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LISA 1

Change in VET: a systems' approach **Loek F.M. Nieuwenhuis¹,**

In this chapter an analysis is made of the governance of change in vocational education and training. Basic perspective is the idea that changing complex social systems needs coherent political actions on all systems' levels: political debate and legislation, the institutional set up, the organisational conditions and the design of primary teaching-learning processes should be in line with each other.

VET is a rather complex social system. Because it is located on the edge of two basic human activities: learning and working. For both activities, systems have been built on local, national and European level; within VET, these systems have intertwined in many different and complex ways. So, changing VET is a long lasting enterprise, requiring lots of interactions and fights inside and in between the composing parts of the systems.

Within FORUM, work has been done on change in VET from two perspectives. At the one hand we analysed the impact of VET-systems' change on VET-organisations: how do colleges and companies, and the professionals working there, cope with the challenges of the emerging knowledge based economy? (The forum-meeting in Evo, Finland, has been focused on this theme). At the other hand we tried to formulate evaluation criteria for changes in VET-systems, based on analyzing VET-policies in several EU- and eastern European countries (the meeting in Bucharest contributed to this theme).

In this chapter these ideas and models are built into a comprehensive model for changing VET-systems, preparing them for the emerging learning society. This leads to the following paragraphs:

1. Institutions and organisations in Vet-systems.
2. Reasons for change
3. Evaluating systems' change
4. Changing systems:
 - 4.1 Denmark
 - 4.2 Romania
 - 4.3 the Netherlands
5. Analysis
6. Towards a new perspective

1. Institutions and organisations in VET

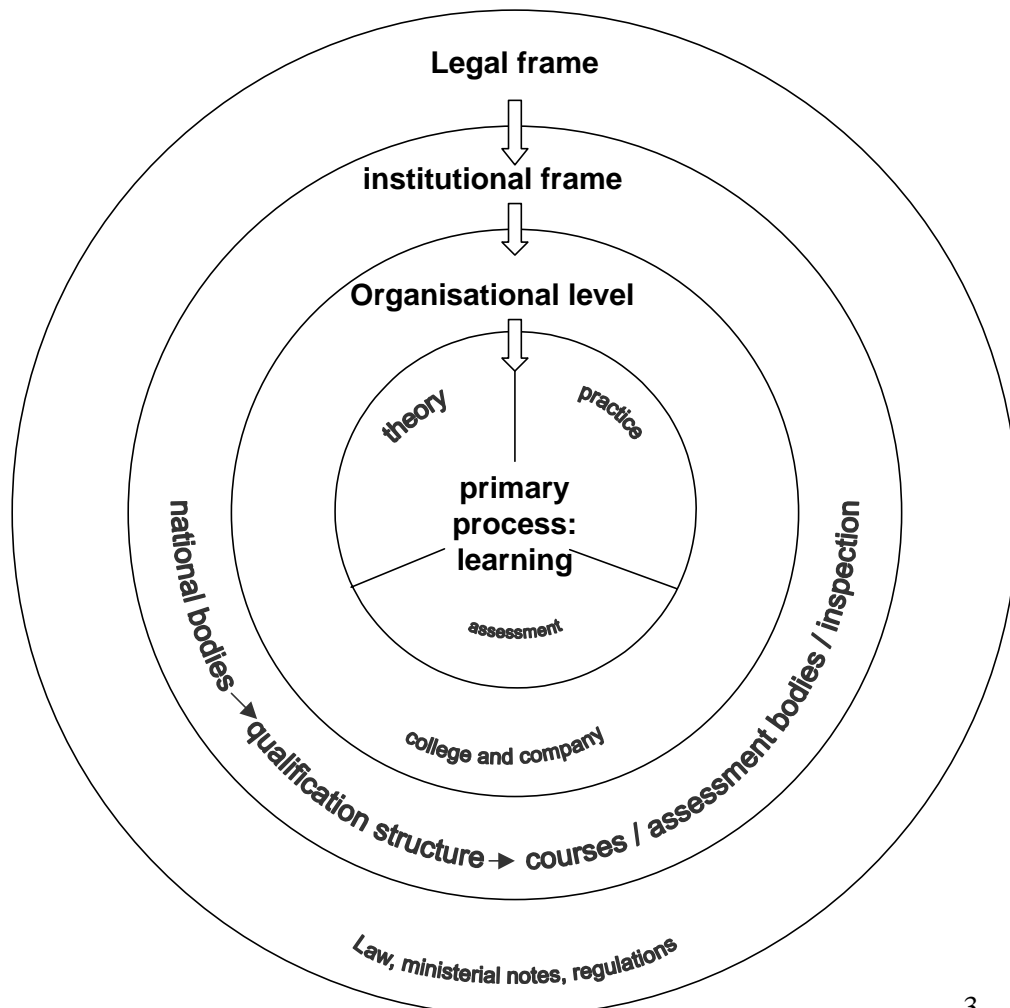
According to Edquist and Johnson (1997), social systems are specific set ups of institutions and organisations. Social systems are designed incrementally to reach societal goals.

¹ This article is the result of debate and discussion in the thematic forum group "changing VET-institutions". The final text is the responsibility of the author.

- 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.
- Organisations are formal structures with an explicit purpose: they are consciously created and they are players and actors in the system.

VET can be seen as a social system. In each country and/or economic sector a specific set of institutions and organisations has been developed over time. Government, social partners and educational organisations have built an institutional set up for VET, which is deeply rooted into social, cultural and economic patterns. Because of this roots, VET-institutions are difficult to change and sometimes even obstacles for innovation of the system: changes in VET are not only a matter of the educational system, but also of the socio-economic system and 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.

Organisations are (in theory) much easier to change than institutions, but organisations are depending on the institutional set up. So, technical-rational arguments (e.g. instructional science for VET) for a systems' change are not convincing if they are not compatible with the institutional set up.



Legislation, as part of the institutional set up, can better be understood as the finishing touch or the descriptive stage of a systems' change, than as the impulse for change. In many cases of large social systems' change, legislation is more descriptive than prescriptive: changing VET by law will be an unsuccessful operation (cf. Nieuwenhuis, 2001). For understanding the design and restructuring of VET-systems, this is an important observation. Changing VET and its evaluation has to be directed simultaneously on all the levels involved. Policy, intermediary structures, colleges, companies and teachers should interact in the change enterprise; managing this enterprise is like directing a large orchestra: if one party is out of tune, the whole enterprise is endangered.

2. Reasons for change

In Europe, all states are in search for modernisation of their VET-systems. Old systems were built on stable economies and labour market institutions (e.g. Germany, the Netherlands) or were built on a low-skill-equilibrium (e.g. UK; see Finegold, 1989). In both cases powerful economic forces urge for upgrading and flexibilisation of VET-systems: globalisation of markets, high speed technological innovation, ICT-development are examples of these forces. The development of GNVQ's in England, the reformation of the dual system in Germany, (re)building of VET in eastern European countries and new legislation in the Netherlands: there is no VET-system which is not under revision!

In all VET-systems the search is for new equilibria:

- Between initial VET and life long learning: the old infrastructure is built on the delivery of initial VET; the new one should be able to deliver support for life long learning;
- Between traditional occupations and flexible qualifications: old-fashioned occupations are slowly disappearing, but the institutions are still built on the traditional occupational structure; for new occupations there is no room in the arena;
- Between curriculum-based learning and qualification through work experience: learning steered by formalised targets is to be replaced by learning within changing communities of practice; at the other hand, instruction is still a powerful educational tool.
- Between social demands and economic markets: should the student be adapted to the labour market demands or can the worker create his own economic context (shaping?);
- Between employment and self-employment/entrepreneurship: is the 'new economy' for employed workers or for entrepreneurial workers?

Policy makers and other stakeholders try to formulate new balances on those dimensions, but in each case the institutional set up of VET is in stake. The old regulations and appointments and the social-economic meaning of VET is changing. So stakeholders (like colleges, employers, trade-unions and the government) should reposition themselves towards the new developing VET- systems. The design of new VET is the reinvention of VET-institutions; because of the socio-cultural roots of institutions this will take long and will cost lots of struggle.

Crouch, Finegold and Sako (1999) offer a sceptic view on the feasibility of a high skills strategy in western economies. Analyzing skill creation systems in seven OECD-countries they conclude that both state based as well as market oriented strategies are doomed to fail. State based VET will suffer from low responsiveness and innovativeness, whereas marketled VET will not be able to upskilling of the majority of the workforce. So each country should reconsider these outcomes and rearrange their VET system. Crouch c.s. do not believe in a single best solution on system level: copying best practices from elsewhere needs careful planning and consideration of the institutional history of both source and receiving system.

Traditionally, education is designed within a context of certainty: knowledge is judged as true and objective and the instructional techniques are authoritarian, receptive and non-participative. VET is designed from the same perspective: job structures and function profiles are seen as true canons (cf Brown and Duguid, 1996) of the future demand for workers and skills, although everybody knows that the definition of these profiles is abstract and compromisful, with a conservating flavour. The prospective power of these profiles is low. Still these profiles are used as a prescription for the career design of youngsters. Tomassini (2000) explains the power of this perspective with the distinction between the exchange value and the use value of competencies. The social and institutional demands on the labour market focus the debate on the content of VET more and more on the exchange value of competencies (accreditation and acknowledgement of labour rights), by which the importance of use value of competencies (what to do on the workplace) is fading. The use value of competencies is supposed to be developed on the workplace after finishing initial VET. The exchange value of competencies is deeply rooted in the VET-structure: both employers and trade unions support this value strongly. For employers, the exchange value implies certainty in hiring processes, whereas for workers the exchange value forms a guarantee for their labour market position. So the exchange value of competencies is an unavoidable aspect, but as Tomassini argues: “the disequilibrium between use and exchange value should be reconsidered”.

3. Evaluating system change

In most European countries VET systems are under reconstruction. The changing economic context and the growing social demand for education and training urge governments and schools to reconsider the existing supply of trajectories towards skills and competencies. 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 change program perspective (how effective and sustainable is the impact of programs for the implementation of change?). Both evaluation perspectives are elaborated on in the next paragraphs.

Before doing so, it is important to take a wider scope. VET systems cannot be analyzed without taking account of its position within the larger educational systems. In most systems a choice for VET is a second choice. VET has a lower status than general educational tracks towards academic levels. Also in many educational systems comprehensive education is extended to the age of 14 or 16. So VET is confronted with a fundamental dilemma: fighting against social exclusion of low educated students at the one hand and delivering increasing skill levels for flexible demands at

the other hand. The sceptic view of Crouch cs (1999) is partly based on this paradoxal position of VET in most educational systems. If Vet is attaining the same status as general education, it is loosing the fight for social inclusion of the low skilled. It will be rather difficult to find a workable equilibrium between these two demands.

3.1. In search for criteria on system level

One of the questions for Forum is, if there exist universal or European evaluation criteria, with which national VET systems in transition can be evaluated properly. Thinking of a unified European VET system is not a useful way: socio-economic institutions are deeply rooted in national and even regional traditions, compatible to the political and economic construction of societies. The economies in transition in Eastern Europe are very exiting cases in that light: the political earthquake of the last decades forces these countries to build new institutional set ups. Even in those countries the new set ups differ enormously, as can be seen in the contributions from Baumgartl (2000) and our Roumanian colleagues (see section 4.2). In the Western European countries, with much longer and stronger traditions, these differences are even more stable. So, unification of VET and VET-criteria is a dead-end policy.

At the other hand the basic goals of VET-systems are the same. As Rosenfelt (1998) stated, VET (and VET colleges, which his contribution is targeting on) has four main working fields:

- training of new employees and employers to support the knowledge base in companies,
- the supply of training facilities for updating the knowledge and skills of the workforce
- facilitation of technology adaptation
- the organisation of networks of enterprises to facilitate interactive learning processes.

The OECD (2000; see www.oecd.org/els/papers) made a comparison of 15 national systems for the transition of youth from education towards labour. Within this framework some basic goals are suggested that all transition policies should aim for. These include:

- High proportions of young people completing a full upper secondary education with a recognised qualification for either work, tertiary study or both.
- High levels of knowledge and skill among young people at the end of the transition phase;
- A low proportion of teenagers being at one time not in education and unemployed.
- A high proportion of those young adults who have left education having a job.
- Few young people remaining unemployed for lengthy periods after leaving education.
- Stable and positive employment and educational histories in the years after leaving upper secondary education; and
- An equitable distribution of outcomes by gender, social background and region.

Based on the review of the 15 national systems the OECD came up with a set of key features of effective transition systems; effective transition systems are characterised by a limited number of key ingredients. These are:

- A healthy economy;
- Well organised pathways that connect initial education with work and further study;
- Widespread opportunities to combine study with workplace experience;
- Tightly knit safety nets for those at risk;
- Good information and guidance; and
- Effective institutions and processes.

The first mentioned ingredient is an externality for VET-systems, all the other features can be seen as evaluation criteria for VET-systems. Some of them are located at institutional level (pathways; safety nets); others are located at organisational level (study-work combination; guidance and learning processes). Interesting is, where Rosenfeld only stresses the economic demands, the OECD review also stresses social aspects as important evaluation criteria.

3.2. In search for criteria on programme level

Baumgartl (2000) presented in Bucharest an overview of dimensions for evaluation of programmes for the change of VET. This overview has been built on experiences in programme evaluation activities in Eastern European VET systems. Baumgartl ends up with 11 dimensions for the evaluation of VET change projects:

1. The basic project strategy: the status of the reform. Varying from a legal decision for system change, a 'Model versuch', an experiment/pilot project up to a feasibility study of change options.
2. Investments and commitment: resources and dedication to the project
3. Legal embeddedness: is the change project embedded within a legal framework or is the project meant for law development?
4. Width and depth: is the change oriented at the fundament of the VET system or are only parts and instruments in stake?
5. Perpetuation: is the project build on a sustainability mechanism: are there mechanisms built in for self-evolving and continuing reform?
6. End-user-centred: is the project oriented up to the primary process of education or are only administrators and intermediary actors involved?
7. Teacher training and teacher incentives: teachers should be seen as the eventual implementors of educational reform. So teacher training and teacher incentives should be built in into the change programme.
8. Social partners involvement: employers' and workers' organisations are natural partners in VET-change programmes. They have to assure the recognition of new learning outcomes and they are important in organising learning practices for the students.
9. Links to higher education: organising coherent vertical pathways is important for recognition of het changes inside the VET-system.

10. Backup for sustainability: measures to ensure that the results of a programme will last longer than the programme itself: especially the set up of new institutions compatible with the change targets are mentioned.

11. Budget for programme evaluation

Baumgartl stresses with these criteria the coherence of system change projects. VET change projects will only be successful if the project activities are targeted at all system levels at once: legislation, institutional frame, organisational conditions and teachers challenges should be in line with each other. If not, the sustainability of change results will be very low.

4. Changing systems

Within the Forum work package on “changing VET institutions and organisations” several systems in change are discussed to challenge the sets of criteria mentioned before. Here we will describe three cases more in depth; in the next chapter we will discuss some common features: how are the different system levels connected in the various system changes?

4.1. The Danish case: VET 20002

Recent governmental analyses as well as analyses by OECD conclude that although the standards and performance of the educational system in Denmark is good and in general of high quality (also by international comparison)- some malfunctions are apparent.

Some of the key issues on the policy agenda are:

- The quality of apprentices performance should be increased
- The number of students completing a full youth education (which means competence as either an upper secondary academic student or as a journeyman) should be increased and within a few years amount to at least 95%.
- The efficiency of the system should be enhanced in order to avoid unnecessary spending caused by slow student progress, lack of accountability of elements in related courses and similar inflexible arrangements.

In order to achieve these goals it is the ambition of the Reform 2000 that:

- The VET-system must become more attractive and attain higher status in order to enhance the competitiveness of the system
- The system should be simplified, so that students do not have to make a binding choice between a vast number of trades from the very outset, a structure in many ways representing the industrial economy now under change. This means that students who have made the final choice can start according to their specific choice whilst other students can within a broader time frame examine different options in a hand on way.
- Flexibility in the system must be enhanced both to give students and enterprises increasingly diversified options and to reduce the amount of wasted time and resources related to "wrong" choice of courses and to making

² based on Shapiro's description; 1999

alternative choices when students have already followed a programme for a while.

- A modernised system should encompass more options for academic supplements to vocationally oriented programmes.
- More focus on life long learning should be visible in the structure arrangements and in the actual curriculum and underlying pedagogical principles.
- Better opportunities for weak performers to contribute to the realisation of the overall goal of education for all youngsters.

The most important innovative features of reform 2000 are:

- An entirely new entrance construction for all programmes- structuring until now 90 different programmes into seven new gateways/families each of them to on average 13 different routes to different trades.
- The individual route principle also means that the routes can vary much in content i.e. breath, depth, and duration.
- The personal programme (route plan) and an individual log book are introduced to facilitate the individual route
- The academic addition option, eventually it should also be possible to obtain a full upper secondary certificate incorporating both vocational and academic qualifications
- The "part qualification option" offering a new possibility to low achievers- as an alternative to dropping out- giving the apprentice a certificate of specific vocational skills, but on a lower level than that of a journeyman.
- A new statutory arrangement combining the vocational college offer with the labour market authorities offer of further education training courses in the like topics- to enhance flexibility - and to give new options for adult apprentices.

4.1.1. Social background of the reform

At the turn of the millennium, we see a changing labour market where knowledge and competencies are becoming increasingly important for companies' ability to compete. The traditional profession concept is breaking down – the same applies to the concept of employment. Most people can expect not only to change jobs several times during their working lives – but also to switch between trades and types of jobs as well as job hierarchies. This will lead to a demand for continuous personal development and adaptation of qualifications of a general, technical and business specific character. At the same time, we are observing a trend pointing to an increasing number of people on the labour market becoming loosely attached to the enterprises. These people will work as self-employed or through different kinds of project or contract employment as freelancers, consultants or as hired labour via temp agencies and more mobile work supported by PC's linked to the Internet. This will also increase the demand for the individual having a number of basic competencies that can be extended with continuous self-development, learning new skills and qualifications in relation to a specific assignment.

