

**PROFESINIO MOKYMO METODIKOS CENTRAS**

**STUDY ON THE POLICY OF PROVISION OF  
IVET INSTITUTIONS WITH TEACHING AND  
LEARNING MATERIALS IN FINLAND**

**STUDIJA APIE SUOMIJOS  
MOKYMO-MOKYMOŠI PRIEMONIŲ, SKIRTŲ  
PROFESINIAM MOKYMUI, ATNAUJINIMO  
POLITIKĄ**



***Parengta Europos Sąjungos ir Lietuvos Respublikos lėšomis, įgyvendinant projektą Nr. BPD2004-ESF-2.4.0-01-04/0132 „Mokymo-mokymosi priemonių profesiniam mokymui atnaujinimo modelio kūrimas“***

***Studiją rengė:***

***Tarptautinis ekspertas***

Tauno Kekäle.

Profesinio mokymo metodikos centro interneto svetainėje skelbiamų autorių kūrinių autorių neturtinės ir turtinės teisės saugomos įstatymų. Kūrinius atgaminant teisėtiems tikslams (citavimas, mokymo ir mokslinių tyrimų, informacijos ir pan.) būtina nurodyti autoriaus vardą ir naudojamą šaltinį. Kūrinių atgaminimas (skelbimas, spausdinimas, kopijavimas ir pan.) siekiant komercinės naudos ar panašiais tikslais **draudžiamas**.

© Profesinio mokymo metodikos centras, 2007 m.

## Contents

<b>Preface</b>	<b>4</b>
<b>I. The context of provision with learning and teaching materials</b>	<b>5</b>
1.1. The main socioeconomic characteristics of Finland	5
1.2. Main characteristics of IVET in Finland	8
1.2.1. Dual decision-making power: Ministry of Education and the Finnish National Board of Education	8
1.2.2. Education system in Finland: general	9
1.2.3. Vocational education in Finland: aims and organization	12
1.3. The actors in provision schools and students with teaching and learning material, their responsibilities and functions	18
1.4. Variety of teaching and learning materials (their types and forms)	19
<b>II. The role of processes and actors for provision with modern teaching and learning materials of IVET institutions</b>	<b>21</b>
2.1. Setting the demand for teaching and learning materials	21
2.2. Initiation of the development of teaching and learning materials	22
2.3. Development of teaching and learning materials	22
2.4. Assurance of quality of teaching and learning	23
2.5. Publishing and copying of teaching and learning materials	25
2.6. Logistics	25
2.7. Links of IVET with secondary general education, Polytechnics and University education systems; the dissemination of experience.	25
<b>III. Financing mechanisms, funding of the process for provision with teaching and learning material, legal regulation of funding</b>	<b>26</b>
3.1. Functions and responsibilities	26
3.1.1. State	26
3.1.2. Institutions of IVET	26
3.1.3. Teachers (personal resources and etc.)	27
3.1.4. Students	28
3.1.5. Social partners (per taxes, direct private resources and etc.)	29

<b>3.1.6. Publishing houses</b>	<b>29</b>
<b>3.2. Breakdown of funding of provision with teaching and learning materials according to the sources of funding</b>	<b>29</b>
<b>IV. Advantages and Challenges for provision with teaching and learning materials</b>	<b>31</b>
<b>V. Conclusions</b>	<b>32</b>
<b>References</b>	<b>34</b>

## **Preface**

This report explains in general terms and some detailed research data the Finnish system of providing Vocational education study materials. The study is based on numerous governmental websites and statistics as well as legislation for part 1, and about 30 interviews, practical examination of schools and their study materials and the offerings of publishers for the second part. Every measure that has been seen considered possible to ensure the quality of the data and the conclusions, considering the relatively short period reserved for the study, has been taken, but the data might still not be completely free of false information. The conclusions have been checked with practitioners, however, and should be correct for the time being. The final interpretations given are those of the author of this report and thus, naturally, need not be the same that the Lithuanian IVET team arrives at, knowing the Lithuanian system so much better.

During a session in Vilnius in January 2007 the Author had the possibility to present a draft of this report to the Lithuanian IVET team and to further sharpen the arguments and findings and the evidence provided to support them. A comparison with the Lithuanian situation, as presented by Prof. Asta Pundziene, also made it easier to concentrate on the central points of the report and keep the amount of pages within the limits. I also want to thank the hosts during the Vilnius meeting for a very good working atmosphere and a very nice social programme. I wish the team all the best with this difficult but important task.

Udine, Italy, February 18th, 2007

Tauno Kekäle

## I. The context of provision with learning and teaching materials

### 1.2. The main socioeconomic characteristics of Finland

The population of Finland is predicted to grow up to 2020. Its demographic structure will change radically, however. The young age groups will decrease and growth will only be seen in the over-55 age groups. By 2010 the 55–64 age group will grow by about 200,000 and the under 55 age groups will decrease by almost the same number. This trend will continue after 2010 (see Table 1).

**TABLE 1.** Demographic change 2000-2010

<i>Age</i>	<i>2000</i>	<i>2010</i>	<i>2020</i>
Under 15	936,300	851,500	832,900
Working age pop.			
• 15–55	2,900,600	2,715,700	2,549,800
• 55–64	567,000	785,700	716,800
• over 64	777,200	915,100	1,217,800
Total	5,181,100	5,268,000	5,317,300

The number of children of compulsory school age will fall by nearly 10% over the period 2000–2010, after which the development will start to slow down. The size of young age groups will stay approximately at the present level up to 2010, after which it will gradually take a downward turn (see Table 2). The typical vocational education entry age groups will continue to diminish so that by 2020 there will be about 30.000 less young persons of the age group 16-18 than in 2000. The labor force will also decrease. From 2003 onwards, the number of young entrants to the labor market have been smaller than the exit. The turning point will vary regionally, but is estimated to have taken place by 2009 in all other regions except Uusimaa in the south and Northern Ostrobothnia in the north of the country.

