the idea that changing complex social systems need coherent, persistent and consistent political actions at all levels of the systems, e.g. political debate and legislation, institutional arrangement, organisational and financial conditions and that the design of skilling systems and processes should be in line with each other. To realise system flexibility, change is needed at all system levels. Evaluation of systems change is complex in itself (Sanderson, 2000). Evaluation is balancing between inside and outside; evaluators are actors in the system. Evaluation is organising critical reflection and learning moments. Evaluation is ‘abductive’ (Levin-Rozalis, 2000): n = single case-studies are interpreted in existing knowledge schemes through rational reasoning. Complexity of systems change makes simple/single evaluation useless and impossible. Goal-directed evaluation of changing systems is contradictory to the multi-actor aspect, connected to different stakes of different actor groups. Sanderson argues for evaluation as policy learning, where evaluation creates a relatively depoliticised setting for a rational discourse.

Three perspectives can therefore be discerned for discussion in the evaluation of VET systems change:

(a) VET approach: flexibility and attractiveness; goal oriented versus development oriented; combination of economic and social goals; instructive versus constructive methods;

(b) systems innovation approach: embeddedness, consistency between systems layers, interactivity; prescriptive versus facilitative; change concepts (incremental, dissipative; evolutional), sources and models (used reference practices, e.g. other EU-systems);

(c) evaluation policy: evaluation as policy learning versus evaluation as top-down (educational) science as policy reference source.

These three perspectives deliver three sets of descriptors to describe systems change on national VET-systems. This forms a frame of analysis to describe two cases of systems change: Denmark and the Netherlands.
2. Relationships between research, policy and practice

Before we perform an in-depth evaluation of educational systems change policies we should explore the relationship between policy and practice on the one hand and evaluation and research on the other. In a study by Caplan (1979), three theories are outlined to explain possible gaps between research and policy utilisation:

(a) ‘policy constraint theory’ – policy systems and policy-makers are unable to handle the findings of educational research;
(b) ‘knowledge specific theory’ – research has a too limited foundation and is located within a too narrow a framework of theories;
(c) ‘two communities theory’ – policy-makers and researchers adhere to different cultures, each with its own norms values and agendas that are not explicit.

There are models that try to describe the knowledge generation and knowledge utilisation processes in educational research:

(a) ‘problem solving model’: problem definition is followed by the identification of gaps in the knowledge area that leads to the identification of a study. Once data are made available, these are interpreted in terms of its policy implications which may then feed into the policy process. In this model there is no direct linkage between the different institutional actors;
(b) ‘interactive model’: the use of evaluation research is part of a broader process of knowledge generation for change. In that process there is a complex web of relations between the different institutional actors at all levels. By stimulating interactions between key actors at strategic moments it is considered possible to strengthen the role of evaluations in the decision-making process;
(c) ‘political model’: finally, this third group of models denies any direct rational role of educational research in policy-making. Here, results from evaluations and other research knowledge only come into play when they can be used as an argument to legitimise or even postpone policy decisions (Weiss, 1979).

In the OECD study Educational research and development (CERI, 1995) it is argued that a linear model of research utilisation is to be avoided, concluding that research should be valued as much for its illuminative role as for any direct ‘results’ it might produce. Sutton (1999) provides a broader analytical framework of the policy process, which might be used to understand the design and potential usage of evaluations in a reform and a broader policy formulation process. She presents different models which do not see policy-making as a rational linear process.

Those models are:

(a) the ‘incrementalist model’ that looks at a small number of alternatives for dealing with a problem and tends to chose options that differ only marginally from existing policy;
(b) the ‘mixed scanning model’ which covers the middle ground between a rationalist and an incrementalist model. It suggests taking a broad view of options and looking further into those that require a more in-depth examination;
(c) ‘policy as arguments’, a process in which policy reforms are presented as reasoned arguments. Policy is developed through debate between institutional actors. Language shapes the issues at hand in these debates, moulding social reality according to outlook and ideology;
(d) ‘policy as a social experiment’. This sees social change as a process of trial and error (experimentation) which involves successive hypotheses being tested in contexts in an experimental manner. It has its origin in the experimental approach of the natural sciences;
(e) ‘policy as interactive learning’. This approach is rooted in a criticism of development policy as being top-down and not generated from the communities in which policies are implemented. It argues for an actor’s perspective emphasising the need to take into account the opinions of different institutional actors that have a stake in how a system evolves. The approach promotes an interaction and sharing of ideas between those who make policy and those who are most directly influenced by policy.
### Table 1: Basic beliefs of inquiry paradigms

<table>
<thead>
<tr>
<th>Item</th>
<th>Positivism</th>
<th>Postpositivism</th>
<th>Critical theory</th>
<th>Constructivism</th>
<th>Participatory</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Epistemology</strong></td>
<td>Dualist/objectivist: findings true</td>
<td>Modified dualist/objectivist: findings probably true</td>
<td>Transactional/subjectivist: value mediated findings</td>
<td>Transactional/subjectivist: created findings</td>
<td>Critical subjectivity in participatory transaction, extended epistemology of an experiential, propositional and practical knowing, joint findings</td>
</tr>
<tr>
<td><strong>Nature of knowledge</strong></td>
<td>Verified hypothesis established as facts and laws</td>
<td>Non-falsified hypothesis that are probable fact and laws</td>
<td>Structural historical insights</td>
<td>Individual reconstruction coalescing around consensus</td>
<td>In communities of inquiry embedded in communities of practice</td>
</tr>
<tr>
<td><strong>Methodology</strong></td>
<td>Experimental, manipulative, verification of hypotheses, chiefly quantitative methods</td>
<td>Modified experimental/ manipulative; critical multiplism, falsification of hypothesis, may include qualitative methods</td>
<td>Dialogic/dialectic</td>
<td>Hermeneutic/dialectic</td>
<td>Political participation in collaborative action; primacy of the practical; use of language grounded in shared experiential context</td>
</tr>
<tr>
<td><strong>Quality criteria</strong></td>
<td>Conventional benchmarks of ‘rigor’ internal and external validity, reliability and objectivity</td>
<td>The same as for positivism</td>
<td>Historical situational; erosion of ignorance and misapprehensions; action stimulus</td>
<td>Trustworthiness and authenticity</td>
<td>Congruence of experiential, presentational, propositional and practical knowing-leads to action to transform</td>
</tr>
<tr>
<td><strong>Inquirer posture</strong></td>
<td>‘disinterested scientist’ as informer of decision makers and change agents</td>
<td>The same as positivist</td>
<td>‘transformative intellectual’ as advocate and activist</td>
<td>‘passionate participant’ as facilitator of multivoice reconstruction</td>
<td>Primary voice manifest by self-reflective action; secondary voices in illuminating theory, narrative movement and other presentational forms</td>
</tr>
<tr>
<td><strong>Action</strong></td>
<td>Not the responsibility of the researcher; viewed as advocacy or subjectivity; and therefore a threat to validity</td>
<td>The same as positivism</td>
<td>Found especially in the form of empowerment; emancipation anticipated and hoped for; social transformation</td>
<td>Intertwined with validity, inquiry often incomplete without action on the part of participants</td>
<td>The same as constructivism</td>
</tr>
<tr>
<td><strong>Control</strong></td>
<td>Resides solely in researcher</td>
<td>The same as positivism</td>
<td>Often resides in ‘transformative intellectual’. In new constructions, control returns to community</td>
<td>Shared between inquirer and participants</td>
<td>Shared to varying degrees</td>
</tr>
</tbody>
</table>

Source: Lincoln and Guba, 2000
Parallel to the debates on the nature of policy processes, Guba and Lincoln (1989) provided a coherent voice of criticism concerning the usage of evaluation methods that understood the task as a rational, neutral task to uncover ‘the truth’. It was necessary instead to understand the complexity and the contextual nature of the evaluation process in what they defined as ‘fourth generation evaluation’. The rationales behind ‘fourth generation evaluation’ and the underlying methodologies will not be discussed further in this paper. However, a paper from 2000 (Lincoln and Guba) presents a useful overview on different paradigms of evaluation that lay out the purpose of the evaluation in the policy process and also determine the role of the different institutional actors in the reform process (Table 1).
3. Educational policy research: setting the stage

Educational research including programme and policy evaluation is expected to contribute to a deeper knowledge and insight on which policy-makers can draw, and act. While educational research is seen as contributing to highlighting problems and challenges in VET, there is an increasing debate about the degree to which and the circumstances under which a strengthened relationship may be formed between the three communities; policy-makers, researchers and practitioners. The question is if it could lead to stronger knowledge generation in action for practitioners faced with concrete problems, as well as to strengthened theory/practice knowledge base for educational policy leading to learning-based innovations.

The overall argument for a change in evaluation practices for sustainable reforms could be based on the hypothesis that an acceleration of knowledge construction and destruction is taking place, as brought forward by Lundvall (2000). Therefore, the argument goes, the issue is not so much having access to knowledge per se. The key to success is learning (and forgetting). This calls for more integrative relations and processes at different institutional levels, a complex that is traditionally characterised by narrow specialisations in terms of knowledge field and operational domain between the different institutional actors. Set in an evaluation context this also means a change in the purposes and framework of evaluations linked to educational reforms. Through narratives and dialogues policy evaluations may become an instrument of critical reflection and reinvention involving all the key actors rather than primarily being a way of measuring outputs and performance. This understanding of evaluation as a learning process will form the framework for this chapter.

In the early 1990s the Ministers for Education had already addressed the topic from a somewhat similar perspective in the following communiqué: ‘In general, the level of investment in research and development in education and training is far lower that in any comparable size. The potential of educational research as an integral element of improvement remains largely underdeveloped whether at the national, regional or local level. More important still, much research needs to be grounded in practice involving staff and institutions whether individually or collectively. To achieve this, innovation and experimentation should be given strong support’ (OECD, 1995).