Competitive prices and advanced technologies are no longer sufficient prerequisites for an increasing number of companies. Technological developments, not least in ICT (information and communication technology) coupled with internationalisation, have forced a large number of Danish companies to adjust. In many instances, companies react by combining internal adjustments supplemented with a closer relationship to customers, partners and sub-suppliers to be able to concentrate and focus on the things they do best. The adjustment processes may, for example, be expressed in the following ways:

- Increased focus on core competencies through the establishment of close cooperation between customers and.
- Changes in work organisation focusing on functional re-integration of departments and functions – and a higher degree of autonomy and delegation of decisions to employees who are close to where jobs are carried out and problems are solved.
- Development of conscious strategies to develop the company's human resources and collective competencies in line with its business strategy, meaning that strategy, culture and structure become a learning system in itself.
- Exploiting ICT as part of the company's ideology, internally and externally, will become a conscious strategy.

Integration of work functions, decentralisation and intra- and inter-organisational communication require that employees acquire new competencies at all levels, enabling them to adjust and learn new skills. Routine work will be reduced, and demands regarding professional and social competencies will increase. Consequently, the integration of professional, general and personal competencies will become increasingly important, as expressed in Reform 2000.

4.1.2. Changes in learning concept

The concept of learning will change concurrently with developments in network and computer capacity as well as new intelligent software solutions directed at information search and filtration. Having knowledge and the ability to transform this knowledge into new products and services faster and better than the competitors is becoming a central competitive parameter.

However, structural changes in trade and industry together with changes in values and rules also mean that we must be able to question our existing knowledge base and the ways we do things. This is why we are observing an increasing focus on competencies related to learning to learn and creativity.

When closer relationships are forged between customers, suppliers, together with closer relationships between the individual functions of the company, cooperation between management and employees will increase too, and the traditional demarcation lines and job hierarchies will tend to disappear. At the same time, the need for functional integration between the departments and functions of the company will increase to be able to gain maximum benefit from the external relationships with customers and suppliers. Therefore, many companies repeatedly invest more in organisation changes. Competence development happening through work *and* formal education and training and learning through courses and education will become increasingly important. It is expectation that change will be a permanent basic

condition on the labour market. Adjustment processes will not only include technology and work processes. They will also include more basic conditions relating to values and culture in our working lives as well as in society as a whole.

Competence to learn means, among other things, extra motivation to tackle new problems, a higher degree of autonomy and responsibility in relation to personal development and a better ability to transfer and apply knowledge and skills to new contexts as described in Reform 2000 by giving the student more responsibility for his progress and learning processes through the his personal training plan and the individual study book.

These trends still only apply to the most development-oriented companies and trades. Nevertheless, they are part of the background for Reform 2000. *Partly*, because it can be expected that the outlined trends will apply to an increasing number of companies. *Partly*, because an increasing number of people will switch between jobs and trades many times during their working lives. Finally, better access to learning will promote the individual's development as a human being and as a citizen.

4.1.3. Taxonomical problems

In the search for a new terminology Reform 2000 has been confronted with a main challenge to rethink a pedagogical theory that is founded on an anthropological rather than a psychological pedagogical basis- seeing goals and frameworks as learning potentials.

In the memorandum, as systematically as possible, a distinction is made between the two main concepts: competence and qualification.

- '*Competence*' refers to a human and social potential to be understood on an anthropological basis. (Well knowing that 'competence' also means something like: the formal rights and tasks which an individual has on the labour market and in a business).
- '*Qualification*' means that the person 'can' something that is described as something 'exterior': An area of knowledge, a skill relating to a situation, an organisation, a system, etc.

4.1.4. The Didactic Space

It must be emphasised that reforming the pedagogical area involves *both* a continuation of known elements *and* development and integration of innovative elements. Among the most important *known elements* are the general ministerial order, the education order and the local educational plan. The most important *innovative elements* are: the student's individualised and documented learning pathway and log book possibly developing as a learning portfolio, guidelines for the ministerial orders and an expansion of the ministerial order with provisions for evaluation of results and quality development in connection with the educational offer.

One of the most important general intentions with amending the legislation is a clearer emphasis on the individual student's opportunities and on the student as the active party in the learning process, and as a person who chooses and shapes his or her individual learning process. It is also important that the student becomes the central figure in the design of the learning process and in individual learning situations.

The educational offer is organised and offered in a modular way. The modules offered constitute the goals of the education and training. The modules are offered in a learning/situation arrangement. During the course of the programme, the apprentice therefore choose a certain number of modules within the fixed and offered framework.

Activities = credits: this should be understood as what the institution expects the student to be able to do; the competencies the student has acquired or the development which the student has been through after the completion of the assignment/activities.

We have proposed that the methodology should provide a space so that learning described in situation arrangements and/or projects. A situation arrangement consists of:

- Framework and relationships for the assignment/situation arrangement
- Criteria/targets for a well-executed action. Conditions/context, quality.
- How should the action be evaluated (observation, test, demonstration, work portfolio, product evaluation, etc.)
- Rationale and reason for the situation (described dynamically, problem oriented and in relation to the superior context)

4.1.5. Status

At the end of 1999, the reform is being piloted in 5 regions comprising in 26 schools and all 6 family entries: technology& communication, building & construction, crafts & technique, from earth to table, transport and logistics, service. An evaluation of the first experiences will begin November 1st 1999. It is expected that a restricted tender for the system design will be ready by the end of the year 1999.

4.2. Restructuring Romanian VET3

Since 1990, the Romanian Government has been swift to recognise the implication that the transition from a centrally planned economy to a competitive market economy has had and will continue to have on the education sector. Until recently, the VET system in Romania provided education and training through vocational and technical school in very narrow defined occupations determined by (a) central planning of all inputs into the system and (b) mass production in large state owned enterprises by which the VET schools were partly supported. Due to the backwardness of technologies in the enterprises themselves and a low investment rate in general, the range of skills taught at schools was limited and rarely modified. The curriculum, duration of instruction and didactic methodology were prescribed in a top down approach and there was little room for alteration or innovation.

The move toward a market economy has highlighted the inappropriateness of such a tightly specified education system to the reality of the evolving labour market in Romania and thus reform of the VET sector has been aimed at preparing a trainable, adaptable and innovative workforce with the flexibility to shift occupations in accordance with the demands of the market. Furthermore, equal rights and the development of personalities have been identified as key objectives in this process of reform in line with the democratic and social principles of EU education structures. The recognition of changing needs of the labour market combined with the will to

³ based on Voicu a.o., 2000

harmonise the principles of EU schools with Romanian schools has brought about a significant number of legislative decisions in the reform of education and training.

4.2.1. Elements of the analysis/diagnosis preceding the VET reform

A previous diagnosis analyse proved that the pre-university vocational and technical education has achieved a narrow and early specialisation for pupils (14-15 years old), which resulted in the following pupils' features:

- vulnerable to the economy's rise and fall;
- without the needed flexibility for the transfer of their skills to other occupations;
- they did not benefit of career orientation and information;
- they had poor possibilities to get new qualifications;

With regard to the high school specialty education- before the beginning of the reform- it has been noticed that:

- it didn't provide the proper training for the trades demanded on the labour market;
- the training was diversified on too many trades, organised for trades that did not justify this educational type;
- there were consequently maintained two types of school (the high school and the vocational school) for the vocational training of the same qualification level – qualified worker -, in the deficit of the vocational school, which was mostly perceived and organised as a consequence of the failure at the high school entry examination;
- the didactical and material supply didn't correspond to the modern training demands and was described by a severe weary state;
- the teachers weren't prepared to use the modern didactical technologies and to practice a high-technology vocational education;
- it didn't develop the training offer in correlation with the needs of the local community and the regional interests.

Generally, as a consequence of the so far achieved policy, the system was characterized by:

- the improper substructure;
- the absence of modern teaching and learning materials;
- the teacher, whose teaching and learning methods weren't accorded to the modern orientations;
- a national system of training's centralized administration which hindered the individual efficiency and innovation and didn't encourage the local initiative;
- the absence of an active social partnership with the "beneficiaries" of the labour resources trained in schools;
- the weak orientation towards the labour market;

- the absence of a unitary national system of certifying the professional competencies;
- the absence of the finalities descriptions for each type of school.

4.2.2. The vocational education reform through the Phare VET 94-05 project

That's why it is important to present what the Phare VET RO 9405 Programme meant for the Romanian educational reform. The main program's goal was to provide the necessary assistance for the Ministry of National Education to achieve the reform of the pre-university vocational and technical education in Romania.

The specific program objectives guided the vocational education and training process towards:

- the achievement of vocational education through school at the level of the training standards of the European Union;
- the mutual acknowledgement with regard to the vocational qualifications on the Internal Market of the European Union;
- the accomplishment of the European integration conditions that were assumed through the European Agreement for associating Romania with the European Union and through the National Strategy of Preparing the accession of Romania to the European Union through adopting the "acquis communautaire";
- the achievement of vocational education adapted to the democratic society , based on the market economy with social participative character, in accordance to the occupational structure specific to the dynamic evolution of the labour market in Romania;
- the adjustment of the structure of the vocational education through school (types of school) to the needs of qualifications identified on the basis of the individual and community interests/demands, in the conditions of maintaining and even stressing the educational system objectives;
- the synergetic decentralisation of the vocational education subsystem through making the social partners co-responsible;
- the more diverse financing resources for the vocational education;
- the logical and coherent information flow regarding the vocational education in a permissible informational system through the co-operation with the institutions, programs and projects which operate in this field.

The reform policy of the vocational and technical education was prescribed as critical reference within the entire educational restructurations, as it is one of the three main constituents of the reform together with the quality increase of the basic and secondary education and with the improvement of the system's financial administration. The reform's basis consisted in combining the potential and the local solicitations with the international experience and the Romanian traditions. The strategy was three-folded: restructuration, modernity and giving solutions to the urgent problems. The national administration of education had to reflect the decentralisation and the democratisation of the system.

Concerning the development of the social partnership, the project acted in several directions:

- setting up the structures, regulations and necessary laws;
- clarification of the roles of each partner, referring to: planning, need analysis, training structure development, elaboration and revision of teaching documents, evaluation;
- social partners training.

These structures were perfectible ones, but the major idea was to create structures for a long time period, ready to act after the end of the project, to develop the social partnership on normal basis and to induce to the idea that a real VET system cannot function without social partners.

4.2.3. Standards in use

Based on an opportunity study, carried out by the project, the relevant trades were identified. Next step was to develop Training Standards (TS), based on the Occupational Standards (OS). Occupational Standards are developed by an independent Romanian agency: COSA (Council for Occupational Standards and Assessment) and are referring to the skills and tasks a qualified person is supposed to accomplish and is based on the labor market demands.

TS was a new concept introduced by Phare-VET project and was supposed to be an intermediate step between OS and curricula, briefly showing the competencies (theoretical, practical and social ones) the school was supposed to transfer to the student in order to fulfil the requirements of the OS. In fact this document was the OS (training requirements) enriched with educational requirements (according to the policy of education) and transformed into a school document.

In many countries curriculum development was based on OS directly. However, in Romania, an intermediate step was necessary because this was the first attempt to develop a modular, school-based curriculum in a decentralized manner. That's why TS were developed: to facilitate curricula development and to prepare the teachers for a more independent further activity. Another reason for TS development was to facilitate the final examination, redesign within the project. In the project vision, the final evaluation is national, evaluating competencies not knowledge and skills. The composition of the evaluating commissions: teachers, externals evaluators and social partners, (not everyone accustomed with competencies evaluation), required, once more, the TS.

Regarding the evaluation and certification, we must say Phare-VET Project acted in following directions:

- introduction of an intermediate evaluation after the first two school years, certifying general competencies for a group of related trades;
- involvement of social partners in evaluation;
- introduction, beside the usual diploma, of the "Competencies Certificate", showing the key competencies achieved by the graduate. This certificate is useful both for employers and regional departments of the Ministry of Labor and Social Protection, in case of re-training the unemployed people. It is an intermediate step towards the introduction of a "transferable credit system".

As structure, the curricula were developed close to the traditional way - syllabi for each subject – for basic and advanced training. For the specialized training, curricula were developed on “modules”. A “module” meant an independent (fully independent desirable) unit of study including theory and practical training, focused on a possible purpose of activity of the future graduate.

4.2.4. Features of the VET innovation

The modular system (beside the previously mentioned structure of training) increased the adaptability and mobility of the system. The reason for that is because the contents could be easily changed, according to the labor market demands: modifying contents of modules, replacing modules, eliminating modules. Such a structure offers the schools a better chance to become more active in the activity of further training and retraining, by offering short term courses, easily adaptable to the demands of the employers.

Because, usually, the local needs were many, “Occupational mobility” and “Deeper specialization” modules were developed in packages, out of which, each student, was going to chose one of each type, according to his/her individual aspirations for a specific future working place. This is the reason for the other name of these modules: “Optional modules”.

Special mentions about “Trans-curricular themes”. This new concept was introduced in order to make “links” between different subjects and create professional behaviours. The themes were mentioned in the curriculum, in a general manner, and were developed on local basis, within the already mentioned 30% of local applications.

In order to encourage the individual options, the subject “class activity” adopted the denomination and contents of a transdisciplinary field, which became unit of the basic curriculum: “vocational orientation and counselling”. Further more, in order to offer the students a better personal development and wider possibility of employment, new syllabi were elaborated: technical foreign language, informatics and computerized technology, entrepreneurial education.

For the students willing, after the graduation of vocational school, to continue their study in high-school Phare-VET Project facilitate the possibility by developing, for the third school year, a package of “elective” modules. These modules were meant to complete the general culture knowledge, which, in vocational schools, were reduced in comparison with high schools.

4.2.5. Conceptions on curriculum in the VET system

- It is based on the occupational standards (elaborated by COSA) and on the vocational education standards (Phare VET), built up on the integrated competency principle (knowledge, occupation and social development);
- it is pre-determined by the studies on the economic market and on the mobility of the labour resource force;
- it was modular at the level of the vocational school regarding the distribution of the knowledge areas, a tendency to integrate the disciplines in learning areas which should express the specific way of the VET knowledge

development-through intuition and experience and competencies based at the level of technological high school;

- it is spirally developed-starting from field observation and practice in order to generalize the experience and to enable the abstract approach;
- it is centred on "technological modules" (from the levels of the vocational standards) or competencies, depending on the type and performances of the related field technology;
- it is influenced by the curricula development in VET in the European context;
- it is a target of specialisation on the levels of qualification and specialisation, as a response and training to the qualification need on both the internal and European market;
- it is developed within the social partnership with the social agents (economic agents, authorities, experts).

4.3. Evaluation of WEB-1996, the Dutch law on VET

After 20 years of political debate and preliminary legislation, a new law on vocational and adult education is launched in the Netherlands in 1996. This law, the WEB, is built on several developments, working since 1980. For the design of the WEB two major perspectives have played their role: regional and sectoral policies. The regional perspective has led to the formation of large regional training centres (ROC's) 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 in line with each other: with their qualification structure, social partners try to reduce implicitly the autonomy of the ROC's. The crossroad sector by region will be the critical spot for the implementation of the WEB. The Dutch parliament has obliged the minister of education the present a formative evaluation of WEB before the end of 2001. So, 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 paragraphs.

4.3.1. Features of WEB-1996

- Integration of initial and continuous VET: under the WEB adult education (both vocational and general) and vocational education are combined in one coherent framework. ROC's should provide both types of education and training. The policy instruments and the institutional set up are unified.
- Social demands and economic demands: the main issue is preparing and supporting youngsters and adults for lifelong learning, according to the needs of a rapid changing economy. Social demands are to be fulfilled by a general target for basic qualifications (qualified to participate in the economy). For all entree levels of students the system should deliver appropriate courses. Economic demands should be fulfilled through output definitions (steered by a qualification structure) and the possibility 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.

- Regional perspective: the training infrastructure is organised region-wise. The ROC's are mergers of the former sectoral vocational schools, the adult education centres and the apprenticeship support structure. Together they form large community colleges with nowadays 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 ROC's are supposed to cover all the occupational training needs on secondary level (EU level 1 to 4) in their region.
- 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 of education will legitimise all proposed qualifications, under the restriction of transparency. The ROC's have to apply for the permission to deliver the appropriate courses for their region. Examination boards, in most cases connected to the sectoral bodies, verify the quality of assessment and examination by the colleges. By this, sectors and branches have their say and their responsibility for the quality of input and output of the system.
- 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 two year and the inspectory service of the ministry has the task to check their quality policies. The regional market should regulate their quality, but their monopolistic position makes this quite inefficient.

To reach this ambitious set of goals, WEB-1996 contains legal instruments both on institutional as well as on organisational level. On institutional level the main instruments are 1) the qualification structure, in which a prescription can be found for 750 different educational tracks towards occupations; 2) 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; 3) about 50 examination bodies, responsible for the quality assurance of examination procedures on the colleges and 4) the inspectory service, executing the quality control for the minister of education.

On organisational level WEB-1996 defines the regional colleges, which should be autonomous educational institutes organising the vocational learning together with the 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.

4.3.2. Developing evaluation criteria for VET-systems' change

In the Netherlands, the WEB will be evaluated politically at the end of 2001, after five years of implementation and working. Several research teams are involved in this evaluation, including the authors. The evaluation model 'in use' is a stepping-stone model: the law has impact on institutions and organisations, organisations are

responsible for the quality of training and education delivered. In such chain-linked models, lack of quality of the primary process can be caused both by autonomous decisions on lower levels as by bad legal regulations. All political and social stakeholders are involved in the formulation and implementation of the WEB (the famous Dutch polder model), so failures in the system will be difficult to point at, to mention and to be improved.