**TABLE 2.** Projected number of school-age children and young adults 2000–2020

<i>Age</i>	<i>2000</i>	<i>2010</i>	<i>change % 2000–10</i>	<i>2020</i>	<i>change % 2000–20</i>
7–15	580,800	529,400	-8.8	504,100	-13.2
16–18	202,600	199,700	-1.4	170,800	-15.7
19–21	194,200	198,600	+2.2	175,200	-9.8
Total	977,600	927,700		850,100	

At the present level of immigration and emigration, net immigration would be around 5,000 annually (even if immigration 2006 seems to have been clearly above this). This means that the number of people born abroad would increase from 130,000 to some 200,000 by 2010. With the EU enlargement, net immigration is expected to rise to the extent that the number of people born abroad will be about 300,000 in 2020. The shortage of labor will set a ceiling on economic growth, and the upshot may be that no jobs are created or jobs are created only abroad.

It is estimated that the most rapid growth in labor demand will take place in business-related services, health care, social welfare services, trade, catering, accommodation and domestic services and, *to a lesser degree*, in construction, the manufacturing of metal products and machinery, electro-technical products and instruments, and culture and recreation. The most rapid decrease in labor demand is expected in agriculture, manufacturing industries other than the ones above, forest product industry, finance and insurance, telecommunications industries and organizational activities.

In terms of different occupational groups, the strongest growth up to 2015 is expected in managerial and expert jobs in production and logistics; managerial and expert jobs in business and administration; in care occupations; in teaching and cultural occupations; and in transport and security occupations. Decline is expected in agricultural and forestry occupations and clerical occupations. Modest changes are predicted in established fields, such as manufacturing, services and construction. In the period 2000–2015, the exit in agricultural, construction, transport, care and security occupations will be above average, i.e. 40%. With the change in production structures, the content of work will change in all jobs. Knowledge demands will grow. All jobs will require proficiency in information and communications technology. Similarly, all occupations will increasingly require language and communication skills, cooperation skills and creativity, and due to ever-shortening technology lifecycles and productivity demands the production of services and commodities will be increasingly underpinned by scientific research and R&D.

The globalisation of the economy means an ever more pronounced division of labor at the global level, as well as growing competition. The upshot is changes in the occupational structure, occupations and knowledge needs. Labor mobility is expected to increase with

globalisation. These changes will also affect the education system. Production and services supply is less and less linked with a particular place when the major production factors, labor and capital move freely. Businesses are located in countries and areas which offer them the best or most favourable conditions for operation. This development means threats as well as opportunities for Finland. The danger is intense regional differentiation and clear polarisation into high-achievers and those threatened by marginalisation. On the other hand, it should be regarded as being in Finland's favour that her asset in competition is not low production costs but a high level of knowledge and stable social conditions. The priorities in educational development have since then been to raise the level of education among the population and the labor force, to improve the efficiency of the education system, to prevent children's and young people's exclusion and to enlarge adults' opportunities in education and training. Special attention is also paid to better impact and internationalisation of education. Measures must continue to be taken to further raise the level of education and knowledge. In the circumstances of shrinking labor supply, responding to the labor demand both in knowledge-intensive occupations and in the most rapidly receding job groups will entail the right quantification and a better matching of initial and adult education and training.

Finland has a highly industrialized, largely free-market economy, with per capita output roughly that of the UK, France, Germany, and Italy. Its key economic sector is manufacturing (30,2 % of GDP) - principally the wood, metals, engineering, telecommunications, and electronics industries. Trade is important, with exports equaling two-fifths of GDP. Finland excels in high-tech exports, e.g., mobile phones. Except for timber and several minerals, Finland depends on imports of raw materials, energy, and some components for manufactured goods. Being a Nordic welfare state, services (including public services) are important for employment, counting for 66,5 % of the GDP (2004). Because of the climate, agricultural development (3,3 % of GDP) is limited to maintaining self-sufficiency in basic products. Forestry, an important export earner, provides a secondary occupation for the rural population. Finland was one of the original 12 countries joining the European Economic and Monetary Union (EMU). Growth in 2003 was held back by the global slowdown but picked up in 2004 and is rapid (at about 3 % prognosed for 2007) at the moment, while inflation is a bit below 0,7 % annually. High unemployment (about 7,5 %) remains a persistent problem though. Gross Domestic Product per capita of Finland has during 2004 been 23949 and in 2005, 24841 euros.

Finally. The percentage of education costs have since 1995 (6,5 %) lowered to 5,6 % of 2000 (latest number available). Nevertheless, literacy in population above 15 years of age is held to be 100 % and Finland has also done very well in the last two PISA learning results studies.

Costs per year in basic education have in 2005 (latest available number) been 5 860 eur and in general secondary education 5 130 eur. Vocational education was more costly per student, at 8 860 eur and finally the cost of Polytechnic higher education 7 130 eur per student and year. The reason why these four are listed but not the universities is the similarity of the funding models; universities in Finland are all state-owned. More on this later, but let us now conclude that the costs of IVET had risen slightly more (at 3,1 % from 2004 to 2005) than the general inflation rate while the rise from 2005 to 2006 was somewhat below (at 2,5 %). The current education costs per student are about average among the OECD countries.

## **1.2. Main characteristics of IVET in Finland**

### **1.2.1. Dual decision-making power: MINISTRY OF EDUCATION and THE FINNISH NATIONAL BOARD OF EDUCATION**

The key words in Finnish education policy are quality, efficiency, equity and internationalisation. Education is generally seen to be a factor for competitiveness. The current priorities in educational development are to raise the level of education and upgrade competencies among the population and the work force, to improve the efficiency of the education system, to prevent exclusion among children and young people, and to enlarge adult learning opportunities. Special attention is also paid to quality enhancement and impact in education, training and research and to internationalisation.