The British white paper on Modernising government identified learning from experience as a key principle in policy-making. Specifically the white paper stated: ‘Government should regard policy as a continuous, learning process not as a series of on-off initiatives. We will improve our use of evidence and research so that we understand better the problems we are trying to address. We will make more use of pilot schemes to encourage innovations and test whether they work.’

The growing policy focus on educational research and evaluations during the 1990s has been driven by different motives. They span from concerns about accountability, to a need to develop new systems of VET governance based on framework regulations rather than rules. Overall there has been a growing interest in understanding the driving forces behind systemic change and how innovation in VET can be spurred through educational research in economies where learning and knowledge are generally agreed to be of increasing importance (Foray, 1997).

Whereas evaluations in VET have traditionally focused on outcomes and accountability, there is increased interest from governments in new evaluation paradigms that can spur innovation and improve public policy through organisational learning processes. Argyris (1992) defines organisational learning as a process of change in organisational structures, codes or practices, that is triggered or reinforced by new experiences, new interactions or new information. Hart provides a useful analysis of the different ways in which organisations “learn” about the effectiveness of their policies and practices (Kelleher and Hughes, 2000), as Kelleher has shown in an article on VET as a learning organisation (Kelleher, 2001).
links these to different functions of evaluation within an organisational context.

(a) The evaluation can be seen as a ‘feedback mechanism’ on the effectiveness and efficiency of policy (and practice). This view is grounded in cybernetic control and communication theory (Argyris and Schön, 1978).

(b) Evaluation can be a ‘stimulus configuration’ for the creative minds of policy-makers (and practitioners) which is essentially a psychological perspective based on cognitive development models (Neisser, 1976).

(b) The evaluation process can be a ‘communicative domain’ in which debate, persuasiveness of argument, weight of opinion and conflict of attitude and value systems will all contribute to a social construction of policy theories, ensuing policies and thus practice.

Based on two Dutch cases, Van der Meer expands the issue of learning through evaluations further by posing the following questions in relation to the evaluation process (Van der Meer, 1999):

(a) when and how are evaluations identified?
(b) when and how are they read or listened to?
(c) how are they interpreted?
(d) how do they become related to organisational characteristics or behaviour?
(e) how do they eventually lead to changes in structures or behaviour?

Van der Meer concludes that if evaluation is to enhance organisational learning the following should be considered:

(a) impacts of evaluations are constructed by actors, using their existing repertoires (defined as stabilised ways of thinking and acting among one or more of the involved actors);
(b) construction processes do not take place in isolation but in the context of other actors and other construction processes, which supports our argument that reforms of VET should be understood in a broader institutional context;
(c) a decisive point in determining the substantial impact of evaluation lies in the linking of new elements in the evaluation to elements in existing repertoires and/or to their contribution to loosening existing anchors of repertoire elements;
(d) the mode and content of evaluation should link to the repertoire of one or more of the involved actors. Knowledge of repertoires can help to initiate explicit discussions on central presuppositions and value dimensions embedded in these repertoires, which may enhance interaction processes and linkages;
(e) knowledge of different repertoires may help tailor evaluations to trigger unconventional interactions in the policy area which may give rise to new types of learning processes. An essential element of evaluating, aiming at learning, should be to take account of the contexts as perceived by the actors in the policy arena.
4. An analytical framework for case studies

The notions from the former chapters are used to develop an analytical frame to describe the use of evaluation in VET system change policies in Denmark and the Netherlands. Three main clusters of items are in this frame: the VET-approach; the systems change approach and the evaluation policy. The emerging knowledge economy causes paradigm shifts in the way people are becoming and remaining skilled for work. This shift demands changes in the institutional arrangements around employment and especially around VET, which makes the governance of systems change in VET a complex and subtle enterprise. Evaluation experts argue that a learning policy is the only way to deal with this uncertain and complex process; a top-down approach is a dead-end road in complex systems change.

Governance of change should be designed as a learning and experimenting route in which interactivity and creativity are the basic ingredients and in which the regulatory load is as lean as possible.

The case descriptions are quite process-oriented: the process of policy-making and the use of research and evaluation are tools in this policy-making process. The descriptions should give a glimpse of educational philosophies but this article is not primarily about the ‘outcomes’ of VET policies in terms of system characteristics.

After the case descriptions, a meta-analysis is done to answer the question of how evaluation is used in both systems change processes, ending in some conclusions and developmental views (a time line evolutionary perspective).
5. The Danish case: VET Reform 2000

This section introduces the most recent reform of the Danish VET system – Reform 2000 – with a discussion of some of the main policy and pedagogical challenges that formed the basis for the reform. Both from a policy and from a pedagogical perspective the Danish reform was initiated, designed and implemented in ways that consciously aimed at fostering a learning environment in the interplay between policy formulation and the invocation of what, from the outset, was defined as a new ‘learning topography’ (Christensen, 1999).

5.1. Policy design in a climate of change

The Danish VET system is deeply rooted in the tripartite system. Prior to the reform this was for example, reflected in an entry construction for each industrial branch and sector mirroring a traditional industrial structure. There were intense debates on how VET within the tripartite structure could deal with a profound reinvention of its systems and institutions to meet changing system requirements. One of the basic arguments was that an accelerated pace of innovation change calls for changes in the whole curriculum and didactic thinking as depicted in Table 2.

A trend in the learning economy is that innovation cycles are getting shorter (IPTS, 2000), and constantly being disrupted by technological innovations in a creative destruction process, as Schumpeter first pointed out. It could be argued that this is one of the driving economic forces behind an increased policy focus on lifelong learning and emphasis on core skills. When existing knowledge repositories are more quickly

Table 2: Setting a new context

<table>
<thead>
<tr>
<th>Issue</th>
<th>Industrial economy</th>
<th>Learning economy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Markets</td>
<td>Stable</td>
<td>Dynamic</td>
</tr>
<tr>
<td>Scope of competition</td>
<td>National</td>
<td>Global</td>
</tr>
<tr>
<td>Organisational form</td>
<td>Hierarchical</td>
<td>Networked</td>
</tr>
<tr>
<td>Organisation of production</td>
<td>Mass production</td>
<td>Flexible production</td>
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<tr>
<td>Key drivers of growth</td>
<td>Capital/labour</td>
<td>Knowledge/innovation</td>
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<tr>
<td>Key technology driver</td>
<td>Mechanisation</td>
<td>Digitalisation</td>
</tr>
<tr>
<td>Source of competitive advantage</td>
<td>Economies of scale</td>
<td>Time to market, innovation</td>
</tr>
<tr>
<td>Relations with other firms</td>
<td>Single mover</td>
<td>Alliances and collaboration</td>
</tr>
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**Workforce**

<table>
<thead>
<tr>
<th>Policy goal</th>
<th>Full employment</th>
<th>Employability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupational profile</td>
<td>Fixed tripartite regulated professional identity</td>
<td>Converging and continuously emerging and being reshaped; tied to contexts and technological advance</td>
</tr>
<tr>
<td>Skills</td>
<td>Job specific</td>
<td>Multidimensional (deep and broad foundation skills)</td>
</tr>
<tr>
<td>Requisite education</td>
<td>A skill – a degree</td>
<td>Lifelong learning</td>
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</table>

Source: Adapted from Atkinson, 1998.
made obsolete, the demand for ‘learning to learn’ skills and other core skills grows in importance as a central educational concern.

In a Danish reform context this translated into demands for a legislative framework that could accommodate continuous change in the curricular structure and supply as a result of changing skills demands, without necessitating a change in the legislative base. The institutional settings in VET have traditionally focused on skills formation through instruction and imitation. With the reform, the learning environments would change from instruction and teaching to a situation where the learning agent is more successful in pursuing his/her own goals, fostering learning-to-learn competences.

5.2. Preparatory phase

From the end of 1997 and through half of 1998 there were extensive discussions within the tripartite system and preparatory work was carried out which formed the basis for legislation 234, the so-called Reform 2000. The legislation was approved by the parliament in April 1999.

In the preparatory work, the Ministry looked to international research and experiences. From Finland, the modularised structure with individual pathways has influenced current thinking about flexibility in the organisational structure and supply. The concept of an educational topology introduced by OECD (1998) has been influential in the new terminology. In this landscape the student is an active voyager and discoverer, defining his or her path rather than simply succumbing to the mode of instruction and the predefined and fixed curriculum fabric of the educators.

An internal task force was constituted to examine how these concepts could be translated into a new legislative practice and to critically examine current barriers in the legislative frameworks. On this basis they were to provide some governing principles as a foundation for a new model for a descriptive curricular framework (Danish Ministry of Education, 1998). The new descriptive framework should enhance three central areas:

(a) individualisation of progress, content and form;
(b) more emphasis on learning rather than teaching;
(c) enhanced and more flexible ways in the descriptive framework; learning offered in situational arrangements to allow for a holistic approach; integrating technical, practical, personal and general competences.

The main recommendations from the group were:

(a) more flexibility in the descriptive frameworks and taxonomy to ensure dynamics and continuous innovation in the curricular offer;
(b) a clearer organisation of the descriptive levels, including an introduction of a new element of authorised administrative teaching guides to ensure a continuous adaptation without necessarily changing the legislative frameworks;
(c) replacing traditional taxonomies to provide a uniform terminology in the description of goals and ways of communicating intentions at the different levels;
(d) quality development should be constituted at a central legislative level so that quality intentions, indicators, criteria and verifications can be defined in the individual course programmes and educational guides.

The recommendations from the task force prior to the reform later set the stage for the follow up and evaluation of the first piloting of the reform (Shapiro et al., 2000).