Starting the evaluation process of the WEB, the minister of education formulated a set of evaluative questions and criteria:

- Linking VET and labour system (the economic demand): (1) is the qualification structure an adequate steering instrument for efficient labour supply (a qualitative instrument to reach quantitative goals!); (2) the supply and quality of workplaces for learning .
- Responding the social demand: differentiation and quality of educational supply in relation to the individual educational demands; establishing of basic qualifications; assessment of prior knowledge and skills as input instrument.
- Quality of educational process and assessment procedures: (1) quality of educational supply (attractiveness of training; consistency between theory-practice-assessment; consistent translation from qualification structure to output); (2) the working of external verification of assessment and examination procedures.
- Efficiency: internal (time-level ratio; added value) and external (labour market position) output; efficient internal trajectories.
- Educational system synergy: (1) links towards former education and higher education; (2) links between adult education and vocational education.
- Autonomy and quality assurance: strategic power of ROC's; knowledge management within ROC's; financial aspects.
- Legal aspects: the role of government; the relations between different actors and stakeholders around VET; supply of public information; (regulation of the) legal position of students.

For all these criteria research teams are involved at this moment to develop useful sets of measurable variables to assist the political evaluation process.

4.3.3. Preliminary results of the evaluation of WEB-1996 (may 2001)

After 5 years of working under WEB-1996, the results of the evaluation studies are not very promising. Although the general quality of Dutch vocational education is rather high, the results at many points are disappointing in the sense of reaching change goals as stated in the WEB. The main conclusion in most of the evaluation reports is that the policy concept behind WEB-1996 is not compatible anymore 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 paradigm, which emerged in co-evolution with fordist institutional set-ups like full-time employment, clear occupational assignments and a well-established career pattern over the life cycle corresponding to a concept of guaranteed 'job for life'. Young people went to school, got a job and often did the job for much

of the rest of their working life's. Worker networks and trade unions in this system were organized to protect the permanence of these 'life jobs' and to build social welfare programs around it. Educational systems in this context have been used not only to deliver cognitive skills, but function also as social selectors, steering children from various socio-economic backgrounds into 'appropriate' levels of education that then 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 basic education only (Carnoy/Castells 1997, p.36f.; Mayer & Nieuwenhuis, 2001).

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

But at the same time the evaluative studies report a great shortage of expertise within the colleges, both on managerial level as well as on the level of teachers. Especially the quality of examinations is dramatically low, and therefore the exchange value of qualifications. Caused by the prescriptive nature of WEB-1996 colleges have not been challenged to organize responsiveness and flexibility in their organisations.

In the actual political debate, both in government as well between social partners and other stakeholders, the main reaction is to establish more and more detailed prescriptions to improve WEB-1996. The evaluating researchers are warning against this reaction, because it will turn out as a contra productive and backward movement. The challenge will be to improve WEB-1996 within a forward mode, which will change the relations between institutional actors and organisational actors 180° degrees around: colleges and local companies should be seen as the primary, professional actors, and the institutional set up should be facilitating them in stead of setting the rules. The second half of 2001 will be decisive for the quality ambitions in Dutch VET for the next decade.

5. Analysis of policy instruments for VET-systems' change

The three VET systems described, are not representative for the European diversity in VET systems. All the three systems are more or less school based systems, comparable to the Nordic and French systems. In the German speaking countries VET systems are more company based, under the regime of the Dual system; whereas the UK systems are much more market led. These system differences have large impact on important characteristics as responsiveness and innovativeness of the systems, as Crouch cs. (1999) have pointed out extensively. Having said this, the basic problem within the three observed systems is quite similar: how to build a flexible VET system, balancing between stable structures and dynamic, changing labour market demands.

In Denmark a systemic solution is sought for this problem in disconnecting educational tracks and the work system, enabling students to develop their own occupational identity and competencies: forward mapping and participation in communities of practice is a more powerful way of connecting by supporting individual development towards self-employing skills.

In Romania they also have chosen for a disconnection between the occupational standards and the training standards: this offers a way to institutional disconnection and local reconnection.

In the Netherlands policy makers tend to chose for improvement of the industry based VET system. In the Dutch case the institutional connection will be strengthened; experts expect severe problems; 1) motivational problems for students; 2) flexibility problems for local delivery; 3) integrative problems for work based learning in national programmes; APL will uncover this rapidly; 4) widening discrepancies between exchange value and use value of competencies; 5) recruitment and motivation problems with VET-teachers. The power of traditional institutions is still quit strong in the Dutch case: connecting school to work in an industrial paradigm through forecasting and prescriptions. At the other hand, the minister of education in the Netherlands pretends to liberate the position of the (VET)-colleges, in his last policy document. Educational content should be decided on by school boards, only a very small core curriculum should be decided on politically by the government.

So, policymakers are balancing 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. On institutional level this means a shift from a prescriptive policy towards a facilitating policy; on organisational level this means a shift in organisational culture and professionalism towards autonomy and accountability. In the Danish case, experiments are going on local level: local economic and educational actors are challenged to organise pathways towards competence development, fitting both to the local economic demands as well as to the ambitions of future students. Within the Dutch context, experts sketch the challenges and recommendations for colleges as local spiders in innovative networks. VET-colleges as learning organisations is a scenario, describe by Kelleher & Simons (see Forum web site).

Within the different system approaches we see a variety in balancing solutions for the dilemmas, as described in paragraph 2.

- On the dilemma between initial and life long learning, all systems have chosen in practice for an initial perspective; life long learning is still wishful thinking, at least in system development.
- Traditional occupations or flexible qualifications: the Danish approach is very promising to deliver flexible pathways towards competencies. The basic perspective in the Danish system is a forward mapping, developmental approach by which broad initial choices will be moderated and targeted through a guiding educational system. The Roumanian system takes a middle position, by disconnecting the training system and the occupational system. In the Dutch system the backward mapping system, based on a fair trust in forecasting techniques, is still the leading perspective
- Curriculum based or work experience: the Rumanian system seems to be the most curriculum based perspective; the construction of educational infrastructure forces

towards an emphasis on school based learning. The Dutch and Danish infrastructure is established three or four decennia ago, so in these countries there is much more discussion on work based learning as an attractive approach for students. In the Netherlands a mixed model is under development, whereas in Denmark both mixed pathways as well as work based pathways are development in the New educational reform.

- Social demands or economic demands: in Denmark and Roumania the policy perspective on this dilemma is mixed: both social as well as economic demands are seen as important input for the VET system. In the Dutch system much more emphasis is laid on the economic demand; this is compatible with the backward mapping approach: the system 'knows' what is good for the students; they don't have to develop that perspective themselves.
- Employment or self-employment: in all systems self-employment is not mentioned as a serious alternative for the employment perspective; this is compatible with the low emphasis on life long learning in the first dilemma..

So, the strategic profile of each system is different. The source for these differences can be found in history (how did systems grow), in the political power of institutional actors (how strong is the protection of traditions balanced against the need for innovation), and in the elaborateness of the educational infrastructure (existing professionalism and resources). Each system is unique in combining these sources, so also the outcomes in system features will be different. Changing VET-systems can be seen as a kind of governmental learning: depending 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 right way for VET, although the set of evaluation criteria suggests a convergence of targets and goals. There are no recipes for countries to reach those goals and targets. VET policy is a matter of chaos and complexity: each country has to examine its own 'set up'; examples from other countries can be used as good practices, but should be adapted to the own national or regional situation. One important lesson for systems innovations is that the learning and experimentation should be coherent and compatible on all systems' levels: from law, through institutions and organisations up till primary teaching learning processes. Just changing the college level will not be successful if legislation and institutional set up at the one hand, and teachers and students behaviour and expectations at the other hand are changed in a compatible way. The Danish approach to change all systems levels, but only in one or two regions, seems to be a smart way to encounter this adventure.

The recommendation for a comprehensive systems approach is not only valid for the school based systems we have observed in this article. Also for market led and dual VET-systems this recommendation counts. In either of these systems the deeper involvement of companies will increase the complexity of the endeavour. So, system innovation of dual systems and market led systems will take even longer than the innovation of school based systems. European VET policies should not be sought in prescriptive designs and regulations: the most successful road for European policies on VET is a set of challenging goals and evaluation criteria: which targets should be dealt with on several dilemma's we have described in this article. Also on systems level a backward mapping, blueprinting policy is inferior to a forward mapping developing concept of systems' evolution. Challenging evaluation criteria can form the heart of a development oriented European VET policy.

6. Towards new perspectives on learning and working in VET

Evidently, it is not easy for VET to take up a new task, as sketched by Rosenfeld (1998). Lifelong learning, the facilitation of technology adaptation and the fomenting of innovative networks seem to be mentally understood by the colleges, but in practice rarely to be put in action. This is the case in all European VET-systems. The development of a system for lifelong learning in a dynamic knowledge based economy, is not simply a supplement to the education and training assortment of the colleges; lifelong learning implicates a fundamental change of enterprise for the colleges.

The learning enterprise in the traditional VET-system, developed within the industrial economy of the 20th century, is completely different from the innovative learning processes within knowledge intensive companies. These differences in learning processes cause different professional profiles for teachers and educators at the one hand and for professionals in companies at the other hand. Also the work culture and the incentive structures differ largely for professionals and managers in companies and colleges. The design of VET for the knowledge economy involves not only reorganization of the course supply but also a redesign of the fundamental processes and culture.

VET is trapped in decontextualisation and meaningless broadening of skills, and has to query for new forms of participatory didactics and assessment in the context of experimentally rich communities of practice (Wenger, 1998). Such a shift in learning perspectives can not be completed by the VET-colleges only. Tomassini shows that the learning perspectives are deeply rooted in the institutional set up around VET. So the institutional actors (government, politics, social partners) should become aware of the chaotic context around vocational learning: a new design of learning processes requires new conditions and incentive structures on systems' level.

VET as a community of practice for teachers, is a sterile reality, in which codified knowledge and skills are central: methods, books and curricula form an intermediary between learners and practice. According to Wenger (1998) codification has its costs and returns: it facilitates the entrance to new knowledge, but it hinders the giving of meaning of that knowledge through participation. In traditional VET the equilibrium between codification and participation is disappeared. In such a practice, teachers have little chance to develop their expertise and identity as participants in innovative processes and are no longer strong role models for their students, because they are no longer representatives of the future communities of practice, the students are heading for. Teachers are not seen anymore by professionals and entrepreneurs from the sectors as recognized partners in innovative networks. They don't have the possibilities anymore to play a pivotal role in regional developmental projects and to support the entrance of their students into the world of work. Colleges should offer to teachers more possibilities to authentic participation in economic activities and by doing such, getting in touch with the uncertainties of innovative activities: they should experience the tacit aspects of competencies, the trial and error aspects of innovation and the uncertainty of innovative learning processes. Through authentic participation of teachers, both students and teachers can act as full participants in the VET-community of learning for working.

In the actual VET-system, colleges get their returns from efficiency in the industrial paradigm: participatory goals are addressed to learning at the workplace, and by doing that, the college and teachers can concentrate on the codified part of the curriculum. The actual non-competitive position on the 'students market' does not force colleges to invest in adult education: non-initial education takes only 5 – 10% of the turn over of colleges and the course supply in adult education is restricted to reutilised content. Caused by the traditional incentive structure, colleges are not interested in innovation of the learning processes and the organizational visions behind. Most of the discussion is directed to adapt external developments into the codified educational paradigm.

VET is locked in the codified practices of an educational system developed for and in the industrial society of the 20st century. The institutional set up in VET is strongly focussed on the economic perspective, in which the exchange value of competencies plays the prime role. The important actors in the system, like social partners, government and even students, restate this perspective time by time in the political debate. Without a systemic debate and a paradigm shift on all levels in the educational system, the margins for innovative policies on college level will stay restricted. Colleges are aware of the urgency of a repositioning in the local economy, but they lack the instruments and the visions for claiming new roles. Also teachers are locked in the traditional paradigm on the enterprise of VET, which results in professional resistance against uncertainty in participatory adventures with professionals from outside school. We have found some good practices as benchmarks for new educational policy, but they should be considered as front runners and innovators, for which inside the educational system no institutional and organizational set up exist. An educational system, supporting innovation and learning within economic practices, is not only a matter of the colleges, but requires strategic design on all systems' levels: legislation, institutional set up, organizational design and constraints and redesign of the learning process itself.

Hariduse ja kutsehariduse võrgustik Soomes

Jussi S. Jauhiainen

Soomes on koostamisel hariduse arengustrateegia 2003-2008 (*Koulutus ja tutkimus vuosina 2003-2008 Kehittämissuunnitelma*; kommentaaride tegemise jaoks on dokument internetis (<http://www.minedu.fi/opm/koulutus/asiakirjat/kesuluonnos.pdf>).

Haridusministeeriumi poolt koostatavas arengustrateegias käsitletakse põhjalikult neid väljakutseid, mida praegune (1-5 aastat), lähiaastate (6-10 aastat) ning kaugema tuleviku (10-20 aastat) demograafiline ja majanduslik areng toob kaasa Soome haridusmaastiku jaoks.

Soome kogemustest on võimalik leida mõningaid lahendusi ka Eesti haridusküsimustele, eelkõige kutsehariduse võrgustiku arendamiseks. Näiteks, Soome on suhteliselt väikse rahvaarvuga hõredalt asustatud riik (Lõuna- ja Kesk-Soome on võrreldav Eestiga) ning asetseb füüsiliselt Euroopa perifeerias. Soomes, nagu ka mujal EL-is toimub väga tugev majanduse kasvu ja arengu kontsentreerumine suurematesse keskustesse, mille tulemusel rahvastiku arv kasvab suuremates linnaregioonides ja langeb perifeersetes maapiirkondades. Sellest on aru saadud ka poliitilisel tasemel. EL-i ja Soome regionaal- ja linnapoliitika toetavad kasvukeskuste arengut ning oskuste, teadmiste, hariduse ja ettevõtluse aktiivset koostööd. See toimub kõige efektiivsemalt suuremates piirkondades, mille tuumikuks on spetsialiseerunud linnaregioonid, sh. ka kutsehariduse keskused. Ka Eestis on võimalik määratleda 5-6 suuremat linnaregiooni.

Soome on saavutanud viimaste aastate jooksul väga häid tulemusi põhikooli lõpetanud elanikkonna osas (PISA uurimus). Üle 90% põhikooli lõpetanute jätkab otse II astme koolides. Süstemaatiline investering haridusesse ning teadus- ja arendustegevusse on väga positiivselt mõjutanud Soome majanduslikku olukorda. Teisalt on aga esitatud ka arvamusi, et liiga suur kontsentreerumine III astme koolitusele (ülikool: strateegiline töö juhtimine ja arendamine; rakenduslik kõrgkool: operatiivne töö juhtimine) ohustab riigi operatiivset tegevust (II astme ametipõhine koolitus, mille eesmärgiks on koolitada oskustööjõudu operatiivsel tasandil).

On selge, et Soome areng mõjutab ka EL-isse integreerunud Eestit. 1980ndatest alates on Soome majandusstruktuuris toimunud kardinaalne muutus. Endise lihtsatele oskustele ja suurele tööjõule baseeruva tööstuse on asendanud infotehnoloogiatööstus ning järjest rohkem inimesi töötab heaolu- ja meelelahutussektoris. Vähem kui kümne aasta jooksul on Soome tööturul vaja juurde 100 000 – 200 000 töötajat, eriti II astme hariduse läbinud oskustööjõudu. Sõjajärgne suur põlvkond lahkub tööturult ning Soome vajab operatiivsete oskustega töötajaid. Selles kontekstis on oluline mäletada, et Soome on Eesti tähtsaim majanduspartner ning Eestis tegutsevad mitmed Soome kapitalile põhinevad ettevõtted. Sellise olukorraga peaks arvestama ka Eestis kutseõppeasutuste võrgustiku arendamisel.

1. Soome hariduse arengustrateegia, selle sisu ja selle koostamine

Soome hariduse arengustrateegias on püstitatud üldised strateegilised ja poliitilised eesmärgid. Peamiseks eesmärgiks on, et Soome tulevik baseerub teadmiste, oskuste ja loovusele. Seda eesmärki vaadeldakse globaliseerunud majanduse ja suurte poliitilis-majanduslike muutuste kontekstis.

Arengustrateegias käsitletakse kõiki hariduse tasemeid, ehk I astme haridust (põhikool), II astme haridust (gümnaasium ja kutseõppeasutused) ja III astme haridust (rakenduskõrgkoolid ja ülikoolid). Samuti sisaldab arengustrateegia ulatuslikku analüüsi hariduse hetkeseisust Soomes nii kvantitatiivsest kui ka kvalitatiivsest vaatenurgast. Eriti on pööratud tähelepanu demograafilistele trendidele 1-9 aasta ning 10-20 aasta jooksul. Seeläbi on selgitatud koolidesse astuvate inimeste arv ning muutused selles arvus. Samuti peetakse väga oluliseks nt. II ja III astme hariduse nõudluse ja pakkumise detailset analüüsi Soomes erialade kaupa. Analüüsiga on iga eriala kohta eraldi välja selgitatud järgmised küsimused: kui palju töötajaid jääb sellel erialal pensionile või lahkub tööturult mingil muul põhjusel; milline on nõudlus vastava erialase koolituse saanud inimeste järgi tööturul hetkel ja lähitulevikus; kas ja kui palju inimesi on vaja koolitada sellel erialal juurde või vähendada selle eriala õpetust. Oluline on mainida, et arvud baseeruvad spetsialistide poolt läbiviidud analüüsidele, mitte üldistele arvamustele.