*The Ministry of Education* is the highest education authority in Finland, supervising publicly subsidised education and training provision, from primary and secondary general education and vocational training to polytechnic, university and adult education.

*The Finnish National Board of Education (FNBE)* is the national agency in charge of development of education in Finland. It is working under the auspices of the Ministry of Education.

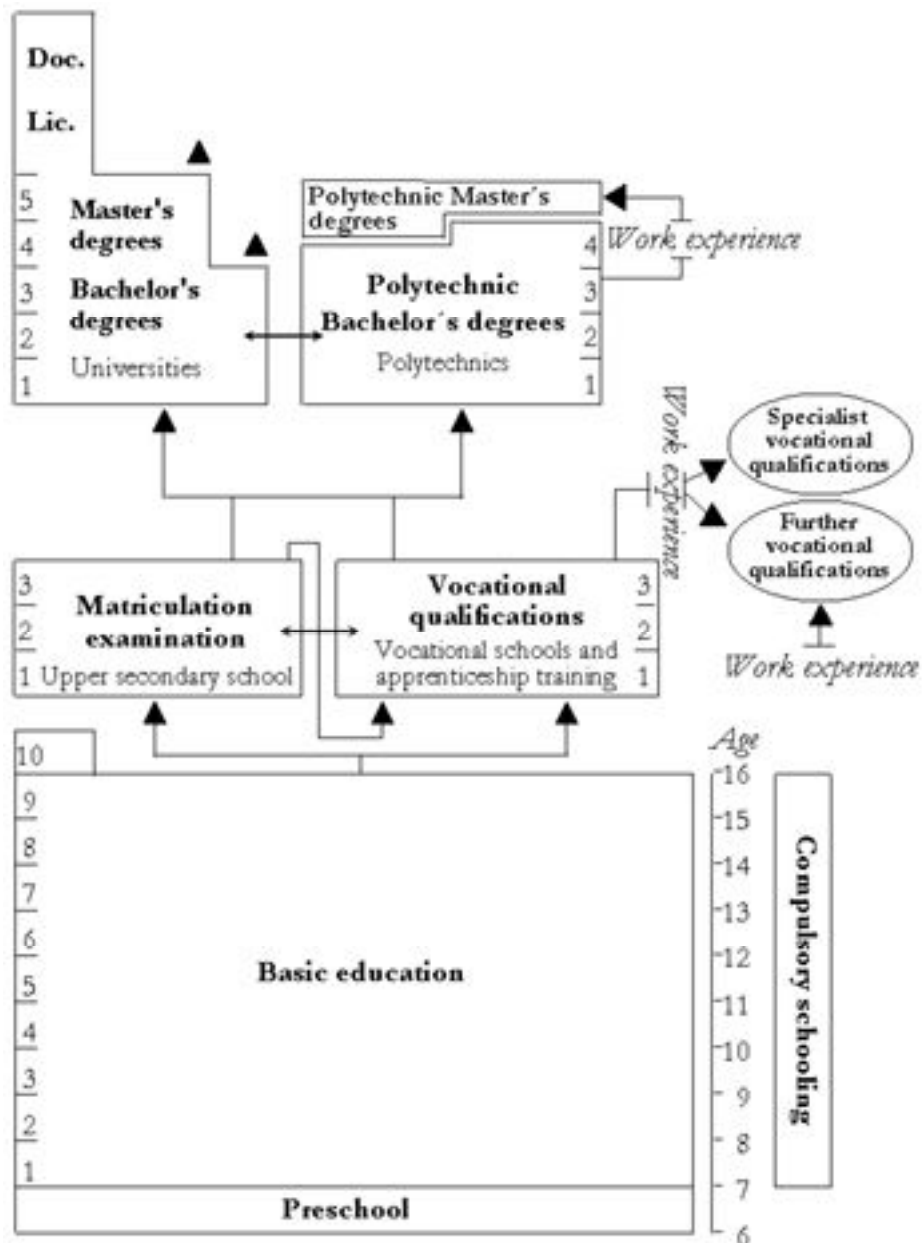
FNBE is responsible for the development of pre-primary education and basic education, general upper secondary education, vocational education and training, formal adult education and training, liberal adult education (incl. folk high schools, study centres, summer universities) and extracurricular basic education in arts. It is also responsible for the development of morning and afternoon activities as well as voluntary additional classes in basic education, special needs education, and immigrant education and training.

The FNBE was founded in 1991 when two of its predecessors were merged, namely the National Board of General Education and the National Board of Vocational Education. A major administrative part of the former Boards was abolished in the reorganisation of central level educational governance in the 1990s.

The Ministry of Education and the National Board of Education are responsible for implementing education policy and for administering the education system at the central government level. However, many matters are decided by the education and training providers themselves, that is, local authorities and their consortia. Pre-primary and basic education and upper secondary general and vocational education are governed by objectives set in legislation and by national core curricula. General education and vocational training are co-financed by the government and the local authorities.

### **1.2.2. Education system in Finland: general**

The post-compulsory level is divided into general education and initial and further vocational education and training. The whole education system of Finland is special among European education systems in its attempt to mix a two-pillar (clearly separate but compliant theoretical/general and vocational/specialized pillars) to the two-level higher education system of the Bologna treaty (see Figure 1).



**Figure 1.** A schematic of the Finnish "two-pillar" Education system.

After basic education, 95.5% of school-leavers continue in additional voluntary basic education (2.5%), in upper secondary schools (54.5%) or in initial vocational education and training (38.5%).

The aim of vocational education and training (VET) is to improve the skills of the work force, to respond to skills needs in the world of work and to support lifelong learning. VET comprises initial vocational training and further and continuing training.