5.3. Creation of an environment of change

Parallel to the introduction of the reform, the Ministry took several steps to create an environment of change in the implementation of the reform. The most important actions were:

(a) a study for a new didactical paradigm for the reform, providing a model for a descriptive framework in line with the intentions of the legislation. This would replace existing taxonomical thinking and at the same time govern the description of goals and pedagogical arrangements (Shapiro and Christensen, 1999);
(b) from summer 1999 up to the full implementation in January 2001, the reform was gradu-
ally piloted in several schools to better understand at an early stage structural, organisational and pedagogical implications which might require further policy actions;
(c) the Ministry initiated several training of trainers initiatives with the support of the Danish vocational educational teachers’ organisation;
(d) several development projects were commissioned to practitioners in the schools with process support from DEL (Danish Institute for educational training of vocational teachers) concerning the development of tools and practices that could support the change processes (1);
(e) the Ministry commissioned the specification and the development of a web-based infrastructure and tool, ‘Elevplan’. Its goal was to enable the schools to create an environment that could manage modularisation and support students in the individualisation of choices and planning of their education. The specification of the web-based tool was developed with the heavy involvement of school practitioners and other actors with expertise in the reform;
(f) two concurrent evaluations in the pilot phase of the reform which will be described in the following sections.

5.4. Main new elements in the reform

Reforming the descriptive frameworks involved both a continuation of known elements and development and integration of innovative elements. Among the most important known elements were the general ministerial order, the education order and the local educational plan.

The most important innovative elements were:
(a) the student’s individualised and documented learning pathway;
(b) a logbook, possibly developing as a learning portfolio;
(c) guidelines for the ministerial orders;
(d) an expansion of the ministerial order with provision for evaluation of results and quality development in connection with the educational offer;
(e) a modular structure in the curriculum combined with a broader descriptive framework.

The legislation was amended in order to emphasise and legitimise the individual student’s opportunities as the active party in the learning process, shaping his or her individual learning process. The legislation operates with a general and an individual axis. Central, potentially innovative instruments were legitimised through the main legislation:
(a) the student’s personal educational plan, laying out the roads and the pathways in the learning landscape;
(b) the logbook, as a practice narrative and a linkage between school and workplace learning in the firms;
(c) the contact teacher, facilitating the development of the student as a didactician and in ensuring the linkage between the collective and the individual pathway.

The reform and the didactic framework developed (Shapiro and Christensen, 1999) were to offer a pragmatic basis and a terminology that provided enough space for concrete and local imaginative and reflective actualisation. Not as a well-defined master plan, one model suits all, but as a basis for planning situational learning arrangements in a Danish context defined as guided participation (Nielsen and Kvale, 1999).

The student should therefore become an active agent in gradually learning to define and reflect on his/her own way through the learning landscape rather than merely following an externally predefined signposted road. The metaphor ‘the student as a didactician’ is used in the pedagogical paradigm to denote this change. It means that the student gradually engages in a reflective planning process and takes possession of the didactical space. This arena has traditionally only been inaugurated for actions by planners whose role was to lay the choreography and by the teachers whose role was to direct and instruct through the lesson plan (Shapiro, 2002).

(1) Many of these projects have later been published on the web so that they are widely accessible.
5.5. The evaluation of Reform 2000 in Denmark

5.5.1. First evaluation: November 1999 to February 2000

Most schools were already collaborating within a regional structure prior to the reform. In the first pilot phase starting in August 1999, five of those regions participated in the pilot scheme with all or some of the new ways into the entry programme. In early October 1999, the Ministry of Education sent out a restricted tender to carry out an evaluation of the first experiences with the reform. The Ministry of Education consciously avoided the use of the term ‘evaluation’ calling it ‘a reflective gathering of experiences’. The aim of this first evaluation was to inspire and assist the Ministry, the directors of the schools, the teachers, the National Institution for Vocational Education and the social partners (the local councils) in the further implementation of the reform. The evaluation was to identify both current barriers and difficulties and those promising new practices that could guide reform implementation or where further policy interventions were needed. After the tender brief, the Technological Institute was commissioned to carry out this evaluation, which took place between early November 1999 and early February 2000.

The evaluation included a survey among all the school directors involved in the pilot, at top and middle management levels, a sample of the teacher population and a sample of the student population. The latter was complementary to a case study.

The themes to be covered were:
(a) perceived changes in work and professional profile and how that was dealt with;
(b) knowledge about the reform and how the actual implementation was perceived among the different actors;
(c) information and collaboration among the different actors;
(d) implementation models, qualification demands, frameworks and conditions, the overall vision;

Figure 2: The legislative framework

<table>
<thead>
<tr>
<th>The general axis</th>
<th>The individual axis</th>
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<tbody>
<tr>
<td>The central level</td>
<td>The student’s personal plan</td>
</tr>
<tr>
<td>- legislation</td>
<td>The student’s ‘log book’</td>
</tr>
<tr>
<td>- main VET regulation</td>
<td></td>
</tr>
<tr>
<td>- other regulations, i.e. core subjects, guidance … special assistance</td>
<td></td>
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<tr>
<td>- educational regulations and guiding administrative instructions</td>
<td></td>
</tr>
<tr>
<td>- quality and assessment framework</td>
<td></td>
</tr>
<tr>
<td>The local plan</td>
<td>The concrete implementation</td>
</tr>
<tr>
<td>- the local educational plan</td>
<td>- the actual learning offer (education- modules)</td>
</tr>
<tr>
<td>- other local conditions (principles for implementation of quality and assessment)</td>
<td>- regional school collaboration concerning supply</td>
</tr>
<tr>
<td>- ICT infrastructure – ‘Elevplan’ – to support planning and the student’s choice and arrangement of an individual pathway</td>
<td>- teachers teams planning</td>
</tr>
<tr>
<td>The concrete implementation</td>
<td>- the local educational plan</td>
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<tr>
<td>- regional school collaboration concerning supply</td>
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<td>- ICT infrastructure – ‘Elevplan’ – to support planning and the student’s choice and arrangement of an individual pathway</td>
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experiences with roles, instruments and structures;
(f) the contact teacher, organisation and qualification for the new role.

5.5.1.1. Approach taken
As part of the design process, both surveys and the qualitative frameworks were presented to and discussed with representatives of all the key actors to ensure engagement and relevance of the process. Parallel to the collection and analysis of survey data, focus group interviews were set up with members from school councils and teachers' unions. The 29 focus group interviews were supposed to target coordinating forums at national regional and entry levels. During the evaluation it transpired that many of those forums had not yet met and that the evaluation was instrumental in putting 'the breath of life' into these areas.

Despite the tight time scale and implementation pressure in many of the schools during the first phase, our experience was that the participatory evaluation design resulted in open and willing desire to share and debate the implementation process. A common comment from many of the participants in the evaluation exercise was that the focus group meetings led to an important dialogue between the participants that helped shape some of the implementation efforts.

5.5.1.2. First findings
In one region, a centralised approach was taken to the first implementation phase. The centralised approach was a conscious decision from the board of directors in the school region to ensure consensus in the overall implementation approach. The belief that it could be used to advantage in speeding up the implementation process by facilitating the sharing of developed materials and tools among the schools concerned, was in fact borne out. Judged from that perspective the approach was quite successful and had the advantage of developing a strong collaborative network among middle management. The teachers, however, were critical of this approach as in their view their involvement in the decision making process came too late. Major decisions had already been taken, having a demotivating effect and giving rise to organisational difficulties in terms of implementing those decisions.

In the other regions a more decentralised approach was taken where learning by doing was the central development strategy. This ensured that many of the teachers felt more motivated to work the reform in practice but it also led to considerable delays in developing central pedagogical tools. This approach made it difficult to balance an ideal pedagogical development process and the daily operational practice with the concrete demands from students and other stakeholders.

In the second pilot phase the number of schools and means of entry were extended. There was more focus on the middle manager's role as a catalyst of change not only in relation to changing pedagogical process and practices, but also in relation to their role as carriers of debate and information. As the reform process progressed, the National Institute for Vocational Education developed different training programmes and approaches for middle management acting as reform consultants. Directors from schools, the teachers and their representatives have pointed to this programme as a central component in the implementation process. From August 2002 a comprehensive competence development programme organised as action learning has been implemented in collaboration with the Ministry of Education and the National Institute for Vocational Education where the local reform agents play a central role.

Unsurprisingly, both managers and teachers found that the reform increased their workload considerably in the first phases. According to surveys one of the biggest changes for both managers and teachers is the reshaping of professional identities and roles. Management and middle management had to work more proactively with information and delegation strategies, and they have had to develop a planning understanding with a much tighter fit between leadership, administrative planning, logistic and pedagogy. More importantly, they have had to learn to be carriers of constant and value-based change. The reform agent training initiative has been central to bringing about this change, as have the meeting forums established between the schools. Many teachers have had to identify themselves as facilitators rather than
teachers in the traditional sense having to begin working in communities with a broader branch and technological perspective. For many this was and is still a difficult process and has in many cases led to considerable stress.

After the first three months 25% of the teachers surveyed considered looking for another job. One solution already implemented is the formation of teachers' teams with different occupational profiles. The local development projects started with financial support from the Ministry have also been vital in introducing new professional identities for those teachers directly involved in developing new tools and materials.

5.5.1.3. The didactical framework
Prior to the reform many of the schools had already been engaged in a more project and problem based learning environment. An initial assessment of some of those projects, however, showed that much of the so-called project and problem-based learning was based on a pre-defined problem area.

Small schools had particular problems with the combination of cross-curricular integration and individualisation at the same time. The student base was simply not big enough to offer a variation in projects that could also be chosen at different levels and/or learning styles, even when the traditional classroom structure was abolished. One of the central questions concerning individualisation which is still on the agenda is how to design those learning frameworks so that they accommodate the needs of different student groupings, not only in an academic and professional sense, but also socially. Some schools consciously chose to have a more limited selection of project opportunities so that students would not constantly change between teachers and different groupings of fellow students.

‘People need both a social and a professional reference framework to develop. In the constant hunt for an individualised pathway we might easily neglect the students’ personal needs and reference points which in fact constitute their learning and development basis’ (Shapiro et al., 2000).