Arengustrateegia koostamises on osalenud kümned organisatsioonid, sh. ministeeriumi ametnikud ning teised avaliku sektori esindajad, maakonnad, teatud omavalitsused ja omavalitsuste liidud, ülikoolid, rakenduskõrgkoolid, kutseõppeasutused ja gümnaasiumid ning erinevad mittetulundusühingud. Oluline oli ka hariduse, tööturu ja majanduse spetsialistide ja eraettevõtete kommentaaride kogumine. Sellist lähenemist on soovitatav ka kasutada Eestis.

2. Hariduse peamised trendid ja eesmärgid Soomes

2.1. Peamised demograafilised trendid Soomes

Esimese astme hariduse ehk põhikooli õpilaste arv langeb Soomes praegu umbes 5000 õpilast aastas, mis teeb 0,9% vähenemist ühes aastas. Selle tulemusena suletakse põhikoole, eriti perifeersemates maapiirkondades, kus laste arv on väike. Tulevikus on õpilaste arvu langemine aeglasem (Tabel 1). Eestis juba algas järsk langus ning 2010.a on põhikooli õpilasi kolmandik ehk 60 000 vähem kui 2000.a (-3% aastas).

Teise astme õpilaste arvus ei toimu Soomes käesoleva aastakümne jooksul olulisi demograafilisi muutusi. Negatiivne areng hakkab toimuma kiiresti alates 2010. aastast, ehk õpilaste arv langeb tollal 3000 õpilase võrra aastas (Tabel 1). Eestis langus algab 2004.aastal ning järsult alates 2007.aastast, jälle kiiremini kui Soomes.

Kolmanda astme arengut vaadeldes toimub Soomes veel väike kasv kuni 2010. aastani. Alates sellest aga langeb potentsiaalsete õpilaste arv umbes 2300 õpilase võrra aastas (Tabel 1). Ka Eestis on demograafiline olukord hea III astme koolituse vaatenurgast kuni 2008 aastani, kuid siis toimub kiire vähenemine (40%-45%).

Tabel 1. Noorte inimeste arv ehk haridust mõjutavad demograafilised trendid Soomes.

| | 2000 | 2010 | 2020 | 2000/2010 | 2000/2020 |
|----------|---------|---------|---------|-----------------|------------------|
| 7-15. a | 580 800 | 528 400 | 504 100 | -51 600 (-8,8%) | -76 700 (-13,2%) |
| 16-18. a | 202 600 | 199 700 | 170 800 | -2 900 (-1,4%) | -31 800 (-15,7%) |
| 19-21. a | 194 200 | 198 600 | 175 200 | +4 400 (+2,2%) | -19 000 (-9,8%) |

Allikas: Opetusministeriö 2003.

2.2. Tööturg Soomes

Alates 2003.a on Soomes tööturult lahkuvate inimeste arv suurem kui sinna saabuvate noorte arv. Olukord erineb regioonide vahel, nt Helsingi ja Oulu piirkonnas on tööturult lahkuvate arv suhteliselt väiksem kui mujal. Igal juhul on 2009.a igas maakonnas tööturult lahkuvate arv sinna saabuvate arvust suurem. Aastal 1990 oli 15-64.a töökäijate arv 74,1% kogu rahvastikust (regiooniti 66,9% - 80,2%), kuid 2002.a see arv oli langenud ning oli 67,7% kogu rahvastikust (regiooniti 56,1% - 75,0%).

Tööturu ja demograafiliste muudatuste tõttu on Soomes vaja märkimisväärselt rohkem töötajaid kui praegused demograafilised trendid lubavad. Arvestama peab ka seda, et üle 237 000 soomlase on töötud (töötus varieerub regiooniti 5,7% - 16,5%). Ametnike hinnangul üsna harvad nendest suudavad integreeruda tööturule. Paljude töötute haridus ja ametid ei vasta vabanevate ja tekkivate töökohtade nõuetele ehk tegemist on eelkõige struktuuraalse tööpuudusega. Arvatakse, et Soomes oleks vaja viie-kümne aasta jooksul 100 000 – 200 000 uut töötajat, mida demograafiline olukord ei toeta. Selle tõttu on osaliselt töötajate puuduse lahenduseks täiskasvanute ümberkoolitus. Samuti arvestatakse kasvava välismaalaste arvuga. Momendil on välismaal sündinud, kuid Soomes elavate inimeste arv umbes 110 000, kuid ekspertide hinnangul on see 2010.aastal 200 000 ning 2020 aastal 300 000 – sh ka mitmed eestlased.

Eriti suur nõudlus on tööturul II astme koolituse saanud oskava tööjõu järgi spetsiifilistel erialadel. See peegeldub ka kutseõppeasutuste erinevatel erialadel alustavate õpilaste arvu muutustena (Tabel 2). Soome olukorda peaks arvestama ka Eestis kutsehariduse, -koolituse ja kutseõppeasutuste võrgu arendamisel. Üheltpoolt on tegemist hea võimalusega koostööks Soomega, kuid teisalt on olemas ka oht, et Eestis koolitatakse võib-olla riigi rahadega inimesi, kes lahkuvad Soome või teistesse EL-i liikmesriikidesse nende tööturu avanemisel 2006-2011 aastatel.

Tabel 2. Õpilaste arvu muutus kutseõppeasutustes koolitusalaati Soomes 2001.a / 2008.a.

| | | | |
|---------------------------|-------|----------------------|------|
| Hotellindus, restoranid | -2190 | Auto ja veondus | +970 |
| Käsi- ja kunstitöö | -770 | Masina-metalltööstus | +600 |
| Tekstiil- ja rõivatööstus | -380 | Kaubandus | +570 |
| Kosmeetika | -360 | Koristamine | +330 |
| Vaba-aja tegevus | -310 | Ehitus | +280 |
| Metsandus | -220 | Paberi-keemiatööstus | +260 |
| Toidutööstus | -250 | Sotsiaal-tervisehoid | +220 |
| Muu loodusvara | -200 | Põllumajandus | +140 |

Allikas: Opetusministeriö (2003).

2.2. II ja III astme haridustee läbimine Soomes

2002. aastal oli Soomes 61 374 15-aastast (Eestis 21 465) ja 66 761 18-aastast (Eestis 21 452) inimest. Igast eagrupist asub Soomes umbes 90% kohe II astme haridusteele. Aastal 2001 lõpetas Soomes gümnaasiumi 35 283 inimest ja kutsehariduskooli 52 545 inimest. 20-50.aastastest soomlastest on 81%-85% saanud vähemalt II astme hariduse. Haridusministeeriumi eesmärgiks on tõsta see arv 90%-ni.

III astme hariduse on saanud pisut alla veerand Soome rahvastikust (989 609 ehk 23,7% kogu rahvastikust; Eestis 151 581 ehk 11,1%). Kõrghariduse saanud inimeste arv Soomes varieerub regiooniti. Kõige suurem see on Lõuna-Soome linnastunud piirkondades, nt Uusimaa maakonnas (31%) ja väiksem perifeersemates maakondades (Kainuu ja Kesk-Põhjamaa 17%). Doktori kraadi kaitses 2002.a 1224 inimest ja kraadiga inimesi on 15 523 (0,4% rahvastikust, Eestis kraadiga on 2833 ehk 0,2%).

2.2.1. II astme haridus Soomes (gümnaasium ja kutseõppeasutused)

- Gümnaasiumides alustas 2002.a 42 800 õpilast; 2008. aastani püsib see arv samana, ehk on 43 000, nende hulgas on 3 000 õpilast, kes töötavad samaaegselt;
- 2001.a lõpetas gümnaasiumi 35 283 õpilast;
- kutseõppeasutustes alustas 2002.a 62 000 õpilast; 2008.aastaks langeb see arv 8%, ehk on 56 800, nende hulgas on 12 500 õpilast, kes töötavad samaaegselt ;
- 2001.a lõpetas kutsehariduse 52 545 õpilast;
- eesmärgiks on, et 75%-90% kutseõppeasutustes alustavatest inimestest ka lõpetab oma eriala (praegu 65%-86% sõltuvalt erialast): võtmesõnadeks on innovatsioon, kvaliteet ning mõju ja vastavus tööturu jaoks;
- eesmärgiks on, et 90% 25-29.aastastest oleks saanud II astme hariduse;
- eesmärgiks on, et 50% noortest saaks kutsehariduse;
- eesmärgiks on, et 23% kutseharidusega lõpetanutest hangib lisaks teise eriala kraadi;
- eesmärgiks on võimaldada ja toetada üldisema gümnaasiumi ja spetsiifilisema kutsehariduse samaaegsed sooritamist;
- aktiivne täienduskoolitus.

2.2.2. III astme haridus rakenduskõrgkoolides Soomes

- Rakenduskõrgkoolides alustas 2002.a 31 400 üliõpilast; 2008.aastaks see arv püsib samana, ehk on 31 900, nende hulgas on 6 000 üliõpilast, kes töötavad samaaegselt;
- 2001.a lõpetas rakenduskõrgkooli 18 045 üliõpilast;

- eesmärgiks on, et 25% rakenduskõrgkooli õpilastel on ka kutseharidus;
- eesmärgiks on, et 80%-95% koolis alustavatest inimestest ka lõpetab oma eriala (praegu 55%-93% sõltudes erialadest);
- eesmärgiks on, et 5% lõpetanutest hangib veel teise eriala kraadi;
- eesmärgiks on lisada rakenduskõrgkoolide ja ülikoolide vahelist koostööd ning võimaldada rakenduskõrgkooli lõpetanud üliõpilastel õpingute jätkamist ülikoolis;
- aktiivne täienduskoolitus.

2.2.3. III astme haridus ülikoolides Soomes

- Ülikoolides alustas 2002.a 24 600 üliõpilast; 2008.aastaks see arv langeb 8%, ehk on 23 000, sh. 4 700 üliõpilast, kes töötavad samaaegselt;
- 2001.a lõpetas ülikooli 16 822 üliõpilast;
- eesmärgiks on, et 2-3% ülikooli õpilastel on ka kutseharidus;
- eesmärgiks on, et 75%-97% koolis alustavatest inimestest ka lõpetab oma eriala (praegu 55%-96% sõltudes erialadest);
- eesmärgiks on, et 50% 30-34.aastasest rahvastikust oleks saanud III astme hariduse;
- eesmärgiks on, et 3% lõpetanutest hangib veel teise eriala kraadi.

3. Kutsehariduse praegune ja lähituleviku olukord Soomes

3.1. Kutsehariduse olukord 2002. ja 2008.a

Kutsehariduse üldised lähtekohad otsustab vabariigi valitsus. Haridusministeerium otsustab detailsemates kutseõppeasutuste küsimustes (kraadid) ning annab koolituslitsentsid kutseõppeasutustele. Õppekavad koostab koolituse organiseerija (ehk kutseõppeasutus) baseerudes riiklikele strateegiatele.

Kutseharidus koosneb kolmeaastasest õpingutest (120 ainepunkti, AP), millest vähemalt 20 ainepunkti moodustab töökohtades läbiviidud praktika. Gümnaasiumi lõpetanutele on õpingute maht 90 AP. Õpingute mahus arvestatakse ka varasema koolituse ja töökogemusega. Kraadid on organiseeritud vastavalt tööturu nõudlustele.

Soome haridusministeeriumi strateegias 2003-2008 on täpsustatud koolitusvajaduse muutused järgneva viie aasta jooksul erialade kaupa (Lisa 1). Momendil umbes 45% igast eagrupidist alustab õpingud kutseõppeasutuses peale põhikooli või gümnaasiumit. Järgmise viie aasta jooksul langeb II astmes alustavate õpilaste arv 8,5% (-6590 õpilast). Samuti langeb III astmes ülikoolis alustavate üliõpilaste arv 14,0% (-2980 üliõpilast), kuid rakenduskõrgkoolides praegune olukord säilib ja üliõpilaste arv isegi pisut tõuseb 2,7% (+670 üliõpilast).

2008.a on II astme kutseõppeasutuste ja III astme kõrg- ja ülikoolide õpilaste suhe 50:50, ehk kutseõppeasutuste õpilaste suhteline arv natuke tõuseb. Tollal alustab II astme ametialases koolituses 44330 õpilast, III astme rakenduskõrgkoolides 25 900 üliõpilast ja III astme ülikoolides 18280 üliõpilast. Eriti tähtis on kutsehariduse osakaal turismi, teeninduse ja tehnika erialadel (vt. ka Tabel 2).

3.2. Kutseõppeasutuste võrgustik Soomes

Soomes on 359 asutust, mis annavad ametialast II astme koolitust, sh. ka ametialaseid kursuseid. Nendest 207 on spetsiifilised kutseõppe organiseerijad. Mainitagu, et gümnaasiumeid on 483.

Haridusministeeriumi strateegias on mainitud sisulisteks eesmärkideks kutseõppeasutuste võrgu sisene arendamine ja kutseõppeasutuste vahelise koostöö lisamine. Samuti püütakse lisada koostööd gümnaasiumite ja kutseõppeasutuste vahel ning võimaldama samaaegseid õpinguid mõlemates II astme koolituse vormides. Oluline on ka pidev suhtlus tööturu ja kutseõppeasutuste vahel.

Haridusministeeriumi strateegia üheks eesmärgiks on ka tihendada kutseõppe pakkujate võrgustikku ning vähendada koolitust andvate üksuste arvu. Seeläbi moodustuvad kutseõppe organiseerijatest piisavalt suured, mitmekesised ja muidu tugevad tegurid regionaalse arengu ja tööturu vajaduste vaatenurgast ning kutseõppeasutuste võrgustik on kaasaegne ja efektiivne.

Kutseõppeasutuste võrk ulatub igasse maakonda. Eestiga võrreldes on vaja arvestada, et koolide vaheline geograafiline kaugus on üsna suur Põhja- ja Ida-Soomes. Õpilaste arv varieerub palju erinevate maakondade vahel. Kõige rohkem on II astme kutseõppeasutustes õpilasi Uusimaa maakonnas (2002.a lõpetas 11724) Helsingi piirkonnas. Lisaks on kolmes maakonnas rohkem kui 10 000 õpilast. Kõige väiksem arv õpilasi on umbes 2000, s.o väikse Ida-Uusimaa maakonnas ja perifeerses Kainuu maakonnas, kus lõpetajaid on alla tuhande aastas (Tabel 3).

Tabel 3. Kutseõppeasutuste võrgustik Soomes. Õpilaste arv ametialases koolituses 2001.a.

Tabel 3. Kutsekoolivõrgustik Soomes. Õpilaste arv ametialases koolituses 2001.a.

| maakond | uued õpilased | kokku õpilased | lõpetanud õpilased | elanikud | lõpetanud / 10 000 el. | koolituse organiseerijaid |
|-------------------|---------------|----------------|--------------------|-----------|------------------------|---------------------------|
| Uusimaa | 17 195 | 36 097 | 11 724 | 1 318 324 | 88,9 | 43 |
| Varsinais-Suomi | 5 594 | 12 075 | 4 002 | 449 292 | 89,0 | 22 |
| Satakunta | 3 064 | 7 045 | 2 291 | 236 308 | 96,9 | 10 |
| Kanta-Häme | 2 745 | 5 991 | 2 110 | 165 509 | 127,5 | 11 |
| Pirkanmaa | 6 304 | 13 887 | 4 940 | 450 745 | 109,6 | 17 |
| Päijät-Häme | 2 819 | 6 208 | 1 822 | 197 656 | 92,2 | 4 |
| Itä-Uusimaa | 984 | 2 174 | 759 | 90 201 | 84,1 | 5 |
| Kymenlaakso | 2 387 | 5 435 | 1 339 | 186 707 | 71,7 | 5 |
| Etelä-Karjala | 1 604 | 3 501 | 1 222 | 137 019 | 89,2 | 5 |
| Etelä-Savo | 2 497 | 5 587 | 1 830 | 164 471 | 111,3 | 9 |
| Pohjois-Savo | 3 717 | 8 522 | 2 908 | 252 842 | 115,0 | 10 |
| Pohjois-Karjala | 2 617 | 5 963 | 1 624 | 170 793 | 95,1 | 2 |
| Keski-Suomi | 4 398 | 9 300 | 3 076 | 264 762 | 116,2 | 9 |
| Etelä-Pohjanmaa | 3 173 | 6 756 | 2 415 | 194 542 | 124,1 | 20 |
| Pohjanmaa | 2 162 | 4 848 | 1 535 | 173 083 | 88,7 | 11 |
| Keski-Pohjanmaa | 1 491 | 2 971 | 989 | 70 848 | 139,6 | 4 |
| Pohjois-Pohjanmaa | 5 970 | 13 128 | 4 298 | 368 029 | 116,8 | 15 |
| Kainuu | 1 120 | 2 563 | 924 | 88 473 | 104,4 | 5 |
| Lappi | 3 163 | 7 437 | 2 477 | 189 288 | 130,9 | 10 |
| Ahvenanmaa | 252 | 601 | 250 | 26 008 | 96,1 | |

Allikas: Tilastokeskus (2003)

Aastast 1999 aastani 2002 on kutseõppe organiseerijate arv Soomes vähenenud 26 võrra (-11% kolme aasta jooksul). Pooled organiseerijatest on eraomanikud (101),

pisut alla kolmandik (60) on omavalitsuste liidud ning viiendik (45) omavalitsused. Riigil on 5 spetsiifilist kutseõpet ning saamide koolituskeskus.