A total of 146 000 students attend initial vocational training every year. Of them, about 47000 attend programmes preparing for initial vocational qualification. The largest fields are Technology and Transport (c. 36%), Business and Administration (19%) and Health and Social Services (17%). The other fields are Tourism, Catering and Home Economics (13%), Culture (7%), Natural Resources (6%) and Leisure and Physical Education (2%). In further training provided in the Ministry of Education sector, the annual number of students is about 40,000.

There are 119 study programmes leading to 53 different vocational qualifications confirmed by the Ministry of Education; some of these again are actually provided in several geographic locations, traditionally sites of the "pre-Polytechnic" era vocational schools or otherwise areas with enough local student base. Some vocational and special vocational qualifications can also be common for two different fields of study. Such include:

- painter and master painter qualifications (for both surface finish and handcraft and arts fields);
- carpenters' qualification and special carpenter's qualification as well as boat-builders' and master boat-builders' qualifications (for woodwork and handicraft and arts), and
- qualification and special qualification for clothing industry (for both textile and clothing and handicraft and arts).

The qualification and special qualification in maintenance mechanics is common for all industrial studies. Finally, the qualifications in entrepreneurship represent knowledge that is useful irrespective of field.

VET is intended both for young people and for adults already active in working life. They can study for vocational qualifications and further and specialist qualifications, or study in further and continuing education without aiming at a qualification. The qualification, on the other hand, can be gained either within a study programme or by just proving the necessary skills by a vocational skills demonstration. The number of further and specialist qualifications, which are taken as competence-based qualifications, is 305. In the international ISCED classification, all of these - as well as the basic IVET programmes - are located on level 3 Upper secondary education.

Initial VET vocational qualification has been designed to respond to labor market needs. The qualification is 120 credits, which takes three years of full-time study (the duration of the training has been three years since autumn 2001, unless prior learning can be counted towards the qualification. The qualification is based on working life occupations and the competencies required and includes at least 20 credits of on-the-job learning. Prior learning acquired in training, working life or other learning environments can be counted towards the qualification.

Matriculated students can also study in initial VET. Their prior studies are equivalent to some 30 credits, which are counted towards the vocational qualification. Conversely, in many vocational schools, it is also possible to study the matriculation examination on the side of vocational studies (which takes typically one additional year). A vocational qualification gives general eligibility for polytechnic and university studies, but for university studies the matriculation examination is also required while for polytechnic higher education studies the vocational diploma in itself is a sufficient application document (see Figure 1).

### **1.2.3. Vocational education in Finland: aims and organization**

The objective of studies leading to a vocational upper secondary qualification is to provide students with the skills and knowledge necessary for obtaining vocational competence and for working as entrepreneurs. Furthermore, it aims to support the students' development into good and well-balanced individuals and members of society, to give them skills and knowledge useful for further studies, hobbies, and all-round personality development, and to support lifelong learning.

There are 52 vocational upper secondary qualifications and 116 study programmes in them. The qualifications give comprehensive basic skills for working in the field and more specialized skills in one sector. There are 90 credits of vocational studies, including at least 20 credits of on-the-job learning that supports the studies. In addition to these, there are 10 credits of free-choice studies and 20 credits of core subjects. The core subjects required in all vocational studies are: the mother tongue, second national language, a foreign language,

mathematics, physics and chemistry, social studies, entrepreneurship and workplace studies, physical and health education, arts and cultural studies. The programmes can be included in many different qualifications, and also a general qualification can include many alternative programmes for the student to choose from:

e.g. Car engineering qualification:

- car painters' study programme
- spare parts sales study programme
- car mechanic's study programme
- car salesmen's study programme
- car bodyshop engineer's study programme

e.g. Textile engineering qualification:

- tailor's study programme
- clothing seamstress' study programme
- fur engineer's study programme
- study programme for textile designer/modist

This is why the seemingly unbalanced ratio of 52 qualifications and 116 study programmes exists in the Finnish system.

A vocational qualification can be obtained either through school-based education or in the form of apprenticeship training. Apprenticeship training is based on an employment agreement (apprenticeship contract) between the student and the employer, confirmed by the education provider. In addition to these, a vocational qualification can be obtained through a competence test administered by a qualification committee.

Characteristics of the vocational upper secondary qualification are:

- \* Admission requirement is the completion of basic education syllabus, after which education providers primarily select their students based on earlier academic achievement but may also hold entrance exams or aptitude tests and may take the applicant's work experience into consideration
- \* Application takes place through a state-wide joint application system

- \* The studies primarily aim at obtaining the vocational skills needed in working life. Additionally, three-year studies give *general* eligibility to engage in tertiary studies at universities and polytechnics
- \* Opportunities for individual progress in studies have been enhanced
- \* A vocational upper secondary qualification can be obtained through attending a vocational school, through apprenticeship training, or through a competence test
- \* Targets for development: on-the-job learning in work places shall be increased in school-based education, apprenticeship training shall be expanded

The Government decides on the general goals of vocational education and training, the structure of qualifications, and the core subjects. The Ministry of Education decides on the studies and their scope. The Finnish National Board of Education provides the national core curricula defining the goals and core contents of studies (the current ones are from the year 2000). The national core curricula are dealt with by tripartite expert bodies, National Education and Training Committees, operating under the auspices of the Ministry of Education for the planning and development of vocational education. Based on these, education providers draw up their own curricula. Education providers also have tripartite expert bodies, consultative committees, which participate in the planning and development of education at the local level.

The Ministry of Education grants an authorisation to provide vocational education. This defines, for instance, the fields of study taught and the total number of students. Within the framework of their authorisation and confirmed qualifications structure, education providers are free to target their educational provision as they choose to meet the needs of working life, trade and industry.