5.5.1.4. The new student role and the contact teacher
Both the survey and interviews conducted showed a high degree of student satisfaction. In the survey 67% of the students responded that they were always, or almost always, thriving in their school environments. The first evaluation showed that older students, regardless of their background, thrived in the new environment with a higher degree of autonomy and possibilities to plan and influence their educational pathway.

A central new element in the reform has been the definition of the contact teacher function. For the students the contact teacher is an important anchor in developing their ‘learning to learn’ and ‘learning to plan’ qualifications, even if at the time of the first evaluation several of the tools to support those processes were not in place. Many contact teachers also felt that this role enabled them to give more varied support strategies to different student groups.

5.5.1.5. Dissemination of findings
The results of the evaluation were published in a main report as well as on the web, comprising findings and a write-up of main findings plus an annexed write-up of all the interviews and survey data. A one-day seminar was organised with several hundred participants, where the findings were presented and debated in a series of workshops. Regional workshops were also held with their point of departure in the evaluation findings. This formed a central element not only in exchange of experience but also in the creation of a ‘common reform narrative’.

5.5.2. Second evaluation: October 2000 to February 2001
From January 2000 and again from August 2000, the pilot was expanded so that it involved almost all schools and entries that were approved by January 2001. Where the first pilot phase comprised only the programme basics, the pilots from 2000 also included the specialisations within some of the programmes.

In early September 2000, the Ministry of Education sent out a second restricted tender. The evaluation took place from mid October 2000 until the end of February 2001, carried out by the Technological Institute. Again the aim was to draw attention to barriers and problems in the implementation of the reform as well as practical solutions and strategies undertaken to realise the intention and aspirations of Reform 2000. The evaluation was to include the eight regions and all the entries. Additionally, the evaluation was to
comprise those schools that were piloting the specialisations at this stage (storage and logistics, train assistance, forestry, chauffeur). Survey themes were mostly built on the first survey and able to capture changes in perceptions and practice over time. A sample survey was performed among students that had dropped out of the programme/entry they had originally chosen (telephone interview sample of 410).

A qualitative analysis comprised 16 focus group interviews with managers and teachers, 14 interviews with apprenticeship companies at both apprentice and employer levels and 56 interviews with local educational councils and teacher union representatives.

Themes covered were:
(a) organisational structures and changes;
(b) the pedagogical space;
(c) instruments and roles;
(d) qualifications measures and organisational development;
(e) experiences with roles, instruments and structures;
(f) information and collaboration;
(g) companies and the apprenticeship scheme.

5.5.2.1. School organisational initiatives
Whereas the first evaluation showed that the organisation of the basic programme in all school regions built on the same five-week module structure and with a fairly fixed duration of 20 weeks, considerable change had taken place in the following period, also tied to more variations in pedagogical models. The second analysis of experiences showed many different models for organising the curricular structuring. Several schools were working towards models more flexible than the five-week module. This also involved innovation in the layout of the physical settings and organisational frameworks, using for example, ‘own learning time’ where students work individually or in groups on a project or a particular task with access to some counselling by appointment.

In response to converging sectors and branches and to meet requirements for more flexible qualification structures, one innovation in the reform is that the many individual trades and professions are now organised in six broad entries in the basic period:
(a) technology and communication;
(b) building and construction;
(c) crafts and technique;
(d) from earth to table;
(e) mechanics, transportation and logistics;
(f) service.

This has also led to demands for a more holistic and integrated approach to curriculum development across topics and trades within the specific entries. In the first round, responses to these challenges had at times attempted some integration. Students with an apprenticeship for a particular profession would, for example, switch to a school where particular facilities were in place for a particular trade. There were also examples of team-teaching in integrated workshop settings where facilities permitted. At the time of the second evaluation there were still unsolved problems concerning family formation between similar trades versus a wider integration across all trades in entries. Problems such as teacher competences, the physical setting, equipment, as well as ‘VET-school traditions’ remained. The first evaluation showed that different groups of schools tried to compensate for some of these problems by giving the students the opportunity to change schools. In the second round students who had chosen a particular trade were well aware which schools covered which education opportunities and chose accordingly. This development is ascribed to the fact that the initial counselling and guidance of students at the time of the second evaluation was now almost fully implemented in the schools.

The second evaluation showed more flexibility in the duration of modules and basic programmes and of content and learning style. Parallel to the first pilots, the Ministry of Education together with teachers and other specialists had initiated a specification and development of a web-based tool to facilitate modularisation, planning and selection of activities for both teachers and students. In the second evaluation the implementation of the tool began with the positive expectation from both teachers and administrators that it was not just another administrative device, but that it could enhance the delegation of planning autonomy to teachers groups and facilitate students’ planning competences.

5.5.2.2. Variations in strategies with different student groups
The different groups of schools were now actively working with different strategies to make
allowances for students who had not made their final education choice and for the educationally or socially weak students. This occurred through various pedagogical initiatives and through different forms of flexibility during the basic programmes. The flexible length of the basic programme created problems for the educationally ‘strong’ students taking supplementary courses thereby prolonging the basic programme prior to the apprentice scheme, because apprentice companies still had a notion about a fixed duration programme. One of the pillars of the reform has been the concept of an individual pathway for a student to develop their planning and learning to learn competences. In reality some of the weaker students are neither ready nor motivated to engage in this co-planning and continuous selection process. They tend to select and plan as their closest friends. Since the evaluation many schools have started developing the planning and selection process as a continuous and competence-development process, rather than regarding it as a competence all students have when they start. There has also been debate on whether students who had already made their choice should have this challenged, or whether the 20-week basic apprentice pathway should be shortened.

5.5.2.3. Project pedagogy and assessment

Whereas the organisation of subjects in cross-curricular projects is perceived as positive by teachers and students alike; selection and planning was seen as too complex. Some schools have therefore chosen to offer shorter projects or projects with a flexible duration. Students thus have more options to choose from across modularised subjects in families rather than across the whole entry which may consist of as many as 17 different trades (such as in the entry Crafts and Technique).

Overall, programme projects began to have a more prominent role than previously with the integration of theoretical subjects such as IT and mathematics, combined with more focus on new, more process-oriented assessment methods that can support the project work method. However, at the main programme level the ministerial order on basic subjects was seen as a barrier to new forms of assessment. After the second evaluation was carried out, the Ministry of Education has initiated development work in collaboration with schools to look at alternatives in assessment.

5.5.2.4. Teachers’ involvement in the change processes

As a consequence of the reform many schools have delegated more autonomy to the teachers, giving them more direct influence and responsibility for administrative and pedagogical planning processes. The second evaluation showed, however, that teachers continue to have little influence on conditions relating to financial management, which traditionally is the responsibility of the management. A typical explanation from middle management would be that finances were so limited that they were afraid to relinquish control of the budgets.

Prior to the planning of the common action learning programme, some schools voiced a need for acquiring new skills, not only relating to changing pedagogical and organisational practices, but equally to acquire tools and methods. Consequently, pedagogy and financial and administrative management could be more tightly interwoven in the pedagogical practice.

5.5.2.5. Instruments for pedagogical innovation

Approximately two thirds of the teachers surveyed in the second evaluation have had the opportunity to participate in development or planning activities related to innovation in pedagogical practice and curriculum.

Parallel to the pilot of the reform, the Ministry of Education had a funding mechanism where groups of schools could apply for funds to initiate particular development activities of relevance to the reform. Those development projects, at times together with process consultancy offered by the National Institute for Teachers Vocational Education, have been a central source of qualification. An explanation is that participants have been able to relate them to practice and practical problems in an experimental and reflective manner, as such functioning as communities of practice. However data from both surveys and interviews have shown that the research and development projects outside their particular environment have not had as wide an organisational impact as was intended. One reason seems to be that organisational frameworks and communities were not created as part of a wider pilot organisation so that they could ensure the organisational
anchoring of the research and development projects’ processes and results. Consequently, the research and development projects often ended as tacit knowledge among the participants and of little practical use for wider groups. Since the second evaluation, the Ministry of Education has decided to have all the research and development reform projects analysed and structured as a pedagogical resource base as part of the action learning scheme.

5.5.2.6. Roles and governance structures
In many ways, the organisation of the wider entries mirrors developments in the labour market concerning convergence of trades and jobs. Within tripartite educational systems such as the Danish, the evaluation data raises the question of how these developments can best be reflected in the organisation of trade committees in the future. This is not least an issue when it comes to emerging new job profiles for which there is not a national trade committee or union. Evaluation data highlight the issue of whether the traditional tripartite structure is the most appropriate to develop a more dynamic and concurrent flexibility in VET programmes, for example in technology and communication that have undergone heavy economic and technological fluctuations in an economic down time. In a wider perspective the risk may be that vocational educational programmes will be outdated before they are even implemented and therefore replaced by certifications with a much shorter employability perspective.

5.5.2.7. The pedagogical space
Students’ joint responsibility for their own learning has given teachers many challenges, since few students have been able to define their own learning pathways and successively be confronted with different choices of a more or less complex nature. For educationally and socially weak students, some teachers have worked with planning and choosing skills that progressively should be developed as lifelong learning. For some students the concept of joint responsibility for their own learning has in their view turned into a laissez-faire attitude from teachers not sufficiently challenging their choices.

5.5.2.8. Roles and instruments
The professional identity of the teacher as an expert of a certain trade is profoundly challenged in favour of a role as a process facilitator being able to handle professional and pedagogical breadth and depth with both students and in the team of colleagues. Establishing open and more problem-based and experimental learning settings and the higher degree of individual guidance of students tend to provoke many teachers’ basic understanding of themselves as the professional master of the learning space. The uncertainty as to whether or not the educational goals can be reached through their teaching makes teachers ask for particular tools to understand the projects’ subject-related complexity and to link them safely and uniformly to the subject-related standards. This concerns both the teacher’s perception of what constitutes and should constitute their professional competence and identity, but it is also related to a concern about ‘safeguarding’ the students and giving them what they perceive as proper guidance.