Kutseõppeasutuse suhtlevad väga aktiivselt oma teeninduspiirkonna ettevõtetega, omavalitsustega, piirkondliku ettevõtlus- ja tööturuametiga ja rakenduskõrgkoolidega, et tunnetada oma regiooni spetsialiseerumine ja vajadused tööturul. Samuti on tähtis suhtlemine teiste kutseõppeasutustega ja piirkondadega, et vahetada kogemusi uute koolitusvalade tekitamisel ja tööturul toimuvate muutustega. Järjest tähtsamaks on muutunud kutseõppeasutuste ja nende erialade imago ja maine kujundamine, et tekitada suuremat konkureerimist nii kutsehariduse sees kui kutseharidust andvate koolide vahel.

4. Kirjandus

Opetusministeriö (2003). Koulutus ja tutkimus vuosina 2003-2008. Kehittämissuunnitelma.

<http://www.minedu.fi/opm/koulutus/asiakirjat/kesuluonnos.pdf> [mustand seisuga 22.8.2003] 26.9.2003

Lisa 1. II ja III astme koolitus erialati 2001.a – 2008.a Soomes.

| | uusi õpilasi 2001.a | uusi õpilasi 2008.a | absoluutne muutus 2001/2008 | suhteline muutus 2001/2008 | suhteline osakaal 2008.a | II/III astme 2008.a |
|--------------------------|---------------------------|---------------------------|-----------------------------------|----------------------------------|--------------------------------|------------------------|
| Loodusvarad | 8240 | 7030 | -1210 | -14,7% | 7,9% | 40,4% |
| II astme kutsekool | | 2840 | | | 6,4% | |
| III astme rak. kõrgkool | | 1000 | | | 3,9% | |
| III astme ülikool | | 3190 | | | 17,5% | |
| Tehnika ja transport | 31990 | 32980 | +990 | +3,0% | 37,3% | 62,6% |
| II astme kutsekool | | 20650 | | | 46,6% | |
| III astme rak. kõrgkool | | 8630 | | | 33,3% | |
| III astme ülikool | | 3700 | | | 20,2% | |
| Haldus ja kaubandus | 20180 | 16950 | -3230 | -16,0% | 19,2% | 30,7% |
| II astme kutsekool | | 5200 | | | 11,7% | |
| III astme rak. kõrgkool | | 7100 | | | 27,4% | |
| III astme ülikool | | 4650 | | | 25,4% | |
| Turism ja teenindus | 8760 | 6630 | -2130 | -24,3% | 7,5% | 97,5% |
| II astme kutsekool | | 5390 | | | 12,2% | |
| III astme rak. kõrgkool | | 1240 | | | 4,8% | |
| III astme ülikool | | - | | | 0,0% | |
| Sotsiaal- ja tervisehoid | 14850 | 14930 | +80 | +0,5% | 16,9% | 50,6% |
| II astme kutsekool | | 7550 | | | 17,0% | |
| III astme rak. kõrgkool | | 5780 | | | 22,3% | |
| III astme ülikool | | 1600 | | | 8,8% | |
| Kultuur | 5630 | 4250 | -1380 | -24,5% | 4,8% | 51,5% |
| II astme kutsekool | | 2190 | | | 4,9% | |
| III astme rak. kõrgkool | | 1590 | | | 6,1% | |
| III astme ülikool | | 470 | | | 2,6% | |
| Humanistlik ja õpetus | 7080 | 5690 | -1390 | -19,6% | 6,4% | 9,0% |
| II astme kutsekool | | 510 | | | 1,2% | |
| III astme rak. kõrgkool | | 510 | | | 2,0% | |
| III astme ülikool | | 4670 | | | 25,5% | |
| Kaitse | 20 | 50 | +30 | +250% | 0,1% | 0,0% |

Kutseõppeasutuste võrgu korraldamine lähtuvalt regionaalsest spetsialiseerumisest

| | | | | | |
|--------------------------------|-------|-------|-------|--------|------|
| <i>II astme kutsekool</i> | | - | | | 0,0% |
| <i>III astme rak. kõrgkool</i> | | 50 | | | 0,2% |
| <i>III astme ülikool</i> | | - | | | 0,0% |
| <hr/> | | | | | |
| KOKKU | 96780 | 88510 | -8270 | -8,5% | 100% |
| <i>II astme kutsekool</i> | 50920 | 44330 | -6590 | -12,9% | 100% |
| <i>III astme rak. kõrgkool</i> | 25230 | 25900 | +670 | +2,7% | 100% |
| <i>III astme ülikool</i> | 21260 | 18280 | -2980 | -14,0% | 100% |

Allikas: Opetusministeriö 2003.

LISA 3

Kutsehariduse ja piirkondliku tööturu vajaduste ühildamine

Kutseõppe ja piirkondliku tööturu vajaduste ühildamise puhul on enamasti silmas peetud koolitada konkreetsetes piirkonnas asuvates õppeasutustes erialasid, mis rahuldaksid just selle regiooni tööjõuvajadusi. Tegemist on siiski vaid ühe võimaliku lahendusteedega, mis on enamasti piiratud kohaliku või regionaalse tööturu väiksuse ja liigse mitmekesisusega, mille puhul on lisaks veel väga raske täpsemalt prognoosida tööjõuvajadusi nii kvalitatiivses kui kvantitatiivses mõttes.

Lisas 1 on esitatud 2 arendusprojekti näidet. Projektide teostamise asukohaks on Kainuu vald Soome Kesk-Idas. Tegemist on ebasoodsa geograafilise asendiga ääremaalise maavallaga. Omavalitsuse rahvaarv (1994.a.) oli 7900, asustustihedus vaid 3 in./km². Tööpuuduseks oli 21,7%, keskmine sissetulek elaniku kohta 80% riigi keskmisest. Projektid kirjeldavad, kuidas on leitud täiendavaid lahendusi äärelise asendiga piirkonna kutseõppeasutuse säilitamisega seotud probleemidele. Need probleemid on sarnased enamike riikide vähematraktiivsetele piirkondadele. Viimastel aastakümnetel on paljude riikide ääremaalised piirkonnad olnud tõsistes raskustes: rahvaarv on pidevalt vähenemas, seni tööd andud majandusharud hääbumas, väikefarmid on pidanud tootmise lõpetama või seda vähendama, iseenesest ei ole piirkonnad osutunud atraktiivseks uute tegevusalade ja ettevõtete (tööstus, teenindussfäär) tekkele.

Tegemist on püüdega ühelt poolt mitmekesistada piirkonna majandust ja tõsta selle konkurentsivõimet, arendades kohalikku majandust lähtuvalt võrgustikmajanduse ja väikeklastrite arendamise põhimõtetest, lisaväärtustades kohalikke ressursse ja muid arengueeldusi. Nimetatud võimaluste realiseerimiseks on kasutatud piirkonnas asuvat osuskapitali kutseõppeasutuste näol, kujundades need piirkondlikuks kompetentsikeskuseks. Teadlik ja operatiivne kohandumine uute tingimustega ning aktiivne osalemine piirkondlikus arendustegevuses võimaldasid uusi võimalusi kutsekoolile oma põhitegevuse (koolitus) arendamisel.

Kuna vanades majandusharudes enam uusi töökäsi ei vajata (või vähemalt mitte seniste oskustega tööjõudu), on ka kutseõppeasutused pidanud tegevuse lõpetama või leidma ühiskonnas uued nishid. Uuteks võimalusteks on olnud uute erialade avamine (mida teatud piirkondades ei ole lihtne teostada), kuid ka õppeprotsessi muutmine nii sisu kui vormi osas. Käesolevaks ajaks on näitena esitatud kutseõppeasutus muutunud kohalikuks arendusettevõtteks (ja projektijuhtimiskeskuseks) ning oskuskeskuseks (sh tehniliseks).

Üldised kommentaarid

Ääremaadel on võimalik luua uusi kõrget kvalifikatsiooni eeldavaid ja seeläbi kõrgemat töötasu võimaldavaid töökohti. See on oluline tõstmaks ääremaade SKP-d ja vähendamaks suuremate keskuste ja muude piirkondade vahelisi töötasu erinevusi. Seni on Eesti äärelise asendiga piirkondades kohaliku arendustegevuse ja regionaalpoliitika raames loodud peamiselt suhteliselt madalat kvalifikatsiooni eeldavaid ja lihttöökohti.

Sellelaadsetele projektidele on võimalik tuge saada regionaalpoliitilistest programmidest (sh käesoleval ajal Eesti programmidest). Juba eeldatavasti lähiaastatel on Eestil võimalik saada toetust ka Euroopa Liidu tõukefondidest.

Kirjeldatud projektide teostamisel on olnud hulk eeldusi ja tingimusi (ühtlasi edufaktoreid), millest tuleks esile tõsta just sotsiaalse kapitali rolli (võrgustike ja partnerluste arendamine, kõikide oluliste partnerite kaasatus, aktiivne koostöö). Ja muidugi on projekti teostajad olnud suutlikud projekte efektiivselt ette valmistada ja teostada.

Rakendamisvõimalused Eestis

Käesoleva töö koostajatel ei ole teavet analoogiliste projektide olemasolust Eestis. Näiteks Eesti regionaalpoliitika (põllumajanduspiirkondade programmi) raames on vaid Luua Metsanduskool olnud projekti taotlejaks (ketassaeoperaatorite koolitusprojekt), kusjuures projekti ei olnud kaasfinantseerijatena vm. vormis osalejatena kaasatud piirkonna teisi regionaalarengu subjekte (omavalitsus, maakondlik tööhõiveamet jms.).

Reeglina on pigem nõrk ka omavalitsuste ja kutseõppeasutuste koostöö ja ebapiisav sotsiaalse kapitali olemasolu piirkondades üldse.

Selliste projektide teostamine võib eeldada ka kutseõppeasutuste munitsipaliseerimist (?).

Eelnevalt nimetatud tingimuste täitmiseks (uuenduslike ja piisava kaasatusega arendusprojektide ettevalmistamiseks, eelkõige selleks vajaliku sotsiaalse kapitali tekitamiseks) kulub piisavalt aega.

Eeltoodut arvestades võivad mõned kutseõppeasutused saavutada selliste arendusprojektide ettevalmistamisel edu (luua õppeasutuste, avaliku sektori institutsioonide, erasektori jt vahelised toimivad võrgustikud ja selle põhjal teostada esmased arendusprojektid, omandada teatud rollid kompetentsikeskustena jne.), kuid tulemused ei suuda lähiaastate jooksul ilmselt kompenseerida demograafilistest muutustest tingitud tagasilööke.

Näide 1. Marjaveinikooli loomine

Marjaveinikooli tootmise projekti (1996-1999, ettevalmistused juba 1990ndate aastate alguses) eesmärgiks oli arendada kohaliku marja-kasvatuse (näiteks valge- ja mustsõstar, maasikad) baasil veinitootmist. Projekti muudeks eesmärkideks olid teiste marjatoodete tootmine, kvaliteedi, kvaliteedikontrolli, turustamise arendamine, samuti projekti tulemuste kasutamine turismiks.

Projekti taustaks oli marjakasvatuse ja marjatöötlemise taassünd 1990ndatel ja vajadus leida uued funktsioonid kohaliku kutseõppeasutusele. Projekti raames kombineeriti järgmised elemendid: marjakasvatuse traditsioonid alates 1960ndatest aastatest, uued võimalused marjatoodetele (koos liberaliseeritud alkoholipoliitikaga) ja uued finantsvõimalused arenguprojektidele (regionaalpoliitika programmidest).

Projekti põhitaotleja oli kohalik kutseõppeasutus. Kool reorganiseeriti (ühinesid ja läksid munitsipaalalluvusse kaks kohalikku õppeasutust), oli ka tungiv vajadus saada kooli ligi meelitada uusi õpilasi. Vältimaks kooli sulgemist, oli vaja leida koolile uued erialad ja uued funktsioonid. Seepärast viidi sisse siis uus idee veinitegemise koolist.

Kohalikud marjakasvatavad ja töötledjad, keda võiks nimetada kohalikuks marjaklastriks, olid viimastel aastatel (enne projekti) juba koondunud koostööks väiksemate arenguprojektide raames. Marjaveinikooli projekti raames said siiski esimest korda kokku kutseõppeasutus, omavalitsus, ettevõtjad, marjakasvatavad (talud) ja mud koolitusasutused. Uueks elemendiks oli siin nii kooli kui omavalitsuse mõlema osalemine projektis. Projekti raames on olnud võimalik akumuloida veinitootmise alaseid kogemusi, seda oskusteavet on olnud võimalik levitada teistesse piirkondadesse ja kasutada rohkemate arengusubjektide kaasamiseks.

Projekti alustati spetsiaalsete koolituskursuste ja konsultatsioonidega, tegevustega, mis hiljem kasvasid terviklikuks koolitusprogrammiks koos kutsediplomiga. Kohalikku marjakasvatuse ja - töötlemise alaseid teadmisi täiendati koostöös kohalike ja riiklike partneritega. Teadmisi ja oskusi saadi läbi varasemate koostöövõrgustike, rahvuslike kontaktide (veinikoolid teistes Soome piirkondades) ja rahvusvaheliste kontaktide (eriti Ungariga). Koolitustegevus on toonud investeeringud ehitustesse ja tehnoloogiasse, mis omakorda on toetanud kooli ja kohalikke veinitööstuse ettevõtteid. Mõned omavalitsuse ettevõtted osalesid projektis ja asusid kasutama veinikooli oskusteavet ja infrastruktuuri, mis oli omakorda alguseks uute kohalike ettevõtjaid toetavate teenuste tekkele. Sel viisil on koolitustegevus aeglaselt kasvanud äritegevuseks, mõõdetuna ühtlasi rahalistes väärtuses ja käibes.

Kokkuvõtteks, mõningate varasemate projektide ja protsesside ning antud projekti pinnalt on tekkinud marjaveinikool, mis on nüüd tähtis piirkondlik koolitus- ja arenduskeskus.

Näide 2. SampoNet

SampoNet (1999) oli kolme omavalitsuse Infotehnoloogia (IT) alane haridusprojekt, suunatuna teleinformaatika (videokonverentsid, multimedia, Interneti-TV jms.) alase õppe korraldamisele, et lõpetanud suudaksid sellel alal alustada ettevõtlusega ja muutuksid vastasisulise oskusteabe kandjaks (oleksid nõ arendajad).

Projekti taotlejaks oli omavalitsuse kutseõppeasutus, algatajaks ja koordinaatoriks kohalik IT õpetaja. Projekt sai alguse kahe omavalitsuse ühistest tulevikuarengu alternatiivide aruteludest. Ühena uutest võimalustest nähti kasvavat IT-sektorit, mis oli Soomes kiirelt kasvavaks sektoriks (nagu ka mujal maailmas). Projekti idee autoril olid varasemad küladele suunatud IT projekti koordineerimise alased kogemused, mida finantseeris EL maapiirkondade arenguprogramm LEADER II. Sellest projektist oli ta saanud eelnevad projektijuhtimise ja IT sektori arengu alased teadmised ja kogemused, samuti kontaktid valdkonna spetsialistidega. Kahe omavalitsuse vahel olid juba varasemad koostöökogemused, ka oli ülevaade mõnede teiste sarnaste kohaliku infoühiskonna projektidest.

Projekti plaan kujundati koostöös kutseõppeasutusega, millel olid varasemad koolitusprojektide organiseerimise kogemused. Innovatiivne osa projektist sai rahalist tuge osaliselt Euroopa Sotsiaalfondilt, koolituskulud kaeti Soome riigi toel. Protsessi algstaadiumis tekitati partnerlussuhted kohaliku omavalitsusega, kuna põhiliseks sihtrühmaks olid töötud või töötusriskis olivad.

Algul kahtlesid kohalikud võimud, kuivõrd on piirkonnas võimalik leida piisaval määral isikuid ja asutusi, kellelel huvi IT sektori projektide osas. Projekti ettevalmistamise käigus ilmnis siiski suur huvi. Pärast arutelusid regionaalse tööametiga hakkas projektis osalema ka selle kohalik amet.

Praeguseks on 24 isikut koolitatud IT baasoskuste ja videotehnoloogia erioskuste alal. Selle tulemusena on piirkonda loodud küllaldaselt määral uut oskusteavet. Tööpraktika

jooksul kohalikes ettevõtetes viisid koolitavad oma oskused nendesse firmadesse. Sel viisil sündis uus võrgustik, ühendades kooli, koolitavaid, ettevõtteid, 3 omavalitsust ja tööhõiveamet. Samal ajal algatas kool spetsiaalse IT-alase koolitusprogrammi, mis samuti toetas projekti tegevusi. Mõned koolitavad leidsid töö ka jätkuprojektide ja omavalitsusasutustes.

Kõige selle tulemusena on IT-sektori arendamise idee viidud koolitatud ekspertide grupi poolt ka regiooni teistesse piirkondadesse. Ette on valmistatud projektid protsesside jätkamiseks, näiteks regionaalne NetCentre plaan, mis visioonis muutuks Helsinki regiooni ettevõtetele allhanget tegevaks ettevõtteks.