**TABLE 3.** Vocational schools in 2003, 2004 and 2005 by type of ownership.

<b>Type of owner</b>	<b>Number 1.1.2003</b>	<b>Number 31.12.2005</b>
State-owned	1	1
Municipal	45	29
Group of municipalities	59	56
Private	101	95
<b>TOTAL</b>	<b>206</b>	<b>181</b>

**TABLE 4.** Total number of students and intake in vocational education

Year	Number of students	Entrants
1995	171 577	99 936
1996	166 009	71 684
1997	153 656	62 888
2001	126 000	49 285
2008 (target)		45 700

As can be clearly seen in the tables, the amount of students in vocational education has been diminishing steadily, as has the number of schools. This has been partly due to demographic factors, but also partly because the structural changes in the Finnish industry during the 1990s have encouraged higher education studies that again have lead to a proportionally higher amount of students in each age class to choose studies in the upper secondary schools over vocational studies.

In the early 1990s several international developments took place simultaneously. The main business partner of the Finnish construction industries, Soviet Union, collapsed with nearly immediate stop in all infrastructure and housing construction projects. Letting Finnish currency float free lead to a hostile speculation with the currency that further drew a crisis in banking, similar to those experienced in the Far East countries some years later. This was especially harmful small and medium sized enterprisess, private households and generally everybody who had loans based on variable interest. The interest levels for overnight loans went in some months from 3 to up to 16 per cent. Unemployment went from a quite stable 4 per cent since decades up to about 15 % in 1993-4, and has only slowly lowered since then to the current about 7 %. Especially textile and shoe industry but also other industries where Soviet Union had been an important buyer diminished markedly in Finland (textile and leather industries nearly disappeared). The high levels of unemployment especially hit workers on the shop-floor level.

Except for a temporary increase in public spending for Finnish infrastructure to create work opportunities, it can afterwards be seen that a drastic change in the Finnish education policy has taken place after these events. Blom (1998:56-57) shows that in 1988 vocational

education guaranteed work as well as higher education; in his statistics for 1994, he shows that of vocationally educated population about 60 % has been able to stay "economically active" while the number for higher education is about 80 %. On the other hand, of groups "lower clerical workers" and "factory workers and other lower workers" 2 % and 0 % respectively had a higher education degree in 1981, while 36 % and 40 % respectively had a vocational degree. This had changed to 1994 markedly, so that out of "lower clerical workers" 7 % had a higher education degree and only 13 % vocational degree, while of the "factory workers and other lower workers" 31 % had a vocational degree and already 4 % were college educated.

Clearly the Ministry of Education in Finland saw this trend as something more than temporary, when they announced in 1996 that 60 % of each age class should participate in higher education. Indeed, even currently it seems most of the actually new jobs are expected to be in managerial and specialist areas. Despite this, it is a bit surprising that it is said in the current development plan of the Ministry of Education that "the difficulties with access to labor that are foreseen due to demographic developments require that the efficacy and performance of the education system are improved further, that *all (sic)* members of youth age groups receive post-compulsory and post-secondary vocational/professional education". Furthermore, the plan states "that the knowledge and skills of the adult labor force are upgraded, that adult education and training services are increased and that the recruitment of immigrants is intensified". Thus, the Ministry of Education divided the former vocational education into vocational schools and Polytechnics, but so that there also was a direct way to Polytechnics from the general secondary education. There's no real scientific study done about this as far as we know, but the opinion of this author is that the possibility to postpone the vocational/university choice with an additional three years has proven popular among students in the problematic years of the 1990s, and reduced the amount of students in vocational schools further.

This might at the same time lead one to theoreticize that the students that are in vocational schools would then be more motivated (the undecided would to an even higher degree go to gymnasiums) but a relatively high degree of dropouts is now instead an acknowledged problem in the vocational schools. Compared to the annual level of the about 50.000 entrants at or before the year 2000, only 41.200 graduated during 2003. Despite a level of entrants in vocational education around 47.000 for 2006, the Ministry only feels confident

to state the degree target for vocational qualifications of 37.000 - a prognosed loss of 10.000 or a rate of dropouts of nearly 1 in 4.

**TABLE 6.** Costs for different education fields in Vocational education, Eur/student (does not include learning agreements nor special needs schools; according to the Finnish MINEDU education classification that does not correspond to ISCED)

	Students no.	Tot.cost	Acc.	Real educ. cost	Amount of geographical localities offered in
<b>1 Humanities and education</b>					
199 Humanities and education	2.348	8.595	437	8.158	31,0
	2.348	8.595	437	8.158	31,0
<b>2 Culture</b>					
202 Audiovisual comm.	2.772	8.413	96	8.317	32,0
203 Music	891	12.669	60	12.609	16,0
299 Culture other	6.347	8.610	97	8.514	46,5
	10.011	8.917	93	8.824	94,5
<b>3 Societal and business adm.</b>					
399 Societ. and business adm.	14.727	5.556	11	5.544	67,0
	14.727	5.556	11	5.544	67,0
<b>4 Natural sciences</b>					
499 Natural sciences	6.932	5.828	18	5.810	62,0
	6.932	5.828	18	5.810	62,0
<b>5 Engineering and logistics</b>					
501 Navigation	457	9.857	293	9.564	3,0
502 Logistics	2.060	10.740	67	10.674	37,5
503 Food and nutritional eng.	108	10.049	630	9.418	1,0
506 Civil construction eng.	227	13.295	338	12.957	7,0
507 Aviation eng.	357	9.460	95	9.365	6,0
599 Other eng.	44.156	8.267	75	8.192	88,5
	47.365	8.427	80	8.348	143,0
<b>6 Natural resources and environm.</b>					
602 Horses and stablekeeping	856	13.427	927	12.500	7,0
604 Forest machines	1.039	19.434	816	18.618	8,0
605 Other forestry	697	15.328	645	14.683	21,5
699 Other natural resource	5.384	10.431	595	9.837	40,0
	7.975	12.353	664	11.689	76,5
<b>7 Social, health and sports</b>					
701 Sports trainer	564	13.399	1.229	12.170	8,0
703 Primary care	418	7.454	20	7.433	21,5
707 Nurse	1.531	6.961	25	6.936	46,5
708 Dental nurse	172	7.514	0	7.514	7,0
799 Other soc Health & sports	18.921	6.993	34	6.959	67,0
	21.606	7.171	64	7.107	150,0
<b>8 Hospitality &amp; catering</b>					
899 Hospitality & catering	17.243	7.883	86	7.796	86,0
	17.243	7.883	86	7.796	86,0
Total	128.207	7.957	111	7.847	