At the time of the second evaluation most managers felt extremely pressured by the financial frameworks. Data clearly showed that when managers felt uncertain about their own competence base they seemed to stick to old managerial routines, as inappropriate as they might be.

5.5.2.9. The contact teacher
The first evaluation already pointed to the implementation of the contact teacher as an immediate success in the eyes of teachers, management and students alike. This was also the case in the second evaluation. Among the many new instruments introduced with the reform, the contact teacher role is one area where the teachers feel they are best equipped to handle the challenges of the reform. In interviews with contact teachers they often found it difficult to draw the line between the educational tasks belonging to the contact teacher and those belonging to the student counsellor and ultimately to social agencies as more and more students are referred from social authorities with a variety of difficulties. It is a common perception among contact teachers that guidance of the academically weak may prevent dropouts and enhance their satisfaction with the school because initiatives such as special pedagogical support and special teaching to support the student’s learning are introduced early in the programme. Interviews and survey data from students seem to support this view.
5.5.2.10. The logbook and personal educational plan

Survey data as well as interviews show that neither managers nor teachers believe that the personal education plan and logbook were useful for learning and the apprenticeship scheme. As in the first collection of experiences, the schools struggled to make the logbook an active instrument in the planning of the students’ education and not a ‘dead’ file that is only updated on the initiative of the teachers/contact teacher.

Ideally, the logbook must also accommodate the variations in students’ learning and development profiles in line with some of Gardner’s theories about the seven intelligences (Gardner, 1997). Reasons for failure may be that much dialogue with the contact teacher takes place in specially organised sessions outside the concrete practice context and that the assigned contact teacher will have little previous knowledge about the student from actual practice in a teacher-student relationship. Furthermore, if we assume that ‘know-who’ and ‘know-how’ competences are contextualised and tacit in nature as argued by Nonaka and Lundvall (Nonaka, 1995), then it can be a problem for the students to reflect over those type of competences outside the actual practice.

5.5.2.11. Apprentice companies’ knowledge of and experience with the VET reform

The second evaluation provided a first and limited view for apprentice companies on the VET reform. Even now, much work remains to inform apprentice companies about VET reform and the increased flexibility it offers compared with earlier arrangements; the lack of apprentice companies being one indicator.

To create comprehensive and integrated VET programmes, efforts and examples are needed to illustrate changing relationships between the school and the company that can best accommodate genuine apprenticeship-based learning. Cooperation appears to have worked best where the logbook has linked the apprentice, the company and the contact teacher in a joint effort. An example is that the logbook supports the student’s work experience history to the company and simplifies planning of the next apprentice period by both the student and the company. The student can then, once back at the school, convey processes and results. In those cases the logbook begins to function as a learning portfolio which ensures and codifies continuity in the interaction between the different players. In other instances, the student was still more or less the primary carrier of the professional interaction. To many students there often appeared to be a big discrepancy between the reality of the school and that of the apprentice company. The primary focus of the student is on shaping a professional identity and the school environment is often perceived as prolonging high school culture. Even though only one of the case companies, together with the school and the student, had implemented full operational use of the logbook as a model of cognitive apprenticeship (Collins et al., 1989), several interviewed companies had developed frameworks for the apprentice. A common characteristic of those companies was a gradual shaping and integration of professional and social identity through a planned delegation of and complexity in tasks and assignments within a working team. The students would perceive such a practice as a situation ‘under control’ and as if they were full members of a working community, while still learning and developing. For some students this was contradictory to the ‘as if’ school reality, where the broader frameworks and opportunities were perceived as a lack of plan and direction and where they did not necessarily perceive themselves as ‘co-planners’ in the school environment. This again raises the question of understanding joint responsibility for own learning and how this competence can be developed by a dynamic interaction between the school and work, based on training in the dual system while not creating an understanding of a split universe for the student.

5.6. Final comments on the use of evaluation in Reform 2000

When the Danish VET reform was designed and implemented the Social Democrats were still heading the government. The Liberal Party has since come into government taking a more critical stance on the use of research expertise to govern policy formulation.

When the two evaluations of the Danish reform were designed it was intended to create an evaluation and framework that was both useful and usable, despite severe time and budget constraints.
The evaluation framework was designed to:
(a) understand the context of change: collect baseline information about the school environment, teachers and managers;
(b) inform on what was possible, taking into account constraints tied to, for example, building infrastructure, variations in student populations across schools, etc., to record ‘good practice’ across a variety of realities and identify potential barriers that could be improved through policy action;
(c) learn how change was organised and introduced: track processes and decisions and how they were perceived by different actors to identify successful models or components.

The likelihood of evaluation findings being used to inform and influence policy and practice will, to a large extend, depend on the form in which its findings are made available (Boaz, 2002).

Our experience with the Danish VET reform was, as Boaz also recorded, not only a matter of making available a range of written material, published both in print and on the web, to specific audiences but also our willingness and ability to present and debate findings and policy recommendations with different stakeholders. Often this is only budgeted for to a limited degree and often does not take into account in the time scale laid out in the tender brief.

A reform of the commercial colleges has been approved and is currently under development. It can be seen as a continuation of Reform 2000 by expanding the structural flexibility of the system to provide for previous working experience, expanding academic qualification options within a vocational system and strengthening continuous entry/exit options by offering partially-recognised qualifications. These changes fall within the rhetoric of a lifelong learning agenda and improve system efficiency.

Evaluating findings clearly pointed to the need to tie skills development to daily working practice and to ensure a higher level of knowledge exchange between teachers across schools and regions. This has laid the foundation for developing a national scheme coordinated by the National Institute for Training of Vocational Teachers. However, the initiative builds on principles of action orientation and organisational learning with a strong involvement of local teachers and middle management acting as coaches and change agents. The initiative is very flexible in that different schools and school regions can tailor a programme both in terms of content and pedagogy, to suit their particular needs.
After 20 years of political debate and preliminary legislation, a new law on vocational and adult education was launched in the Netherlands in 1996. This law, the WEB, is built on several developments running since 1980. Nijhof (1997) describes this systems transformation in detail. The Dutch VET system changes are targeted at system efficiency therefore most transformation took place on the institutional and organisational levels.

Two major perspectives, regional and sectoral policies, played a role in the design of the WEB. The regional perspective has led to the formation of large regional training centres (Regionaal opleidingencentrum – ROCs) with a high degree of autonomy. The sectoral policy is based on the implementation of sectoral qualification structures, in which the labour-markets demands are translated into educational trajectories. These two perspectives are not completely complementary: with their qualification structure, social partners try to reduce the autonomy of the ROCs. The main sector in each region will be the critical factor for the implementation of the WEB. The Dutch parliament has obliged the Minister for Education to present a formative evaluation of WEB before the end of 2001. Consequently, in 2000, seven research teams have been working on several evaluation topics, which has led to an evaluation report in the summer of 2001 (Stuurgroep Evaluatie WEB, 2001). Some key results will be presented in the next section.

6.1. A short history of changes in Dutch VET

Until 1968, VET was closely regulated in the Netherlands. VET comprised a few small courses based on private initiative and not financed publicly. In 1968 a new law on secondary education was launched, in which vocational education was envisaged for everybody: after a period of general education each student should undertake vocational education in preparation for the labour market. After each level of general education a form of vocational education was organised in the new system for secondary education. Lower or junior VET was for students directly from primary education; secondary VET for students from junior general education; higher VET or professional education and universities for students in general secondary education. Apprenticeship courses were not regulated in this educational law, but were provided for in separate legislation (De Bruijn, 1997).

Soon after establishing the 1968 law, the ‘system’ for VET was seen not to be as systematic and complete as intended. There was no uniformity in level, duration and design of courses and the structural supply did not cover all the educational demands. This was particularly so for graduates from the junior VET, with a shortfall in their training supply: labour-market demands were higher than their qualifications and the training and course supply within the educational system and the apprenticeship system failed to serve all these students. This became a major problem in the economic recession of the late 1970s and several experiments and initiatives grew to fill in this systemic gap.

Since 1969 two movements in the development of Dutch VET can be seen: a search for efficiency and a fight for accessibility of lower educated youth. The efficiency search began in courses for health care education. Steered by the Ministry of Education, 35 small courses were merged and organised in separate schools into a transparent system of care education. In 1983 this process ended with larger colleges for sociopedagogic education. In the next decade these colleges adopted courses for nurse education which, until then, had been in-service education under the responsibility of the hospitals. Around 1995 the merger between sociopedagogic education and nurse education was finalised. Alongside the process in the healthcare sector, the technical and economic educational infrastructure became involved in the merger policy: the SVM-law was launched in 1986,
targeting the merger of healthcare, economic and technical education into regional colleges for vocational education. ‘S’ stands for developing a strong VET sector materialised in the organisation of regional colleges. ‘V’ stands for educational innovation, of which the design of a qualification structure, supported by tripartite committees, was the most significant expression. ‘M’ stands for secondary VET. This merger process resulted in 45 regional colleges for VET around 1995. In addition, some specialised colleges and 12 vertically-organised agricultural colleges completed the educational infrastructure for VET in the late 1990s.

The fight for accessibility of VET for low educated youngsters took place alongside the merger processes. In 1969 the Minister for Education published a paper on the educational position of this group at risk. In the paper the rights of youngsters (under 18) to one day's schooling a week was recognised (although it had already been formalised in the labour law of 1919!) and translated in partially compulsory education (one day a week). Under the auspices of participatory education, a movement of educational innovation started to develop specific education for these groups. However, 10 years of political-educational argument still did not result in commonly accepted vocational paths. The economic recession on the end of the 1970s was a major cause of the failure: in 1980 the Minister for Education launched short full-time vocational education opportunities to fill the educational gap. From the employers' side these were viewed with suspicion, as they trusted only the apprenticeship model. In 1983, a committee for industrial development sounded a warning, stating that good vocational education for all should be the common responsibility not only of the educational system but also of the labour system. This had a shock effect, partly because it came from an unexpected source. All stakeholders agreed within a year on a unified system in which full-time and dual courses were accepted equally and in which the steering principle of a common qualification structure should be the main line of educational development. Each student should be qualified at an entrance level, comparable to the apprenticeship courses and both the labour and education worlds recognised the common responsibility for this target.