LISA 4

Maakondade üldekspordi struktuur Eesti Statistikaameti andmetel 1997-2002 (%)

| HARJUMAA | 1997 | 2000 | 2002 |
|---------------------------------|--------------|--------------|--------------|
| Masinaehitus | 31,5% | 45,8% | 36,2% |
| Puidutööstus | 15,6% | 11,9% | 15,5% |
| Metallid ja metalltooted | 9,1% | 11,0% | 10,2% |
| Toidukaubad | 9,5% | 4,6% | 8,7% |
| Kergetööstus | 9,2% | 8,0% | 7,7% |
| Mineraalsed tooted | 4,6% | 5,0% | 6,2% |
| Keemiatööstus | 7,3% | 5,4% | 5,7% |
| Muu | 13,2% | 8,3% | 9,8% |

| IDA-VIRUMAA | 1997 | 2000 | 2002 |
|--------------------------|--------------|--------------|--------------|
| Kergetööstus | 37,2% | 40,1% | 35,6% |
| Keemiatööstus | 25,5% | 18,3% | 14,4% |
| Puidutööstus | 12,1% | 14,2% | 12,3% |
| Mineraalsed tooted | 8,8% | 9,6% | 11,8% |
| Metallid ja metalltooted | 2,1% | 4,3% | 11,4% |
| Masinaehitus | 3,7% | 3,8% | 5,3% |
| Muu | 10,6% | 9,7% | 9,2% |

| LÄÄNE-VIRUMAA | 1997 | 2000 | 2002 |
|-----------------------------------|--------------|--------------|--------------|
| Puidutööstus | 33,5% | 49,2% | 51,6% |
| Mineraalsed tooted | 23,7% | 12,0% | 10,7% |
| Elusloomad; loomsed tooted | 4,9% | 9,1% | 9,7% |
| Masinaehitus | 8,5% | 7,1% | 8,7% |
| Kergetööstus | 8,3% | 11,0% | 8,2% |
| Toidukaubad | 7,7% | 2,3% | 6,2% |
| Muu | 13,4% | 9,3% | 4,9% |

| JÄRVAMAA | 1997 | 2000 | 2002 |
|-----------------------------------|--------------|--------------|--------------|
| Puidutööstus | 43,1% | 65,0% | 60,8% |
| Elusloomad; loomsed tooted | 27,5% | 13,2% | 20,1% |
| Masinaehitus | 10,2% | 9,3% | 11,0% |
| Muu | 19,2% | 12,5% | 8,1% |

| RAPLAMAA | 1997 | 2000 | 2002 |
|---|--------------|--------------|--------------|
| Puidutööstus | 39,5% | 33,0% | 27,6% |
| Plasttooted | 0,9% | 10,2% | 15,8% |
| Kivist, kipsist, tsemendist jms tooted | 39,1% | 24,7% | 15,0% |
| Elusloomad; loomsed tooted | 0,1% | 1,4% | 13,6% |
| Kergetööstus | 12,0% | 14,2% | 10,4% |
| Masinaehitus | 3,7% | 5,4% | 6,9% |

| | | | |
|---------------|------|------|------|
| Toidukaubad | 0,6% | 3,0% | 3,3% |
| Keemiatööstus | 0,0% | 0,5% | 1,0% |
| Muu | 4,1% | 8,0% | 6,4% |

| | | | |
|-----------------------------------|-------------|-------------|-------------|
| HIUMAA | 1997 | 2000 | 2002 |
| Puidutööstus | 18,8% | 22,3% | 29,2% |
| Elusloomad, loomsed tooted | 15,8% | 42,1% | 21,9% |
| Toidukaubad | 1,2% | 3,4% | 18,6% |
| Plastid ja plasttooted | 1,7% | 8,0% | 12,9% |
| Masinaehitus | 58,2% | 20,2% | 10,6% |
| Muu | 4,3% | 4,0% | 6,8% |

| | | | |
|---------------------|-------------|-------------|-------------|
| LÄÄNEMAA | 1997 | 2000 | 2002 |
| Kergetööstus | 35,7% | 34,8% | 48,6% |
| Puidutööstus | 29,6% | 32,1% | 18,4% |
| Masinaehitus | 16,0% | 12,8% | 7,7% |
| Toidukaubad | 7,2% | 4,6% | 5,2% |
| Muu | 11,5% | 15,7% | 20,1% |

| | | | |
|-----------------------------------|-------------|-------------|-------------|
| PÄRNUMAA | 1997 | 2000 | 2002 |
| Puidutööstus | 24,3% | 32,2% | 32,8% |
| Kergetööstus | 15,3% | 24,9% | 21,7% |
| Elusloomad, loomsed tooted | 16,4% | 11,9% | 13,0% |
| Metallid ja metalltooted | 15,5% | 10,8% | 10,4% |
| Masinaehitus | 4,9% | 7,9% | 6,7% |
| Muu | 23,6% | 12,3% | 15,4% |

| | | | |
|----------------------------|-------------|-------------|-------------|
| SAAREMAA | 1997 | 2000 | 2002 |
| Masinaehitus | 8,6% | 25,4% | 31,6% |
| Puidutööstus | 11,0% | 13,4% | 13,5% |
| Toidukaubad | 11,3% | 9,7% | 10,2% |
| Plast ja plasttooted | 9,4% | 11,4% | 9,5% |
| Taimsed tooted | 8,5% | 7,6% | 8,3% |
| Kergetööstus | 18,1% | 11,6% | 7,7% |
| Elusloomad, loomsed tooted | 20,7% | 8,2% | 7,4% |
| Muu | 12,4% | 12,7% | 11,8% |

| | | | |
|--|-------------|-------------|-------------|
| JÕGEVAMAA | 1997 | 2000 | 2002 |
| Loomsed ja taimsed rasvad ning õlid jms | 0,0% | 0,0% | 26,5% |
| Puidutööstus | 40,8% | 27,3% | 26,1% |
| Kergetööstus | 5,7% | 18,6% | 12,5% |
| Toidukaubad | 18,7% | 5,5% | 10,7% |
| Masinaehitus | 10,6% | 16,1% | 8,1% |
| Elusloomad; loomsed tooted | 5,6% | 2,0% | 7,8% |
| Muu | 18,6% | 30,5% | 8,3% |

| PÕLVAMAA | 1997 | 2000 | 2002 |
|-----------------------------------|-------------|-------------|-------------|
| Elusloomad, loomsed tooted | 62,0% | 44,4% | 47,3% |
| Puidutööstus | 21,3% | 28,6% | 28,1% |
| Keemiatööstus | 6,8% | 13,7% | 13,0% |
| Toidukaubad | 1,9% | 5,7% | 4,9% |
| Muu | 8,0% | 7,6% | 6,7% |

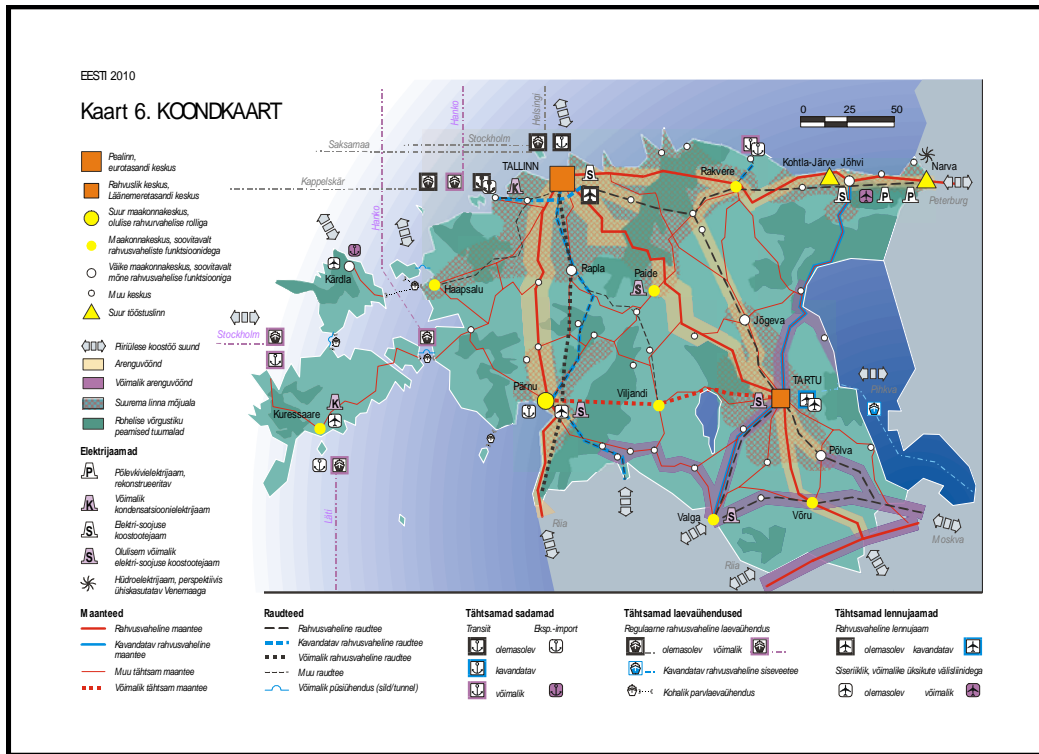
| TARTUMAA | 1997 | 2000 | 2002 |
|--|-------------|-------------|-------------|
| Puidutööstus | 34,5% | 34,1% | 40,3% |
| Masinaehitus | 12,4% | 19,7% | 16,2% |
| Kergetööstus | 11,0% | 15,5% | 15,6% |
| Metallid ja metalltooted | 2,4% | 11,6% | 8,4% |
| Kivist, kipsist, tsemendist jms tooted | 7,9% | 4,5% | 6,2% |
| Elusloomad; loomsed tooted | 9,0% | 3,2% | 0,8% |
| Muu | 22,8% | 11,4% | 12,5% |

| VALGAMAA | 1997 | 2000 | 2002 |
|---------------------|-------------|-------------|-------------|
| Puidutööstus | 53,8% | 60,2% | 61,4% |
| Kergetööstus | 24,8% | 15,3% | 27,8% |
| Masinaehitus | 6,3% | 4,0% | 4,7% |
| Muu | 15,1% | 20,5% | 6,1% |

| VILJANDIMAA | 1997 | 2000 | 2002 |
|--------------------------|-------------|-------------|-------------|
| Puidutööstus | 44,9% | 58,7% | 61,1% |
| Masinaehitus | 7,9% | 13,1% | 14,3% |
| Kergetööstus | 23,2% | 13,4% | 11,4% |
| Keemiatööstus | 5,9% | 5,5% | 5,1% |
| Metallid ja metalltooted | 2,4% | 4,0% | 4,9% |
| Muu | 15,7% | 5,3% | 3,2% |

| VÕRUMAA | 1997 | 2000 | 2002 |
|---|-------------|-------------|-------------|
| Puidutööstus | 73,1% | 66,2% | 65,1% |
| Elusloomad, loomsed tooted | 5,3% | 13,4% | 14,2% |
| Masinaehitus | 3,6% | 10,6% | 11,9% |
| Plast ja plasttooted, kumm ja kummitooted | 0,6% | 1,8% | 1,9% |
| Kergetööstus | 11,6% | 5,7% | 2,8% |
| Muu | 5,8% | 2,3% | 4,1% |

Koondkaart



**Keskmine konkurss koolituskohale
põhiharidusejärgses kutsekeskhariduses 2003\2004 õ\a**

| Valdkond | Valdkonna keskmine | Harju maa | Ida-Viru maa | Pärnumaa | Läänemaa | Saaremaa | Hiiu maa | Rapla maa | Järva maa | Läänemaa | Jõgevamaa | Põlvamaa | Tartu maa | Valgamaa | Viljandimaa | Võrumaa |
|--|--------------------|-----------|--------------|----------|----------|----------|----------|-----------|-----------|----------|-----------|----------|-----------|----------|-------------|---------|
| Aiandus | 0,8 | | | | | | 1,1 | | | | 0,6 | | | | | |
| Arvutiteadused | 1,7 | 2,0 | 1,6 | | | | | 1,0 | | | 1,3 | | 3,3 | | 1,2 | |
| Audiovisuaalne ja muu meedia | 1,6 | 1,6 | | | | | | | | | | | | | | |
| Ehitus ja tsiviilrajatised | 1,3 | 1,2 | 1,2 | 2,1 | 0,5 | 1,1 | | 1,1 | 1,3 | 1,5 | 1,8 | | 1,8 | | 0,9 | 1,3 |
| Elektroonika ja automaatika | 1,4 | 1,6 | 1,0 | 1,8 | | 0,7 | | | 1,2 | 2,0 | | | | | | |
| Elektrotehnika ja energeetika | 1,0 | 1,1 | | | | | | | | | | | 1,1 | | 0,2 | |
| Hulgi- ja jaekaubandus | 0,9 | 1,1 | 0,7 | 1,2 | | | | | 0,5 | 0,9 | 0,6 | | 1,4 | | | |
| Kalandus | 1,1 | 1,1 | | | | | 1,3 | | | | | | 1,0 | | | |
| Koduteenindus | 0,7 | 0,7 | 0,8 | 0,8 | 1,1 | | | | 0,7 | 0,9 | 0,8 | | | | | |
| Majutamine ja toitlustamine | 1,3 | 1,3 | 1,6 | 1,2 | 0,8 | 1,0 | | 0,8 | | 1,3 | 1,2 | | 2,4 | 1,1 | 0,8 | |
| Materjalitöötlus (puu, paber, plast, klaas) | 1,0 | 1,2 | 0,9 | 1,1 | | 1,0 | | 0,6 | | 1,5 | | | 1,5 | 0,9 | | |
| Mehaanika ja metallitöö | 1,1 | 1,0 | 1,3 | | | | | | | 0,1 | | | 1,4 | 1,3 | | |
| Metsandus | 0,7 | | | 1,0 | | | | | | | 0,5 | | | | | |
| Mootorliikurid, laevandus ja lennundustehnika | 1,2 | 1,0 | 1,9 | 1,4 | | 2,1 | | 0,7 | 0,9 | 1,3 | 1,1 | | 3,2 | | 0,9 | |
| Muusika ja esituskunstid | 1,3 | 1,4 | | | | | | | | | | | 1,2 | | | |
| Põllundus ja loomakasvatus | 0,9 | | | | 0,2 | 0,6 | | | 0,7 | | 0,9 | 1,3 | | | 0,8 | 1,3 |
| Tarbekunst ja oskuskäsitöö | 1,7 | | | | | 1,3 | | | | | | | 3,1 | | | |
| Tekstiili, rõivaste, jalatsite valmistamine ning naha töötlemine | 0,9 | 1,2 | 0,5 | 1,2 | | | | | | 0,8 | | 1,1 | 0,9 | 1,1 | 0,3 | |
| Toiduainetetöötlus ja -tootmine | 1,3 | 1,8 | 1,0 | | | 0,3 | | 1,1 | | | | | 1,5 | | 0,9 | |
| Toitlustus- ja majutusteenindus | 0,9 | | | | | | | | | | | | 0,9 | | | |
| Transporditeenused | 1,1 | 1,2 | 1,0 | 0,8 | | | | | 1,1 | | | | | 1,2 | | |

LISA 7

Keskmine konkurss koolituskohale
üldkeskharidusejärgses kutsekeskhariduses 2003\2004 õ\a

| Valdkond | Vald konn a kesk mine | Harj umaa | Ida- Viru maa | Pärn umaa | Lään emaa | Saare maa | Hiiu maa | Rapl amaa | Järva maa | Lään e- Viru maa | Jõgev amaa | Põlva maa | Tart umaa | Valg amaa | Vilja ndim aa | Võru maa |
|--|-----------------------------------|--------------|---------------------|--------------|--------------|--------------|-------------|--------------|--------------|---------------------------|---------------|--------------|--------------|--------------|---------------------|-------------|
| Aiandus | 2,8 | | | | | | | | | | 2,8 | | | | | |
| Arhitektuur ja linnaplaneerimine | 0,3 | | | | | | | 0,3 | | | | | | | | |
| Arvutiteadused | 1,4 | 1,6 | 1,6 | 0,6 | | | | 0,7 | | 1,3 | | | 1,3 | | 1,6 | |
| Audiovisuaalne ja muu meedia | 2,3 | 3,0 | 1,5 | | | | | | | | | | | | | |
| Ehitus ja tsiviilrajatised | 0,9 | 1,6 | 1,0 | | | | | 0,7 | | | 1,2 | | | | 0,1 | |
| Elektroonika ja automaatika | 0,8 | 0,9 | 1,2 | | | 1,4 | 0,4 | | | 0,3 | | | | | | 0,3 |
| Elektrotehnika ja energeetika | 0,9 | 1,3 | 1,2 | | | | | 0,3 | | | | | 1,0 | | | 0,1 |
| Hulgi- ja jaekaubandus | 1,1 | 1,0 | 2,4 | 0,6 | | | | | 0,7 | 1,2 | 0,6 | | 1,7 | | | |
| Juhtimine ja haldus | 1,1 | 1,2 | 1,2 | 0,6 | | 1,2 | | | 1,0 | 2,2 | | | | | | 0,8 |
| Juuksuritöö ja iluteenindus | 3,2 | 3,9 | | 1,9 | | 0,8 | | | | | | | 4,0 | | | |
| Kalandus | 0,4 | 0,4 | | | | | | | | | | | | | | |
| Keemia ja protsessitehnoloogia | 0,9 | | 1,1 | | | | | | | | | 0,5 | | | | |
| Keskonnakaitse | 1,5 | | | | | | 1,3 | | | | | 1,7 | | | | |
| Koduteenindus | 1,0 | | 1,0 | | | | | | | | | | | | | |
| Majandusarvestus ja maksundus | 2,1 | 2,5 | 1,2 | | 1,4 | | 1,4 | | | 1,0 | | | | | | |
| Majutamine ja toitlustamine | 1,4 | 2,1 | 0,9 | 1,0 | 0,2 | 0,9 | | 0,2 | | 1,5 | 1,2 | | 2,4 | | 2,9 | 0,9 |
| Materjalitöötlus (puu, paber, plast, klaas) | 0,7 | 1,0 | | | | | | | | | | | 1,7 | | | |
| Mehaanika ja metallitöö | 0,9 | 0,9 | 1,0 | | | | | | | | | | | | | |
| Metsandus | 0,9 | | | | | | | | | | 0,9 | | | | | |