The image of vocational education has not actually declined, but the drop in industrial jobs in the 1990s has interacted to reduce the interest in vocational education. The discussion of education quality again has been quite similar in Finland in all the school levels and types, and especially the quality and efficiency of higher education has been debated quite frequently of late. In the vocational education the discussed topic has been the efficiency of actual learning of the practical skills. The birth of the Polytechnic system in early 1990s divided the old vocationally-oriented secondary schools to the higher-education Polytechnics and the secondary "vocational institutes" and in both, it was claimed, a more theoretical orientation took hold.

Starting from all vocational education programmes where students are enrolled after the 1st of August of 2006, a vocational skills demonstration in the form of a competence test shall be included in vocational qualifications as proof of having reached the goals given to vocational studies. These tests are nationally similar for all students within the field (and should be of similar level across the fields) and based on materials developed by projects accepted and controlled the National Board of Education. The quality of these skills demonstrations is guaranteed by national branch-wise Examination commissions (of which there sometimes are even separate Finnish- and Swedish-language ones). Altogether, there are 177 of such commissions. These consist of representatives of employers' and employees' associations and vocational teachers within each field, proposed to the commissions by the National Board of Education.

### **1.3. The actors in provision schools and students with teaching and learning material, their responsibilities and functions**

The system of actors is surprisingly simple in the Finnish IVET system. The students (or if their money is not enough, their parents) buy most of the material from the free market (all books); the teachers provide some (mostly additional) material in some fields of study (e.g. short courses in languages, drawings for technical work etc). These kinds of work are included in the teacher's monthly salary. The software is typically bought from software vendors to the schools together with computers.

The national curricula say nothing about the books to be used, but just states the topics that must be included in the teaching. based on this, the publishers plan and publish books among which every individual teacher is free to select the literature to be used on his or her course. The teachers then tell the local bookshops what book(s) they have chosen and how many students they do expect to participate in the course, and the bookstore orders the books from the publisher based on this forecast. The National Board of Education acts as a small publisher of materil for marginal fields of study, but they too sell their material through normal bookshops to market prices; otherwise the state has nothing to do with the teaching and learning materials.

#### **1.4. Variety of teaching and learning materials (their types and forms)**

There is quite a variety of teaching and learning materials in use in vocational schools, and they especially vary in their use between fields of study. From the interviews made it seems however that in technical topics most of the materials are book packages that consist of workbooks (practical books with some tasks for students and relatively little reading material) and related teachers' books. In other areas, there typically are theory books too. E-format books are currently used very seldom. In technical fields, the related drawings etc. are typically provided by the teachers at no cost for the students, as well as for shorter language courses the teacher prepares task leaflets and word list. For some other areas, such as hairdressing and handicraft that are relatively small, production of coursebooks do not make economical sense for authors. Thus, in e.g. hairdressing, the producers of hair sprays and such give out manuals for professionals, that are also used in teaching.

Types of "textbook" also vary. E.g. in car engineering where there are lots of technical details and components to be understood, the "textbook" is a complete series of books, one for each module (bodywork, electrics, engine etc), with teachers' books from both main publishers (see Figure 2). In more handcraft-oriented areas, e.g. in textile work, it seems rather that there's a separate book for each type of techniques (leather, fur, wool etc etc), often written by artists and/or teachers. These books bought individually by students are typically complemented by subscriptions to some industrial fashion catalogs and clothing pattern magazines, taken school-wise. Finally, it seems that the National Board of

Education wants to promote multimedia and distance learning, often offering a website or multimedia CD-ROM instead of a book.

## **II. The role of processes and actors for provision with modern teaching and learning materials of IVET institutions**

### **2.1. Setting the demand for teaching and learning materials**

The laws on IVET in Finland practically state nothing about the course materials. The main law, "Laki ammatillisesta koulutuksesta 21.8.1998/630", gives the generic goals and level of studies, states the responsibility on the studies and the planning of curricula, and the liabilities of the students, among other minor matters. The law was then passed together with an additional regulation "Asetus ammatillisesta koulutuksesta 6.11.1998/811" that additionally states what must be included in studies, how many credits the studies must consist of, which study areas are possible in Finland, and how the student evaluation and diploma should be conducted. These laws state that the education must be based on the national curricula; the latest ones are from the year 2000, and the next one will come (prognosed) in 2008.

The funding of the books is ultimately up to the students; when the books are to be filled in, they cannot be borrowed from the library, and when they are to be read for reference, they are not included from the school libraries. Also, the national curricula say nothing about the books to be used. The teachers of each school can decide upon the books to be used each year, typically from among the current selection from the publishers. Thus, there is a "market" system of book publishing: the publishers send out evaluation copies of their books to teachers, then the teachers decide which book their school will use based on the perusal of these evaluation copies, and then the students of the school must go and buy these books as decided by the teachers. Actually, this system seems to have been around "forever"; none of the persons I talked with could remember or easily find out how this student-paid system has begun, but the fact that I have personally bought my own books in the 1970s gives at hand that the history is quite long.