Consequently, the picture of VET in Holland at the beginning of the 1990s shows regional colleges in development and a mixed trajectory model combining dual tracks and school-based tracks for the lower and higher levels in secondary vocational education. The WEB, the 1996 law on vocational and adult education and training, forms the final legislative cornerstone. The regional colleges merge with the schools for the supportive training in the apprenticeship track and many kinds of adult education, ranging from second chance general education, through language courses for immigrants to in-house development of workers. The WEB is meant to round off the legislative efforts for building a responsive VET system, able to deliver all kinds of courses and training at secondary level.

6.2. Features of WEB-1996

The main features can summarised as follows:
(a) integration of initial and continuous VET: under the WEB adult education (both vocational and general) and vocational education are combined in one coherent framework. ROCs should provide both types of education and training. The policy instruments and the institutional systems are unified;

(b) social demands and economic demands: the main issue is preparing and supporting youngsters and adults for lifelong learning, according to the needs of a rapidly changing economy. Social demands are fulfilled by a general target for basic qualifications (qualified to participate in the economy). For all entry levels of students the system should deliver appropriate courses. Economic demands should be fulfilled through output definitions (steered by a qualification structure) and the opportunity for training centres to enter the training market. The output definitions should not be biased for training trajectories: it should be possible to reach the same output via different pathways; both company-based and school-based;

(c) regional perspective: the training infrastructure is organised by region. The ROCs are mergers of the former sectoral vocational schools, the adult education centres and the apprenticeship support structure. Together
they form large community colleges with 15,000 to 30,000 students and apprentices: in fact they have become the largest educational organisations in the Netherlands. They cover all occupational sectors, except agriculture and some smaller sectors. The ROCs should cover all the occupational training needs on secondary level (EU level 1 to 4) in their region;

(d) sectoral perspective: the needs of industrial branches and occupational sectors should be satisfied via the regulation of goal definition. A qualification structure contains all recognised courses, formulated in output terms. Social partners, organised in 21 sectoral bodies, are responsible for the definition of qualifications; the Minister for Education will legitimise all proposed qualifications, under the restriction of transparency. The ROCs have to apply for permission to deliver the appropriate courses for their region. Examination boards, in most cases connected to sectoral bodies, verify the quality of assessment and examination by the colleges. This enables, sectors and branches to have input to and a responsibility for the quality of the system;

(e) autonomous colleges: within the boundaries of the qualification structure (product definition), the examination regulation (quality definition) and the application rules for courses (financial frame), the colleges are autonomous to deliver the courses. They can choose content, didactics and the organisation of practical learning to their own insights. They are responsible for a public quality report each second year and the inspection service of the Ministry checks their quality policies. The regional market should regulate their quality but their monopolistic position makes this inefficient.

To achieve this ambitious set of goals, WEB-1996 contains legal instruments both at institutional and organisational level. On the institutional level the main instruments are:

(a) the qualification structure, in which a prescription can be found for 750 different educational paths towards occupations;

(b) about 20 sectoral bodies, responsible for the definition of the qualification structure and the quality of learning-working environments in the enterprises; to realise this task, the sectoral bodies organise the debate between social partners and educational representatives;

(c) about 50 examination bodies, responsible for the quality assurance of examination procedures of the colleges;

(d) the inspection service, executing the quality control for the Minister for Education.

At the organisational level, WEB-1996 defines regional colleges, which should be autonomous educational institutes organising vocational learning together with local companies. Colleges are responsible for the (quality of) primary learning processes and have to adjust educational programmes to the local needs of companies and the community. Localising the main responsibility for educational quality at college level is a major point of disagreement within the system. The debate since 1996 has focused on quality control mechanisms in VET. The social partners take a prescriptive perspective in this debate: they try to guarantee the quality of vocational courses via qualification structures and examination guidelines, whereas the colleges argue that quality is their responsibility and should be fostered in the interaction between teachers and students. This debate forces a large division in education, with politics determining the social partner position.

6.3. Developing evaluation criteria for VET-systems change

In the Netherlands, the WEB was evaluated politically at the end of 2001, after five years of implementation and use. The Minister for Education established an evaluation committee comprising social partners, representatives of the VET-colleges and scientists and formulated a set of evaluative questions and criteria:

(a) linking VET and the labour system (the economic demand):
   (i) is the qualification structure an adequate steering instrument for efficient labour supply (a qualitative instrument to reach quantitative goals!);
   (ii) the supply and quality of workplaces for learning;

(b) responding to the social demand: differentiation and quality of educational supply in rela-
tion to the individual educational demands; establishing basic qualifications; assessing prior knowledge and skills as input instrument;
(c) quality of educational process and assessment procedures:
(i) quality of educational supply (attractiveness of training; consistency between theory-practice-assessment; consistent translation from qualification structure to output);
(ii) external verification of assessment and examination procedures;
(d) efficiency: internal (time-level ratio; added value) and external (labour-market position) output; efficient internal trajectories;
(e) educational system synergy:
(i) links towards former education and higher education;
(ii) links between adult education and vocational education;
(f) autonomy and quality assurance: strategic power of ROCs; knowledge management within ROCs; financial aspects;
(g) legal aspects: the role of government; the relation between different actors and stakeholders around VET; supply of public information; (regulation of the) legal position of students.

This set of criteria reflects the history of system development and the actual discussions on education quality: accessibility, efficiency and quality assurance were the red lines for the political evaluation.

The evaluation committee started its work in the summer of 1999. Meetings were held with all stakeholders to enlighten the evaluation task and the (political) quality of the evaluation questions and implicit criteria. To organise a firm, empirical base for the evaluation eight research teams were involved to develop useful sets of measurable variables to assist the political evaluation process (Table 3). The conceptual model ‘in use’ is a stepping-stone model: the law has impact on institutions and organisations, organisations are in turn responsible for the quality of training and education delivered. In such chain-linked models, lack of quality of the primary process can be caused by autonomous decisions at lower levels and by poor legislation. All political and social stakeholders were involved in the formulation and implementation of the WEB (the famous Dutch Polder model), so failures in the system are difficult to identify and rectify.

The evaluation model used is highly positivistic: the research teams were intended to take an objective ‘picture’ of the state of the art in their VET subject. The evaluation was remote from the political and practical debate and was to deliver an objective report to the Minister, who would then make his own political decisions, taking into account or not the results from the evaluation.

6.4. Results and use of the evaluation of WEB-1996

The eight research groups presented their results to the evaluation committee in spring 2001. The evaluation committee then formulated their own conclusions in a separate report presented to education and the Minister for Education during summer 2001. This report was received sceptically, particularly by the social partners (both employers’ organisations and trade unions): they did not accept the main conclusion that the quality of VET was the prime responsibility of the regional colleges and not of branch organised bodies and other institutional organisations. In the political battle that followed the publication of the evaluation committee report, scientific and analytical arguments were drawn into the argument. The political conclusion of the Minister was that the evaluation was premature (five years was not long enough to prove labour-market success) and at the same time too late. He decided not to intervene at all, except to introduce new regulations around the examination procedures, establishing a new, regulating institute, prescribing how colleges organise their assessment procedures.

After five years of working under WEB-1996, the results of the evaluation studies are therefore not promising. Although the general quality of Dutch vocational education is high, the results of reaching change goals, as stated in the WEB, are disappointing. The main conclusion in most of the evaluation reports is that the policy concept behind WEB-1996 is no longer compatible with the requirements of a knowledge-based economy. WEB-1996 is built on a strong belief in prescription and forecasting of qualification requirements. This belief stems from the industrial work
Table 3: Evaluation issues, teams, reports and conclusions