Kutseõppeasutuste võrgu korraldamine lähtuvalt regionaalsest spetsialiseerumisest

| | | | | | | | | | | | | | | | | |
|--|-----|-----|-----|-----|--|-----|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Mootorliikurid, laevandus ja lennundustehnika | 1,9 | 2,4 | | 0,3 | | | | 0,9 | 1,4 | | | | 3,3 | | | |
| Muusika ja esituskunstid | 2,0 | 2,3 | | | | | | | | | | | 1,6 | | | |
| Põllundus ja loomakasvatus | 1,2 | | | | | 1,2 | | | 0,8 | | | 1,7 | | | | |
| Reisimine, turism ja vabaajaveetmine | 2,2 | | 2,2 | | | 2,0 | | 1,2 | | | | | 4,4 | | 1,4 | 1,2 |
| Sekretäri- ja ametnikutöö | 1,4 | 1,4 | | 0,5 | | 0,7 | | | | | | | 2,8 | | 1,3 | |
| Sotsiaaltöö ja nõustamine | 1,0 | 1,7 | | | | 0,4 | | | | | 0,2 | | | | | |
| Tarbekunst ja oskuskäsitöö | 1,3 | | | | | 1,3 | | | | | | | | | | |
| Tekstiili, rõivaste, jalatsite valmistamine ning naha töötlemine | 1,1 | 1,1 | 1,2 | 0,9 | | 0,2 | | | | | | | 1,6 | 0,6 | | |
| Toiduainetetöötlus ja -tootmine | 1,0 | 1,1 | | | | | | | | 0,3 | | | 1,3 | | 0,4 | |
| Transporditeenused | 0,7 | 0,6 | 0,9 | | | | | | 0,8 | | | | 0,7 | 0,5 | | |
| Turundus ja reklaam | 0,4 | | 0,4 | | | | | | | | | | | | | |
| Ärindus ja haldus | 3,1 | | | | | | | | | | | | 3,1 | | | |

LISA 8

Keskmine konkurss kutsekeskhariduse koolituskohale maakondade lõikes 2003\2004 õ/a

| Maakond | HTM kinnitatud vastuvõtt 2003 | Esitatud avalduste arv | Keskmine konkurss ühele kohale |
|-------------------|--|------------------------------|---|
| Raplamaa | 155 | 83 | 0,5 |
| Valgamaa | 50 | 28 | 0,6 |
| Võrumaa | 165 | 98 | 0,6 |
| Järvamaa | 235 | 177 | 0,8 |
| Läänemaa | 40 | 31 | 0,8 |
| Pärnumaa | 175 | 145 | 0,8 |
| Lääne-Virumaa | 180 | 155 | 0,9 |
| Saaremaa | 248 | 235 | 0,9 |
| Hiiumaa | 50 | 53 | 1,1 |
| Ida-Virumaa | 975 | 1 178 | 1,2 |
| Jõgevamaa | 220 | 254 | 1,2 |
| Viljandimaa | 175 | 205 | 1,2 |
| Põlvamaa | 95 | 131 | 1,4 |
| Harjumaa | 1 688 | 2 866 | 1,7 |
| Tartumaa | 518 | 1 061 | 2,0 |
| KKKB kokku | 4 969 | 6 700 | 1,3 |
| Läänemaa | 168 | 93 | 0,6 |
| Hiiumaa | 32 | 26 | 0,8 |
| Raplamaa | 378 | 315 | 0,8 |
| Viljandimaa | 410 | 320 | 0,8 |
| Jõgevamaa | 285 | 256 | 0,9 |
| Järvamaa | 490 | 450 | 0,9 |
| Ida-Virumaa | 1 241 | 1 421 | 1,1 |
| Saaremaa | 278 | 295 | 1,1 |
| Valgamaa | 139 | 149 | 1,1 |
| Võrumaa | 101 | 122 | 1,2 |
| Lääne-Virumaa | 344 | 439 | 1,3 |
| Põlvamaa | 60 | 75 | 1,3 |
| Pärnumaa | 364 | 471 | 1,3 |
| Harjumaa | 2 027 | 2 544 | 1,3 |
| Tartumaa | 742 | 1 226 | 1,7 |
| KKPB kokku | 7 059 | 8 202 | 1,2 |
| Kokku | 12 028 | 14 902 | 1,2 |

LISA 9

**Keskmine konkurss koolituskohale
põhiharidusejärgses kutsekeskhariduses
kutseõppeasutuste ja valdkondade lõikes
2003\2004 õ\a**

| Õppevaldkond | HTM kinnitatud vastuvõtt 2003 | Esitatud avalduste arv | Keskmine konkurss ühele kohale |
|---|--|------------------------------|--------------------------------------|
| Hiiumaa | | | |
| Suuremõisa Tehnikum | 32 | 26 | 0,8 |
| Tarbekunst ja oskuskäsitöö | 10 | 0 | 0,0 |
| Aiandus | 10 | 11 | 1,1 |
| Kalandus | 12 | 15 | 1,3 |
| Ida-Virumaa | | | |
| Jõhvi Kutsekeskkool | 346 | 420 | 1,2 |
| Tekstiili, rõivaste, jalatsite valmistamine ning naha töötlemine | 53 | 23 | 0,4 |
| Hulgi- ja jaekaubandus | 75 | 48 | 0,6 |
| Materjalitöötlus (puu, paber, plast, klaas) | 53 | 37 | 0,7 |
| Toiduainetetöötlus ja -tootmine | 30 | 34 | 1,1 |
| Elektroonika ja automaatika | 45 | 74 | 1,6 |
| Majutamine ja toitlustamine | 45 | 95 | 2,1 |
| Mootorliikurid, laevandus ja lennundus | 45 | 109 | 2,4 |
| Kohtla-Järve Kutsekool | 205 | 165 | 0,8 |
| Elektroonika ja automaatika | 30 | 4 | 0,1 |
| Koduteenindus | 30 | 20 | 0,7 |
| Ehitus ja tsiviilrajatised | 85 | 70 | 0,8 |
| Mehaanika ja metallitöö | 60 | 71 | 1,2 |
| Narva Kutseõppekeskus | 510 | 631 | 1,2 |
| Tekstiili, rõivaste, jalatsite valmistamine ning naha töötlemine | 45 | 28 | 0,6 |
| Toiduainetetöötlus ja -tootmine | 30 | 27 | 0,9 |
| Mootorliikurid, laevandus ja lennundus | 30 | 30 | 1,0 |
| Hulgi- ja jaekaubandus | 30 | 30 | 1,0 |
| Elektroonika ja automaatika | 60 | 65 | 1,1 |
| Koduteenindus | 15 | 16 | 1,1 |
| Materjalitöötlus (puu, paber, plast, klaas) | 60 | 68 | 1,1 |
| Majutamine ja toitlustamine | 60 | 76 | 1,3 |
| Mehaanika ja metallitöö | 90 | 124 | 1,4 |
| Arvutiteadused | 30 | 48 | 1,6 |

| | | | |
|--|------------|------------|------------|
| Ehitus ja tsiviilrajatised | 60 | 119 | 2,0 |
| Sillamäe Kutsekool | 180 | 205 | 1,1 |
| Elektronika ja automaatika | 30 | 30 | 1,0 |
| Transporditeenused | 30 | 30 | 1,0 |
| Ehitus ja tsiviilrajatised | 60 | 64 | 1,1 |
| Mehaanika ja metallitöö | 30 | 39 | 1,3 |
| Majutamine ja toitlustamine | 30 | 42 | 1,4 |
| Jõgevamaa | | | |
| Kuremaa Põllumajandustehnikum | 60 | 41 | 0,7 |
| Hulgi- ja jaekaubandus | 40 | 16 | 0,4 |
| Arvutiteadused | 20 | 25 | 1,3 |
| Luu Metsanduskool | 70 | 36 | 0,5 |
| metsandus | 50 | 24 | 0,5 |
| Aiandus | 20 | 12 | 0,6 |
| Põltsamaa Kodu- ja Põllutöökool | 155 | 179 | 1,2 |
| Hulgi- ja jaekaubandus | 25 | 21 | 0,8 |
| Koduteenindus | 15 | 12 | 0,8 |
| Põllundus ja loomakasvatus | 25 | 23 | 0,9 |
| Mootorliikurid, laevandus ja lennundus | 30 | 34 | 1,1 |
| Majutamine ja toitlustamine | 30 | 35 | 1,2 |
| Ehitus ja tsiviilrajatised | 30 | 54 | 1,8 |
| Järvamaa | | | |
| Paide Kutsekeskkool | 280 | 286 | 1,0 |
| Hulgi- ja jaekaubandus | 30 | 16 | 0,5 |
| Koduteenindus | 40 | 23 | 0,6 |
| Transporditeenused | 120 | 133 | 1,1 |
| Elektronika ja automaatika | 30 | 37 | 1,2 |
| Ehitus ja tsiviilrajatised | 60 | 77 | 1,3 |
| Türi Tehnika- ja Maamajanduskool | 210 | 164 | 0,8 |
| Põllundus ja loomakasvatus | 100 | 67 | 0,7 |
| Koduteenindus | 50 | 44 | 0,9 |
| Mootorliikurid, laevandus ja lennundustehnika | 60 | 53 | 0,9 |
| Läänemaa | | | |
| Taebla Kutsekeskkool | 168 | 93 | 0,6 |
| Tekstiili, rõivaste, jalatsite valmistamine ning naha töötlemine | 12 | 0 | 0,0 |
| Põllundus ja loomakasvatus | 20 | 4 | 0,2 |
| Ehitus ja tsiviilrajatised | 90 | 48 | 0,5 |
| Majutamine ja toitlustamine | 30 | 23 | 0,8 |
| Koduteenindus | 16 | 18 | 1,1 |
| Lääne-Virumaa | | | |

| | | | |
|--|------------|------------|------------|
| Rakvere Kutsekeskkool | 270 | 356 | 1,3 |
| Mehaanika ja metallitöö | 30 | 3 | 0,1 |
| Tekstiili, rõivaste, jalatsite valmistamine ning naha töötlemine | 30 | 25 | 0,8 |
| Majutamine ja toitlustamine | 60 | 78 | 1,3 |
| Mootorliikurid, laevandus ja lennundus | 30 | 41 | 1,4 |
| Materjalitöötlus (puu, paber, plast, klaas) | 30 | 45 | 1,5 |
| Ehitus ja tsiviilrajatised | 60 | 90 | 1,5 |
| Elektroonika ja automaatika | 30 | 74 | 2,5 |
| Väike-Maarja Õppekeskus | 74 | 83 | 1,1 |
| Hulgi- ja jaekaubandus | 15 | 14 | 0,9 |
| Koduteenindus | 7 | 6 | 0,9 |
| Mootorliikurid, laevandus ja lennundus | 15 | 17 | 1,1 |
| Elektroonika ja automaatika | 15 | 18 | 1,2 |
| Majutamine ja toitlustamine | 22 | 28 | 1,3 |
| Pölvamaa | | | |
| Räpina Aianduskool | 60 | 75 | 1,3 |
| Tekstiili, rõivaste, jalatsite valmistamine ning naha töötlemine | 20 | 22 | 1,1 |
| Põllundus ja loomakasvatus | 40 | 53 | 1,3 |
| Pärnumaa | | | |
| Pärnumaa Kutsehariduskeskus | 364 | 471 | 1,3 |
| Koduteenindus | 31 | 24 | 0,8 |
| Transporditeenused | 45 | 38 | 0,8 |
| Metsandus | 25 | 26 | 1,0 |
| Materjalitöötlus (puu, paber, plast, klaas) | 38 | 40 | 1,1 |
| Hulgi- ja jaekaubandus | 30 | 35 | 1,2 |
| Majutamine ja toitlustamine | 60 | 70 | 1,2 |
| Tekstiili, rõivaste, jalatsite valmistamine ning naha töötlemine | 15 | 18 | 1,2 |
| Mootorliikurid, laevandus ja lennundustehnika | 30 | 42 | 1,4 |
| Elektroonika ja automaatika | 30 | 53 | 1,8 |
| Ehitus ja tsiviilrajatised | 60 | 125 | 2,1 |
| Raplamaa | | | |
| Kehtna Majandus- ja Tehnoloogiakool | 225 | 198 | 0,9 |
| Mootorliikurid, laevandus ja lennundustehnika | 60 | 31 | 0,5 |
| Majutamine ja toitlustamine | 60 | 35 | 0,6 |
| Arvutiteadused | 75 | 78 | 1,0 |
| Ehitus ja tsiviilrajatised | 30 | 54 | 1,8 |
| Vana-Vigala Tehnika- ja Teeninduskool | 153 | 117 | 0,8 |
| Koduteenindus | 8 | 0 | 0,0 |
| Ehitus ja tsiviilrajatised | 24 | 8 | 0,3 |

| | | | |
|--|------------|-------------|------------|
| Materjalitöötlus (puu, paber, plast, klaas) | 38 | 24 | 0,6 |
| Mootorliikurid, laevandus ja lennundustehnika | 30 | 28 | 0,9 |
| Toiduainetetöötlus ja -tootmine | 15 | 16 | 1,1 |
| Majutamine ja toitlustamine | 38 | 41 | 1,1 |
| Saaremaa | | | |
| Kuressaare Ametikool | 278 | 295 | 1,1 |
| Toiduainetetöötlus ja -tootmine | 18 | 6 | 0,3 |
| Põllundus ja loomakasvatus | 8 | 5 | 0,6 |
| Elektroonika ja automaatika | 18 | 12 | 0,7 |
| Materjalitöötlus (puu, paber, plast, klaas) | 54 | 54 | 1,0 |
| Majutamine ja toitlustamine | 90 | 93 | 1,0 |
| Ehitus ja tsiviilrajatised | 36 | 40 | 1,1 |
| Tarbekunst ja oskuskäsitöö | 36 | 48 | 1,3 |
| Mootorliikurid, laevandus ja lennundustehnika | 18 | 37 | 2,1 |
| Tartumaa | | | |
| H.Elleri nim Tartu Muusikakool | 22 | 26 | 1,2 |
| Muusika ja esituskunstimid | 22 | 26 | 1,2 |
| Kallaste Kutsekeskkool | 55 | 43 | 0,8 |
| Hulgi- ja jaekaubandus | 20 | 12 | 0,6 |
| Elektrotehnika ja energeetika | 20 | 16 | 0,8 |
| Kalandus | 15 | 15 | 1,0 |
| Tartu Kunstikool | 20 | 62 | 3,1 |
| Tarbekunst ja oskuskäsitöö | 20 | 62 | 3,1 |
| Tartu Kutsehariduskeskus | 645 | 1095 | 1,7 |
| Toitlustus- ja majutusteenindus | 15 | 13 | 0,9 |
| Tekstiili, rõivaste, jalatsite valmistamine ning naha töötlemine | 90 | 84 | 0,9 |
| Elektrotehnika ja energeetika | 30 | 39 | 1,3 |
| Mehaanika ja metallitöö | 90 | 124 | 1,4 |
| Toiduainetetöötlus ja -tootmine | 90 | 131 | 1,5 |
| Materjalitöötlus (puu, paber, plast, klaas) | 35 | 52 | 1,5 |
| Ehitus ja tsiviilrajatised | 145 | 259 | 1,8 |
| Hulgi- ja jaekaubandus | 30 | 56 | 1,9 |
| Majutamine ja toitlustamine | 60 | 143 | 2,4 |
| Mootorliikurid, laevandus ja lennundustehnika | 30 | 95 | 3,2 |
| Arvutiteadused | 30 | 99 | 3,3 |
| Valgamaa | | | |
| Valgamaa Kutseõppekeskus | 139 | 149 | 1,1 |
| Materjalitöötlus (puu, paber, plast, klaas) | 38 | 34 | 0,9 |
| Tekstiili, rõivaste, jalatsite valmistamine ning naha töötlemine | 20 | 21 | 1,1 |
| Majutamine ja toitlustamine | 38 | 41 | 1,1 |

| | | | |
|--|------------|------------|------------|
| Transporditeenused | 20 | 24 | 1,2 |
| Mehaanika ja metallitöö | 23 | 29 | 1,3 |
| Viljandimaa | | | |
| Olustvere Teenindus- ja Maamajanduskool | 80 | 69 | 0,9 |
| Põllundus ja loomakasvatus | 50 | 41 | 0,8 |
| Majutamine ja toitlustamine | 30 | 28 | 0,9 |
| Viljandi Ühendatud Kutsekeskkool | 270 | 196 | 0,7 |
| Elektrotehnika ja energeetika | 45 | 9 | 0,2 |
| Tekstiili, rõivaste, jalatsite valmistamine ning naha töötlemine | 30 | 10 | 0,3 |
| Majutamine ja toitlustamine | 30 | 22 | 0,7 |
| Ehitus ja tsiviilrajatised | 105 | 92 | 0,9 |
| Mootorliikurid, laevandus ja lennundustehnika | 30 | 28 | 0,9 |
| Arvutiteadused | 30 | 35 | 1,2 |
| Õisu Toiduainetööstuse Kool | 60 | 55 | 0,9 |
| Toiduainetetöötlus ja -tootmine | 60 | 55 | 0,9 |
| Võrumaa | | | |
| Vana-Antsla Kutsekeskkool | 101 | 122 | 1,2 |
| Koduteenindus | 6 | 0 | 0,0 |
| Ehitus ja tsiviilrajatised | 40 | 53 | 1,3 |
| Põllundus ja loomakasvatus* | 51 | 67 | 1,3 |
| Harjumaa | | | |
| Eesti Mereakadeemia Merekool | 100 | 106 | 1,1 |
| Kalandus | 100 | 106 | 1,1 |
| G.Otsa nim.Tallinna Muusikakool | 45 | 62 | 1,4 |
| Muusika ja esituskunstid | 45 | 62 | 1,4 |
| Kose Teeninduskool | 87 | 72 | 0,8 |
| Koduteenindus | 12 | 9 | 0,8 |
| Majutamine ja toitlustamine | 30 | 37 | 1,2 |
| Mootorliikurid, laevandus ja lennundustehnika | 30 | 23 | 0,8 |
| Toiduainetetöötlus ja -tootmine | 15 | 3 | 0,2 |
| Tallinna Ehituskool | 250 | 289 | 1,2 |
| Ehitus ja tsiviilrajatised | 175 | 203 | 1,2 |
| Elektrotehnika ja energeetika | 30 | 34 | 1,1 |
| Materjalitöötlus (puu, paber, plast, klaas) | 45 | 52 | 1,2 |
| Tallinna Lasnamäe Mehaanikakool | 300 | 386 | 1,3 |
| Ehitus ja tsiviilrajatised | 60 | 89 | 1,5 |
| Elektroonika ja automaatika | 30 | 36 | 1,2 |
| Elektrotehnika ja energeetika | 30 | 34 | 1,1 |
| Mehaanika ja metallitöö | 120 | 147 | 1,2 |
| Mootorliikurid, laevandus ja lennundustehnika | 60 | 80 | 1,3 |