Thus, the publishers are quite free to offer books according to the national curricula. The long time a curriculum is actual makes it possible - and attractive - for the publishers to offer a variety of books (there will be a quite stable annual demand of the books in their current state, or at the maximum with minor adjustments, until 2008 when the new curricula come to power). Normally, the publishers take out a printing of between 1.000

and 5.000 books (notice that there are two official languages in Finland; some books are printed in both languages, even if Swedish is a much smaller language area than Finnish, while some other books are sourced from publishers in Sweden) and then stock them by themselves until the bookshops order them.

## **2.2. Initiation of the development of teaching and learning materials**

In 80 % of the cases, the publishers decide on what kind of books should be written and what the contents should be (the remaining 20 % then are mostly teachers who have found that there's no suitable book on the market and suggest to write one, or offer material they have used for more general publication). The authors typically are known VET or university teachers or specialists in the field. Typically, after an initial contents list has been decided by the publisher, they contact suitable authors (typically 2-4 to provide breadth of topic) who then write a first draft of the book; the publishers normally collect a *team of authors* to make sure enough competence is present.

The draft written by the author team is then sent for evaluation to other teachers in the field, and sometimes also "looseleaf versions" of the books are used in teaching with test groups of students. If the quality of the book is found to be sufficient, a printing will be ordered and the book will go out on the market (with inspection copies being sent to teachers of the respective field for their consideration for use in the next year's teaching).

## **2.3. Development of teaching and learning materials**

The national curricula also directs to a degree the book production; whenever the curriculum changes (the current ones are from 2000, the next will come in 2008/09) the books are typically rewritten to respond to the contents required in the curricula. The changes in technologies sometimes also drive new printings of books also in the meantime. The development process was already explained; typically, e.g. of one interviewed publisher's 30 new books annually only one is translated from another language - thus, by interpolating from these numbers, the proportion of translated books is about 3 % and the rest are original works of Finnish writers. Even in the cases of translated books, the process is the same: the publisher contacts translators they know, and so on.

The authors of the textbooks are remunerated as would any author of a novel or so - on the basis of actual sales. In the case of one book the author of this report has written, the authors shared 8 euros per sold book in the proportion they had provided material to the book. Thus, for a typical printing of e.g. 5.000 books and 4 authors a book, each author could get a 10.000 euros honorar - or about 4 months' Finnish salary.

#### **2.4. Assurance of quality of teaching and learning**

Since 1994, there's no legal regulation on the coursebooks nor on inspection of teaching, but the publishers and the "free market" takes care of the demand and the quality. As for teaching, the law states that the schools must "evaluate their quality"; the new scheme for funding based on results no doubt guides the schools to what is meant by "quality". As noted before, all the serious publishers also will arrange test rounds of the books, and they also have such a broad grip on the market (the four big publishers publish about 85-90 % of the textbooks, and even the small publishers publishing the remaining about 10 % are established and long-time specialists in their fields).

The teachers are, as noted, free to select the books they are about to use. The main publishers set out information about their new offerings to the internet:

- [http://www.otava.fi/oppimateriaalit/luokka\\_asteet/ammatti\\_ja\\_aikuiskoulutus/](http://www.otava.fi/oppimateriaalit/luokka_asteet/ammatti_ja_aikuiskoulutus/)
- <http://www.tammi.fi/asp/empty.asp?P=3434&VID=default&SID=125652579128310&S=0&C=19831>
- <http://www.wsoyoppimateriaalit.fi/oppi/?aste=AI>
- <http://www.oph.fi/verkkokauppa/>
- and/or in bookshops' pages, e.g. <http://www.kurssikirjakauppa.fi/>

and send out a number of inspection copies to selected teachers. The teachers then select their books, typically among a very small number of alternatives. For car engineering, I found two alternatives in Finnish language (see picture below) and one in Swedish. In textile engineering, the situation is even worse. There was only one contemporary book ("Vaatetusalan ammattitekniikka", pictured, seems somewhat outdated by the notions of the local book shop and the interviewed teachers; the one currently sold and provided to the IVET team in Vilnius for inspection is a translation from German). The National Board of

Education has provided many books, booklets and web-based learning materials in special fields within textile engineering such as a multimedia material for textiles material design (pictured), leather work, fur manufacturing techniques and so on. The conclusion here is that where there is a natural demand, the commercial big publishers (Tammi, WSOY and Otava) provide good materials; in fields where the market is not big enough to interest the publishers, the National Board of Education jumps in and provides the books to "nearly-market-prices" (the prices of the books of FNBE, often around 20 euros per book, are seemingly below the prices of the books sold through the bookshops; the two books provided to the IVET team in Vilnius from the "free market" of our local bookshop cost 100 euros together). This conclusion may be a truth with variations, but this is how it seems to work.



**Figure 2.** Some examples on the current choice of books. The two to the left are examples of the series of books for car engineering and repair; the third from left the somewhat elderly textbook in textile manufacturing that competes currently with the translation from German; and the multimedia material for textile industry from FNBE to the right.

## **2.5. Publishing and copying of teaching and learning materials**

In Finland, an organization called Kopiosto controls the copying of the materials. The general agreement between Kopiosto, the publishers and the schools, at the moment allows copying of a maximum of 20 pages per book out of textbooks for student/classroom use. Workbooks (to be filled in by students) and special material such as sheet music (notes) are not legal to copy. This partly explains the low level of material copying cost as reported by the schools - all books are bought in full by the students from the normal bookstores. In the rare cases where the materials are compiled or written by the teachers for their own class only, they also normally copy them personally to each student of their course.

## **2.6. Logistics**

Typically, in the beginning of a course, the teacher takes a list of the books to a local bookstore that orders the correct amount of books from the publishers and then the students go and buy their own books from there. As noted, these printings are typically between 1.000 and 5.000 books, and the books not ordered by the bookstores are spared at the publishers' logistic centres from where they are mailed to the bookstores among other orders. All software to be used is included in the computers, and thus paid by the schools; they are typically provided by the computer vendors together with the machines and also installed by these vendors.