<table>
<thead>
<tr>
<th>Evaluation theme</th>
<th>Research group</th>
<th>Reports (*)</th>
<th>Main conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A linking VET and labour market</td>
<td>Brandsma (Twente University), de Jong,</td>
<td>Leren kwalificeren (Learning to</td>
<td>Linking education and labour market by a qualification structure is not (yet)</td>
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<tr>
<td></td>
<td>Karsten and van de Venne</td>
<td>becoming skilled)</td>
<td>implemented fully.</td>
</tr>
<tr>
<td>1B linking VET and labour market</td>
<td>Heijke (Maastricht University), Borghans,</td>
<td>De WEB tussen vraag en aan bod (the WEB</td>
<td>The steering instruments in the WEB are causing a dispersed supply of courses and</td>
</tr>
<tr>
<td></td>
<td>Smit, Hövels and den Boer</td>
<td>between demand and supply)</td>
<td>do not deliver the expected flexibility.</td>
</tr>
<tr>
<td>2 responding to social demands</td>
<td>Doets and Westerhuis (Cinop), Klarus,</td>
<td>Voldoen aan de individuele vraag; toegankelijkheid en positie deelnemer (responding to</td>
<td>WEB offers more possibilities for responding to social demands than are used by local actors. The tendency towards autonomy is restricted to lower levels in the system.</td>
</tr>
<tr>
<td></td>
<td>Meijers, Thomas, Vrieze, Dinjens, Neuvel</td>
<td>to individual demands: openness and individual position)</td>
<td></td>
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<tr>
<td></td>
<td>and Pauwels</td>
<td></td>
<td></td>
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<tr>
<td>3 quality of processes and</td>
<td>Nieuwenhuis (Stoas), van Berkel, Jellema</td>
<td>Kwaliteit getoetst in de BVE (the assessment of</td>
<td>Quality assurance is improved in the system, autonomy is restricted at institutional level. Regulating is a Dutch disease.</td>
</tr>
<tr>
<td>assessment</td>
<td>and Mulder</td>
<td>quality in VET)</td>
<td></td>
</tr>
<tr>
<td>4 internal and external efficiency</td>
<td>Van der Velden (Maastricht University),</td>
<td>Toegankelijkheid, intern rendement en doorstroom (openness, internal efficiency, and destinations)</td>
<td>Lack of reliable data. The system is more accessible, internal efficiency is difficult to estimate, external eficiency and destination is improved.</td>
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<tr>
<td></td>
<td>Berkenbosch, De Bruijn, de Jong, Voncken,</td>
<td></td>
<td></td>
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<td></td>
<td>Geerligs and Lokman</td>
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<tr>
<td>5 system synergy</td>
<td>De Bruijn (Cinop)</td>
<td>Aansluiting tussen stelsels (linking educational systems)</td>
<td>Cooperation between institutional actors is improved. The organisation of tailor-made trajectories on individual level is still in its infancy.</td>
</tr>
<tr>
<td>6 autonomy and quality assurance</td>
<td>Karstanje (Amsterdam University), van Esch,</td>
<td>Zelfsturend stelsel, autonome instellingen,</td>
<td>Autonomy and regulations have a tense relationship. WEB offers autonomy, but institutional regulations decrease autonomy. Colleges do not use their options. Deregulation is recommended.</td>
</tr>
<tr>
<td></td>
<td>van Ingen, Hoeben, Vermeulen, van de Venne</td>
<td>kwaliteitszorg (self steering system, autonomous colleges, quality assurance)</td>
<td></td>
</tr>
<tr>
<td>7 legal aspects</td>
<td>Leenknegt (Tilburg University)</td>
<td>Bestuurslijke en juridische aspecten van de WEB (Administrative and legal aspects of WEB)</td>
<td>Division of responsibilities is unclear. Autonomy implies more administration at college level. WEB offers possibilities for realising flexibility at local level.</td>
</tr>
<tr>
<td>Overall report</td>
<td>Evaluation committee</td>
<td>De WEB: naar eenvoud en evenwicht (WEB: towards simplicity and equilibrium)</td>
<td>Mixed impressions: WEB has improved VET, but much inflexibility still exists in the system. Institutional and organisational actors are responsible for this inflexibility. Accountability is badly organised. Recommendations are formulated, with the accent on autonomy and professionalism at college level. Institutional organisations should facilitate (not regulate) local educational processes.</td>
</tr>
</tbody>
</table>

(*) All reports are published (in Dutch) by the Ministry of Education, Culture and Science, in a two-kilo box, together with the final report of the steering committee. Cinop published an English overview edited by Prof. Nijhof of Twente University and Dr van Esch of Cinop (Nijhof and van Esch, 2004).
paradigm, which emerged in coevolution with such Fordist institutional arrangements as full-time employment, clear occupational assignments and a well-established career pattern corresponding to the concept of guaranteed ‘job for life’. Young people went to school, got a job and often remained in that job for most of their working lives. Worker networks and trade unions in this system were organised to protect the permanence of these ‘life jobs’ and to build social welfare programmes around them. Educational systems in this context have been used not only to deliver cognitive skills, but to function as social selectors, steering children from various socioeconomic backgrounds into ‘appropriate’ levels of education that make them eligible for ‘appropriate’ jobs. This industrial VET-system could work reasonably well since the hierarchical industrial system was built on jobs that were mostly semi-skilled and changed little over an individual's working life. The system was stratified but could provide security and increasing wages even to those with only basic education (Carnoy and Castells, 1997, p. 36 et seq.; Mayer and Nieuwenhuis, 2001).

In the knowledge-based economy the work paradigm has to change towards the recognition of unstable and unpredictable requirements, which require a different steering concept for VET. The prescriptive educational policies should be altered for a greater reliance on the flexibility and expertise of colleges to organise flexible pathways towards competence in close cooperation with the local companies. The focus of Dutch policies for VET should change from prescription to facilitating accountable VET-professionals and colleges.

At the same time the evaluative studies report a great shortage of expertise within the colleges, both at managerial and teacher levels. The quality of examinations, and therefore the exchange value of qualifications, is dramatically low. Because of the prescriptive nature of WEB-1996, colleges have not been challenged to organise responsiveness and flexibility in their organisations.

In the political debate, both in government and between social partners and other stakeholders, the main reaction was to establish more detailed prescriptions to improve WEB-1996. The evaluating researchers warn against this counterproductive reaction. The challenge will be to improve WEB-1996 within a forward mode. This will radically change the relationship between institutional and organisational actors; colleges and local companies should be seen as the primary professional actors and the institutional system should be facilitating them instead of setting the rules.

At the beginning of 2002 the Dutch Minister for Education presented his political evaluation of WEB-1996. He largely maintained the status-quo, reasoning that the evaluation studies were either too early (no students had left VET, under the regime of WEB-1996) or too late (regarding the institutions around assessment and examinations). The regulations surrounding examinations have been adjusted according to the critics of social partners, with a more stringent regime and a strong controlling approach.

From an evaluation aspect, the overt use of the results is low. Political arguments in the actual debate have been more decisive than the objective results and opinions of the researchers. The political fight on the executive power on quality regulations was resolved in favour of the prescriptive mode, as stressed by social partners and members of parliament, and the vast number of research reports seem to have been filed away. However, one must not be too pessimistic as the results from the evaluation play a background role in the debate in advisory committees both at political and institutional and organisational levels. The socioeconomic council (in which social partners and government have seats) used the evaluation results in its recent advice on quality and innovation of the VET system (SER, 2002). The results of the evaluation reports are seriously taken into account in the elaborative notes of the Council of national bodies and the Union of regional colleges. A public, learning debate on the perspectives of the Dutch VET system is, however, urgently required.
7. Comparisons and conclusions

7.1. Two approaches to systems change

The two VET systems described are not representative of European diversity in VET. Both systems are essentially school-based, with a dual component built in, comparable to the Nordic and French systems. In the Danish system the dual component of apprenticeship courses is traditionally and culturally more important than in the Dutch system. In the German speaking countries VET is more company based, under the regime of the dual system; whereas the UK systems are more market led. These system differences have an impact on important characteristics such as responsiveness and innovativeness of the systems, as Crouch et al. (1999) have pointed out extensively. Nevertheless, the basic problem with both systems is the same; how to build a flexible VET system, balancing stable structures and dynamic, changing labour-market demands.

In Denmark, a systemic solution is sought for this problem through a widening and flexibilising of educational tracks with broader descriptive frameworks that can accommodate continuous changes in the work system. This would enable students to develop their own occupational identity and competences within the arrangement of the tripartite system: forward mapping and participation in communities of practice is a powerful way of connecting by supporting individual development towards self-employing skills.

In the Netherlands, policy-makers tend to opt for improving industry-based VET. In the Dutch case the institutional connection will be strengthened. From the evaluation reports several significant problems can be foreseen:
(a) motivational problems for students;
(b) flexibility problems for local delivery;
(c) integrative problems for work-based learning in national programmes, the accreditation of prior learning will uncover this rapidly;
(d) widening discrepancies between exchange value and use value of competences;
(e) recruitment and motivation problems with VET teachers.

The power of traditional institutions is still quite strong in the Dutch case, connecting school to work in an industrial paradigm through forecasting and prescriptions. However, the Minister for Education in the Netherlands seems to have relaxed the position with (VET) colleges in the last policy document allowing educational content to be chosen by school boards with only a small core curriculum decided upon politically by the government.

Policy-makers are seeking a balance between disconnecting and reconnecting school and work. They are looking for a new paradigm where the locus of connection is moving down from the institutional level towards the primary process of learning and working. At the institutional level this means a shift from a prescriptive policy towards a facilitating policy; at the organisational level this means a shift in organisational culture and professionalism towards autonomy and accountability. In the Danish case, experiments are carried out at a local level. Local economic and educational actors are challenged to organise pathways towards competence development, fitting both the local economic demands as well as the ambitions of future students. Within the Dutch context, experts illustrate the challenges and recommendations for colleges as having to play the role of spiders for innovation networks.

Two different approaches can be seen in these two cases: the Danish approach is characterised by common learning, whereas the Dutch approach is characterised by regulation. Based on Hisschemöller (1993), we can expect the Danish approach to be better than the Dutch. Hisschemöller argues that regulatory policy is only working in situations where agreement exists on values and facts in the problem area. In the industrial society of the former century, the linking of education and labour was seen as a technical problem: facts and values were known, a regulatory solution was suitable. In the merging knowledge-based economy of the 21st century, the predictory power of labour-market forecasting is fading and the debate on employability and lifelong learning skills is not finished yet.
According to Hisschemöller, in the case of disagreement on both facts and values, a policy strategy based on common learning is the only effective way to find new solutions, in this case for developing a flexible VET system. All the participants in the Danish reform, including government, have the chance to build their own (hi)stories by trial and error, with features of the new system. In the Dutch case the system is developed on the desk-top, and dropped to the major group of professionals, teachers and in-company masters. In a top-down approach the new system will have difficulty in becoming owned by the shop-floor workers.

The Dutch approach adheres to a directive, linear innovation approach developed elsewhere in concept and design (in industry, this is the research and development department; for education special developmental institutes are involved). In the Danish approach pilot schools, regions, companies and institutional players are involved in the design stage of Reform 2000. All actors are building their own ‘me-stories’ (what will be my part of the job in the new system) and together are building on ‘we-stories’ (what it is all about).