| | | | |
|--|------------|------------|------------|
| Tallinna Polütehnikum | 210 | 318 | 1,5 |
| Arvutiteadused | 60 | 166 | 2,8 |
| Elektroonika ja automaatika | 60 | 55 | 0,9 |
| Elektrotehnika ja energeetika | 90 | 97 | 1,1 |
| Tallinna Sidekool | 120 | 168 | 1,4 |
| Audiovisuaalne ja muu meedia | 30 | 47 | 1,6 |
| Elektrotehnika ja energeetika | 30 | 45 | 1,5 |
| Transporditeenused | 60 | 76 | 1,3 |
| Tallinna Teeninduskool | 300 | 397 | 1,3 |
| Hulgi- ja jaekaubandus | 60 | 66 | 1,1 |
| Koduteenindus | 60 | 39 | 0,7 |
| Majutamine ja toitlustamine | 120 | 159 | 1,3 |
| Toiduainetetöötlus ja -tootmine | 60 | 133 | 2,2 |
| Tallinna Transpordikool | 225 | 271 | 1,2 |
| Arvutiteadused | 60 | 76 | 1,3 |
| Elektroonika ja automaatika | 25 | 34 | 1,4 |
| Elektrotehnika ja energeetika | 30 | 31 | 1,0 |
| Mootorliikurid, laevandus ja lennundustehnika | 50 | 66 | 1,3 |
| Transporditeenused | 60 | 64 | 1,1 |
| Tallinna Tööstushariduskeskus | 390 | 475 | 1,2 |
| Elektroonika ja automaatika | 70 | 175 | 2,5 |
| Mehaanika ja metallitöö | 120 | 92 | 0,8 |
| Mootorliikurid, laevandus ja lennundustehnika | 60 | 37 | 0,6 |
| Tekstiili, rõivaste, jalatsite valmistamine ning naha töötlemine | 140 | 171 | 1,2 |

LISA 10

**Keskmine konkurss koolituskohale
üldkeskharidusejärgses kutsekeskhariduses
kutseõppeasutuste ja valdkondade lõikes
2003\2004 õ\a**

| Õppevaldkond | HTM kinnitatud vastuvõtt 2003 | Esitatud avalduste arv | Keskmine konkurss ühele kohale |
|---|--|------------------------------|--------------------------------------|
| Hiiumaa | | | |
| Suuremõisa Tehnikum | 50 | 53 | 1,1 |
| Elektroonika ja automaatika | 15 | 6 | 0,4 |
| Keskkonnakaitse | 15 | 19 | 1,3 |
| Majandusarvestus ja maksundus | 20 | 28 | 1,4 |
| Ida-Virumaa | | | |
| Jõhvi Kutsekeskkool | 75 | 74 | 1,0 |
| Turundus ja reklaam | 30 | 12 | 0,4 |
| Majutamine ja toitlustamine | 15 | 12 | 0,8 |
| Elektroonika ja automaatika | 30 | 50 | 1,7 |
| Kohtla-Järve Polütehnikum | 210 | 250 | 1,2 |
| Elektroonika ja automaatika | 30 | 30 | 1,0 |
| Keemia ja protsessitehnoloogia | 60 | 65 | 1,1 |
| Arvutiteadused | 30 | 35 | 1,2 |
| Majandusarvestus ja maksundus | 60 | 77 | 1,3 |
| Mehaanika ja metallitöö | 30 | 43 | 1,4 |
| Narva Kutseõppekeskus | 600 | 757 | 1,3 |
| Mehaanika ja metallitöö | 90 | 71 | 0,8 |
| Majutamine ja toitlustamine | 30 | 26 | 0,9 |
| Transporditeenused | 30 | 28 | 0,9 |
| Koduteenindus | 15 | 15 | 1,0 |
| Ehitus ja tsiviilrajatised | 30 | 31 | 1,0 |
| Elektroonika ja automaatika | 60 | 65 | 1,1 |
| Majandusarvestus ja maksundus | 30 | 34 | 1,1 |
| Elektrotehnika ja energeetika | 90 | 107 | 1,2 |
| Juhtimine ja haldus | 30 | 35 | 1,2 |
| Tekstiili, rõivaste, jalatsite valmistamine ning naha töötlemine | 60 | 76 | 1,3 |
| Audiovisuaalne ja muu meedia | 30 | 46 | 1,5 |
| Arvutiteadused | 60 | 117 | 2,0 |
| Reisimine, turism ja vabaajaveetmine | 15 | 33 | 2,2 |
| Hulgi- ja jaekaubandus | 30 | 73 | 2,4 |

| | | | |
|--|------------|------------|------------|
| Sillamäe Kutsekool | 90 | 97 | 1,1 |
| Tekstiili, rõivaste, jalatsite valmistamine ning naha töötlemine | 30 | 30 | 1,0 |
| Arvutiteadused | 30 | 34 | 1,1 |
| Majutamine ja toitlustamine | 30 | 33 | 1,1 |
| Jõgevamaa | | | |
| Kuremaa Põllumajandustehnikum | 30 | 11 | 0,4 |
| Hulgi- ja jaekaubandus | 30 | 11 | 0,4 |
| Luu Metsanduskool | 120 | 184 | 1,5 |
| metsandus | 80 | 71 | 0,9 |
| Aiandus | 40 | 113 | 2,8 |
| Põltsamaa Kodu- ja Põllutöökool | 70 | 59 | 0,8 |
| Sotsiaaltöö ja nõustamine | 15 | 3 | 0,2 |
| Hulgi- ja jaekaubandus | 30 | 26 | 0,9 |
| Ehitus ja tsiviilrajatised | 10 | 12 | 1,2 |
| Majutamine ja toitlustamine | 15 | 18 | 1,2 |
| Järvamaa | | | |
| Paide Kutsekeskkool | 105 | 45 | 0,4 |
| Ehitus ja tsiviilrajatised | 20 | 0 | 0,0 |
| Elektroonika ja automaatika | 30 | 0 | 0,0 |
| Majutamine ja toitlustamine | 15 | 0 | 0,0 |
| Hulgi- ja jaekaubandus | 30 | 21 | 0,7 |
| Transporditeenused | 30 | 24 | 0,8 |
| Türi Tehnika- ja Maamajanduskool | 130 | 132 | 1,0 |
| Põllundus ja loomakasvatus | 60 | 48 | 0,8 |
| Juhtimine ja haldus | 40 | 41 | 1,0 |
| Mootorliikurid, laevandus ja lennundustehnika | 30 | 43 | 1,4 |
| Läänemaa | | | |
| Taebla Kutsekeskkool | 40 | 31 | 0,8 |
| Majutamine ja toitlustamine | 20 | 4 | 0,2 |
| Majandusarvestus ja maksundus | 20 | 27 | 1,4 |
| Lääne-Virumaa | | | |
| Lääne-Virumaa Kutsekõrgkool | 75 | 106 | 1,4 |
| Majandusarvestus ja maksundus | 30 | 30 | 1,0 |
| Arvutiteadused | 25 | 32 | 1,3 |
| Juhtimine ja haldus | 20 | 44 | 2,2 |
| Rakvere Kutsekeskkool | 75 | 27 | 0,4 |
| Materjalitöötlus (puu, paber, plast, klaas) | 30 | 0 | 0,0 |
| Mehaanika ja metallitöö | 15 | 0 | 0,0 |
| Toiduainetetöötlus ja -tootmine | 15 | 4 | 0,3 |
| Majutamine ja toitlustamine | 15 | 23 | 1,5 |

| | | | |
|--|------------|------------|------------|
| Väike-Maarja Õppekeskus | 30 | 22 | 0,7 |
| Elektroonika ja automaatika | 15 | 4 | 0,3 |
| Hulgi- ja jaekaubandus | 15 | 18 | 1,2 |
| Põlvamaa | | | |
| Räpina Aianduskool | 95 | 131 | 1,4 |
| Keemia ja protsessitehnoloogia | 25 | 12 | 0,5 |
| Keskkonnakaitse | 30 | 50 | 1,7 |
| Põllundus ja loomakasvatus | 40 | 69 | 1,7 |
| Pärnumaa | | | |
| Pärnumaa Kutsehariduskeskus | 175 | 145 | 0,8 |
| Mootorliikurid, laevandus ja lennundus | 15 | 4 | 0,3 |
| Sekretäri- ja ametnikutöö | 30 | 14 | 0,5 |
| Hulgi- ja jaekaubandus | 15 | 9 | 0,6 |
| Juhtimine ja haldus | 25 | 15 | 0,6 |
| Tekstiili, rõivaste, jalatsite valmistamine ning naha töötlemine | 15 | 14 | 0,9 |
| Majutamine ja toitlustamine | 45 | 43 | 1,0 |
| Arvutiteadused* | 27 | 17 | 0,6 |
| Juuksuritöö ja iluteenindus | 15 | 29 | 1,9 |
| Raplamaa | | | |
| Kehtna Majandus- ja Tehnoloogiakool | 110 | 41 | 0,4 |
| Majutamine ja toitlustamine | 30 | 6 | 0,2 |
| Elektrotehnika ja energeetika | 20 | 5 | 0,3 |
| Arhitektuur ja linnaplaneerimine | 30 | 9 | 0,3 |
| Arvutiteadused | 30 | 21 | 0,7 |
| Vana-Vigala Tehnika- ja Teeninduskool | 45 | 42 | 0,9 |
| Ehitus ja tsiviilrajatised | 15 | 11 | 0,7 |
| Mootorliikurid, laevandus ja lennundustehnika | 15 | 13 | 0,9 |
| Reisimine, turism ja vabaajaveetmine | 15 | 18 | 1,2 |
| Saaremaa | | | |
| Kuressaare Ametikool | 248 | 235 | 0,9 |
| Tekstiili, rõivaste, jalatsite valmistamine ning naha töötlemine | 18 | 3 | 0,2 |
| Sotsiaaltöö ja nõustamine | 36 | 15 | 0,4 |
| Sekretäri- ja ametnikutöö | 20 | 13 | 0,7 |
| Juuksuritöö ja iluteenindus | 18 | 14 | 0,8 |
| Majutamine ja toitlustamine | 56 | 49 | 0,9 |
| Juhtimine ja haldus | 20 | 23 | 1,2 |
| Põllundus ja loomakasvatus | 20 | 24 | 1,2 |
| Tarbekunst ja oskuskäsitöö | 20 | 26 | 1,3 |
| Elektroonika ja automaatika | 20 | 28 | 1,4 |

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|--|------------|-------------|------------|
| Reisimine, turism ja vabaajaveetmine | 20 | 40 | 2,0 |
| Tartumaa | | | |
| H.Elleri nim Tartu Muusikakool | 23 | 36 | 1,6 |
| Muusika ja esituskunstid | 23 | 36 | 1,6 |
| Kallaste Kutsekeskkool | 30 | 22 | 0,7 |
| Transporditeenused | 30 | 22 | 0,7 |
| Tartu Kutsehariduskeskus | 465 | 1003 | 2,2 |
| Elektrotehnika ja energeetika | 30 | 30 | 1,0 |
| Arvutiteadused | 75 | 97 | 1,3 |
| Toiduainetetöötlus ja -tootmine | 60 | 78 | 1,3 |
| Tekstiili, rõivaste, jalatsite valmistamine ning naha töötlemine | 30 | 48 | 1,6 |
| Hulgi- ja jaekaubandus | 60 | 101 | 1,7 |
| Materjalitöötlus (puu, paber, plast, klaas) | 15 | 26 | 1,7 |
| Majutamine ja toitlustamine | 60 | 143 | 2,4 |
| Sekretäri- ja ametnikutöö | 30 | 85 | 2,8 |
| Ärindus ja haldus | 30 | 93 | 3,1 |
| Mootorliikurid, laevandus ja lennundustehnika | 15 | 50 | 3,3 |
| Juuksuritöö ja iluteenindus | 30 | 119 | 4,0 |
| Reisimine, turism ja vabaajaveetmine | 30 | 133 | 4,4 |
| Valgamaa | | | |
| Valgamaa Kutseõppekeskus | 50 | 28 | 0,6 |
| Transporditeenused | 35 | 19 | 0,5 |
| Tekstiili, rõivaste, jalatsite valmistamine ning naha töötlemine | 15 | 9 | 0,6 |
| Viljandimaa | | | |
| Olustvere Teenindus- ja Maamajanduskool | 60 | 111 | 1,9 |
| Reisimine, turism ja vabaajaveetmine | 30 | 42 | 1,4 |
| Sekretäri- ja ametnikutöö | 15 | 25 | 1,7 |
| Majutamine ja toitlustamine | 15 | 44 | 2,9 |
| Viljandi Ühendatud Kutsekeskkool | 90 | 84 | 0,9 |
| Ehitus ja tsiviilrajatised | 30 | 3 | 0,1 |
| Sekretäri- ja ametnikutöö | 30 | 32 | 1,1 |
| Arvutiteadused | 30 | 49 | 1,6 |
| Õisu Toiduainetööstuse Kool | 25 | 10 | 0,4 |
| Toiduainetetöötlus ja -tootmine | 25 | 10 | 0,4 |
| Võrumaa | | | |
| Võrumaa Kutsehariduskeskus | 165 | 98 | 0,6 |
| Elektrotehnika ja energeetika | 20 | 1 | 0,1 |
| Elektroonika ja automaatika | 60 | 18 | 0,3 |
| Juhtimine ja haldus | 30 | 24 | 0,8 |

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|---|------------|------------|------------|
| Majutamine ja toitlustamine | 30 | 26 | 0,9 |
| Reisimine, turism ja vabaajaveetmine | 25 | 29 | 1,2 |
| Harjumaa | | | |
| Eesti Mereakadeemia Merekool | 48 | 21 | 0,4 |
| Kalandus | 48 | 21 | 0,4 |
| G.Otsa nim.Tallinna Muusikakool | 30 | 69 | 2,3 |
| Muusika ja esituskunstid | 30 | 69 | 2,3 |
| Tallinna Ehituskool | 75 | 98 | 1,3 |
| Materjalitöötlus (puu, paber, plast, klaas) | 20 | 20 | 1,0 |
| Elektrotehnika ja energeetika | 15 | 19 | 1,3 |
| Ehitus ja tsiviilrajatised | 40 | 59 | 1,5 |
| Tallinna Lasnamäe Mehaanikakool | 60 | 78 | 1,3 |
| Mehaanika ja metallitöö | 15 | 15 | 1,0 |
| Mootorliikurid, laevandus ja lennundustehnika | 30 | 36 | 1,2 |
| Sekretäri- ja ametnikutöö | 90 | 150 | 1,7 |
| Ehitus ja tsiviilrajatised | 15 | 27 | 1,8 |
| Tallinna Majanduskool | 450 | 960 | 2,1 |
| Sekretäri- ja ametnikutöö | 55 | 58 | 1,1 |
| Juhtimine ja haldus | 75 | 90 | 1,2 |
| Majandusarvestus ja maksundus | 320 | 812 | 2,5 |
| Tallinna Meditsiinikool | 20 | 44 | 2,2 |
| Sotsiaaltöö ja nõustamine | 20 | 44 | 2,2 |
| Tallinna Pedagoogiline Seminar | 30 | 39 | 1,3 |
| Sotsiaaltöö ja nõustamine | 30 | 39 | 1,3 |
| Tallinna Polütehnikum | 60 | 112 | 1,9 |
| Arvutiteadused | 60 | 112 | 1,9 |
| Tallinna Sidekool | 90 | 225 | 2,5 |
| Elektroonika ja automaatika | 30 | 35 | 1,2 |
| Audiovisuaalne ja muu meedia | 30 | 91 | 3,0 |
| Arvutiteadused | 30 | 99 | 3,3 |
| Tallinna Teeninduskool | 380 | 546 | 1,4 |
| Hulgi- ja jaekaubandus | 180 | 181 | 1,0 |
| Toiduainetetöötlus ja -tootmine | 50 | 56 | 1,1 |
| Majutamine ja toitlustamine | 150 | 309 | 2,1 |
| Tallinna Transpordikool | 160 | 149 | 0,9 |
| Transporditeenused | 40 | 25 | 0,6 |
| Arvutiteadused | 120 | 124 | 1,0 |
| Tallinna Tööstushariduskeskus | 285 | 525 | 1,8 |
| Elektroonika ja automaatika | 70 | 52 | 0,7 |
| Mehaanika ja metallitöö | 20 | 16 | 0,8 |
| Tekstiili, rõivaste, jalatsite valmistamine ning naha | 100 | 105 | 1,1 |

Kutseõppeasutuste võrgu korraldamine lähtuvalt regionaalsest spetsialiseerumisest

| | | | |
|---|----|-----|-----|
| töötlemine | | | |
| Mootorliikurid, laevandus ja lennundustehnika | 35 | 117 | 3,3 |
| Juuksuritöö ja iluteenindus | 60 | 235 | 3,9 |