The evaluation enterprise is accordingly different in the two approaches: in the Danish case, evaluation is part of the learning process and the evaluators are deeply involved in the evolution of the reform. Evaluation methods, like the focus group sessions, are used as implementation instruments to raise awareness of the urgency of Reform 2000. Evaluation is organised alongside the development and implementation of Reform 2000 and the results of the first evaluation round are used immediately for improvement and correction. In the Dutch case evaluation is not used as an accompanying measure for the implementation of WEB-1996, but as an instrument for political control. Evaluation is used more summatively, and the results are (mis-) used immediately in the political debate. So evaluation in the Netherlands did not deliver any common learning amongst the different groups, but made more severe the disagreement and the power game between the ROCs and the social partners.

In the Guba and Lincoln scheme (Section 3) the Danish evaluation can be characterised as participatory, whereas the Dutch evaluation is executed more in the positivistic tradition of remote inquiry and research.

7.2. Implications for pedagogy and didactics in VET

Traditionally, vocational education prepares a student for a particular job based on a body of codified knowledge, an occupational profile with an underlying curriculum basis constructed in
terms of detailed objectives and goals. Traditional didactics are reduced to operational lesson plans. The more detailed the planning and safeguards, the better the educational quality. A standard response to new educational demands stemming from societal changes has been to add new themes or even relatively narrowly defined new educational programmes to respond to immediate needs, but not to introduce any major innovation in didactical paradigms and curricular structures. (Abrahamsen and Shapiro, 2001a).

As sectors converge and job profiles and occupations constantly change, spurred on by innovations in technologies and work organisation, the traditions of VET didactics at a policy planning level seem to be becoming obsolete (Grubb, 1999). Nieuwenhuis (2001) suggests a new form of ‘participatory didactics’, building on the works of Wenger and involving all the institutional actors.

In a recent publication, Christensen (2001) argues that VET didactics is in a major crisis that calls for a revision. On one hand, he advocates that it encompass metadidactics understood as the overall legislative and economic organisation and form that facilitates a pedagogical practice based on learning as construction. On the other hand, he states that this necessitates what he calls ‘minimal didactics’ to avoid what he sees as ‘over-didactisation’. By this he means a didactical practice which both on a policy planning level and at school level is characterised by detailing goals and objectives, leaving no space in the design for active learning participation and joint creation.

The pedagogical foundation for the VET reform (Shapiro and Christensen, 1999) proposes a change towards a broader didactic framework that is constituted in a constructivist view of learning. It is built on a three layer basis that encompasses institutional actors at different
levels, trying to take a minimalist approach in developing a descriptive framework supported by a consistency in terminology at all levels. The aim has been to provide a consistency between the narrative of a new didactic space and the legislative basis that introduces and legitimises some instruments for change.

7.3. Towards general European conclusions

Most European VET systems are in a period of transition searching for new equilibria in an economy where learning plays a growing role in economic performance and societal sustainability. In this context, VET policies play a central role in shaping efficient innovation systems that can adapt to rapid change.

In research on the creation of adaptable innovation systems three inter-related issues have been identified:

(a) stimulating learning institutions and economic actors;
(b) developing integrative policy visions and instruments for enhancing innovation;
(c) creating conditions for policy-making processes which are constantly learning and adapting to new demands and conditions (Lundvall and Borras, 1997).

Studies on the nature of policy change have traditionally taken their point of departure in the policy-cycle where the policy process is analysed as set in different distinct stages: decision-making, implementation and evaluation. The contracted study on the evaluation of Danish and the Dutch VET reform reflects this view to a certain degree. The learning approach as brought forward by researchers such as Lundvall and Borras criticises this assumption because it does not seem to provide a thorough account of what happens after the decision-making phase and it tends to perceive change as something automatic following the political impact of the evaluation (Lundvall and Borras, 1997).

The learning approach provides a more fluid perspective on the policy process in continuous transformation and evolution where no clear stages can be discerned.

‘In the political environment of public management learning, processes are particularly difficult to create and maintain. Individual learning is a psychological process. Organisational learning is a political process. A critical task of public management is to build institutional learning capabilities at the macro level to manage the environment in which private management operates. Conventional policy processes often block learning because ideology overrides evidence or vested interests resist policy evaluation and change ... public management is better regarded as management by design than by direction. Therefore, policy-makers should be concerned with designing adaptable systems rather than producing blue-prints for specific reforms.’ (Metcalfe, 1993; quoted by Lundvall and Borras, 1997).

In the learning approach the key to understanding policy change and the implicit learning dimension of the policy process are transformations in the collective beliefs within the broader system of actors (Sabatier and Jenkins-Smith, 1993). From this perspective the evaluation is no longer just a matter of tracking progress against the desired policy goals. One of the real challenges, which was quite evident from the first and the second evaluation in Denmark, is for the evaluation to be conducted and communicated in such a form that it creates a ‘stage’ that can invoke a new narrative to replace old terminology and through that replace old practices (i.e. the classroom, the weak achiever) to guide innovation in a shared and intended direction (Shapiro et al., 2001).

The contexts in which both the Danish and the Dutch reform were originally set and implemented, demonstrate an emerging need to develop methodologies which can proactively address the formulation of VET policy in more fluid and dynamic ways and in ways that are more integrated with other policy priorities. Fundamentally such approaches would break with the policy planning and implementation approaches of the past. Policy formulation is understood as a contingent policy development strategy. Incremental innovations should be allowed through the creation of continuous feedback mechanisms from the field of activity in ways that can be processed to enable real-time knowledge-based modifications of policy. When such approaches are achieved, they would be recognised as being appropriate for contempo-
rary times of turbulent change (Gavigan, 2000). In contrast, the more static approach to VET evaluations would typically be dependent on multi-annual periods of relative stability. This seems to have been the underlying understanding behind earlier reforms and subsequent evaluation strategies.

As we have argued, changing VET-systems can be seen as a kind of governmental learning. Perceptions of policy process and subsequent formulation of policy strategies and targets of systems change should be defined based on the specific problem definition and the specific configuration of institutional and organisational actors and their stakes. The complexity of actors involved combined with the speed, uncertainty and the complexity of roles that VET is supposed to fulfil in a knowledge-based economy would favour such a learning approach for governance. Reform of European VET policies should not be sought in prescriptive regulations. The most successful road for European policies on VET is a set of challenging goals and evaluation criteria whose targets should be dealt with in the frame-work of the dilemmas described in this article. Also at systems level a backward mapping, blueprinting policy is inferior to a forward-mapping developing concept of systems evolution. Challenging evaluation criteria can form the core of a development-oriented European VET policy. These criteria should be derived from good practices: benchmarking is the way European policies for VET should develop.

The emergent knowledge-based economy requires local and temporary solutions: national and European policies should deliver the preconditions for these solutions but should try to avoid prescribing solutions. Similarly with national bodies of social partners: they can challenge colleges and companies to deliver local solutions for global problems and they can facilitate this process but they cannot efficiently prescribe. The one-and-only right solution does not exist and some problems are even unsolvable. This implies a learning approach for politics embedded in broader and integrated innovation policies, an approach, which is yet in its infancy (Van der Knaap, 1997; Gavigan, 2000).
List of abbreviations

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<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>ICT</td>
<td>information and communication technology</td>
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<tr>
<td>ROC</td>
<td>Regionaal opleidingencentrum [regional training centres]</td>
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Evaluating systems reform in vocational education and training: learning from Danish and Dutch cases

Shapiro, H. Knowledge show me the way. North Carolina, 2000 (Conference proceedings).
Van der Knaap, P. Lerende overheid, intelligent beleid [Learning government; intelligent governance]. Amsterdam: Free University, 1997 (PhD thesis).
The vocational education systems in the other German speaking countries are very similar to the German system and a vocational qualification from one country is generally also recognized in the other states within this area. In Hong Kong, vocational education is usually for post-secondary 3, 5 and 7 students. A 1992 school reform extended vocational upper secondary programmes by one year, aligning them with three years of general upper secondary education, increasing their general education content, and making core subjects compulsory in all programmes. Vocational education and training for the future Denmark is a modern knowledge and production society that places great emphasis on development, innovation, sustainability and welfare. This is not least reflected in our many targeted vocational education and training programmes, which hold a key position in our society. It is important that even more young people choose this path and that the quality of the programmes is improved. Therefore, we are implementing a reform of the Danish vocational education and training programmes with effect from 1 August. The reform will give the vocational ed... Evaluating systems reform in vocational education and training: learning from Danish and Dutch cases. This paper refers to the use of evaluation in the policy of VET system change. Recent reforms of the VET systems in Denmark and the Netherlands are used as case studies to underpin the analysis. (More).
TVET (Technical and Vocational Education and Training) is education and training which provides knowledge and skills for employment. TVET uses formal, non-formal and informal learning. TVET is recognised to be a crucial vehicle for social equity, inclusion and sustainable development. The term Technical and Vocational Education and Training or TVET was officiated at the World Congress on TVET in 1999 in Seoul, Republic of Korea. The congress recognised the term TVET to be broad enough to incorporate Vocational education should be geared to everyone and society, focusing on training students of professional ethics, skills and employment and entrepreneurship ability. Multilevel ability training should not be a single way of teaching assessment and evaluation. Supported by Shanghai Higher Vocational and Technical College Teaching Research Association Teacher Reform Funding Project (Item Number: A-ZH-2019-001); Shanghai Association of Higher Education (Item Number: GJEL1894); SPPC Special Project on the Construction of Modern University System in 2019; Shanghai Educational Science Research Project in 2020; SPPC High Level Talent Research Project 2019. The Ministry of Education (MoE) conducts compliance evaluations on vocational colleges to ensure quality. Participants visit modern container port in Ningbo, China. The practical training at the enterprises equips them with the ability to work with the latest technology and skills for evolving industry needs. Colleges also recruit company experts as part-time teachers for practical courses. With lessons learned from each other and from China’s experience, the participants from EASTRIP countries and TVET institutions would be able to enrich their strategic plans and create a national TVET enabling environment in their respective countries. [1] MyCOS (My China Occupational Skills) is an education research company in China established in 2006.