## **2.7. Links of IVET with secondary general education, Polytechnics and University education systems; the dissemination of experience.**

The secondary general education and the Polytechnic education follow the same practices to a great degree. In the publishing houses, even the same department takes care of the books for IVET and the Polytechnics (because these books are generally written by similar people); general secondary education books are produced and distributed in the same way, but the publishing houses generally have a separate department for these schools. There's practically no difference in software acquisition; in all three school types, the decision is made within the individual school. University textbook material, however, is nowadays in most fields read in English and sourced internationally, thus there's very little connection.

### **III. Financing mechanisms, funding of the process for provision with teaching and learning material, legal regulation of funding.**

#### **3.1. Functions and responsibilities**

##### **3.1.1. State**

The state finances the teaching itself by providing the schools with an yearly amount of funding per each student. The funds are based on previous years' cost level and stated by law each year, and even if not precisely the same the approximate amounts can be estimated from Table 4 for different fields of study. This funding generally doesn't however have too much to do with the study materials. The types of materials that are included in this funding are the ones bought by the schools, which generally is a minimum. The biggest amount of this type of material includes the general software used in the computers of the school (typically e.g. Microsoft Word and such). Also, some likewise marginal copying of drawings and such are covered from this funding. A third post covered here is the acquisition of books to school libraries, but while nearly all the course books are bought by the students, the library costs are again marginal. The source in Ministry of Education states that, according a questionnaire to the schools, about half of the all the schools in Finland have in 2005 used absolutely 0 euros for ALL these three posts of acquisitions. The final Ministry of Education cost report from 2005 shows that average library and software acquisition cost from this state budget per student has been around 17 euros, and the total library and computer software costs except librarians' salaries have been 3.440.821 for all Finnish vocational schools. It is maybe reason to note here again, that in any funding-related respect there is NO difference whatsoever whether the IVET school is municipal, state-owned, or private.

##### **3.1.2. Institutions of IVET**

While the state funding should cover the teaching costs at the IVETs, the schools themselves are complete free to decide how to share the funding within their own cost locations. If the costs turn out to be lower than the funding defined in the law, the schools can keep the surplus; if the costs are higher, the education providers must invest the rest themselves. Typically in 2005 the vocational education costs have been about 6 % higher

than the state funding, which means that the providers - be they private, municipalities or whatever - have been forced to find this 6 % from somewhere else. As the funding used by the schools in literature acquisitions already is minimal and the amount of the total funding that does NOT come from the state is only 6 %, it can thus be said that the municipalities' and private schools' own funding does not play a role in these acquisitions. If a number is requested, the 37 euros per student times 6 % is about 2 euros per student; this is a speculative amount, because the statistics do not show the use of the schools' own funding separately, just the total costs.

As a item of interest, from 2006 on also the result of the education organizer will affect the funding. This means that the education providers that get better results will in the future get somewhat higher funding as would others in the same field of study. This could be - but probably will not, according to the persons interviewed - used for acquisitions that are the subject of this study, too. This result "bonus" can be in the region of some per cent of the total funding and is calculated on the basis of employability of students, recruitment to Polytechnic studies, diminished drop-offs, throughput in studies, competence level of teaching staff and training of personnel arranged.

### **3.1.3. Teachers (personal resources and etc.)**

Based on the interviews done for this report, it seems quite many teachers make their own materials for their teaching. In these cases, the source of the materials are in Internet, in public libraries and in journals oriented for practitioners of different fields. The amount of hours that is reserved for teachers to do anything like this are standard; for tasks other than teaching, of the 1600 the annual paid working hours about 700 can be used. The teachers are not in any way forced to use these hours in preparing material; in one assessment, it has been reported that the teachers would use about 2 hours for every 1 credit content of a course for preparation (and for every 1 credit, the classroom teaching could e.g. include 10 hours). From this assessment, it can be assumed that teachers writing their own material on the average is quite rare. However, from the interviews conducted for this study, it is clear that the smaller educational groups, marginal fields of study, and adult vocational training include more teacher work done for preparing the materials.

For the teachers who have participated in writing the official textbooks, for a typical printing of e.g. 5.000 books and 4 authors a book, each author could get a 10.000 euros honorar - or about 4 months' Finnish salary. The royalties are not high in themselves, but the fact that the same book will be used and sold for many years will make the income worthwhile over time. The language groups of Finland are so small that generally it is said that the textbook writing is a better business than writing novels, but it is also easy to see that nobody can live on textbook writing only. In cases where there are no textbooks available (very small fields of teaching, special language groups such as deaf and Swedish-speaking) the teachers sometimes make their own material in form of powerpoint slides or handouts; then the drive is just to have something to use in the class. The production of such materials is typically not remunerated separately.

#### **3.1.4. Students**

The students and their families are the major funding source for teaching materials. In practically all fields of study, books and other materials are bought individually by the student for the whole of their training period. The teachers say that these books are typically handbook-type, so that the students often also use them as reference after their studies. This causes the problem that there does not seem to be a practical market for second hand books either. Thus, practically all books are bought by the students through normal high-street bookshops at market prices.

Students can again get a subsidy from the state for their studies, but it is typically seen to be towards the living costs, not the books only. From this they pay also accommodation, parties etc. Food (lunch) is free for students in vocational schools, as well as tuition. The general subsidy for food, books, recreation, clothing, telecommunication etc. living costs is between 21 and 213 euros (or 0 euros !!) depending on the individual student's parents' income and the age of the student. Amount of additional subsidy for accommodation is 80 % of rent, maximum of 171 euro a month and can be paid on top of general subsidy for students who do not live with their parents.

Thus, even if it is difficult to really say what euro goes to what purpose, it can generally be stated that most of the money that buys textbooks and other learning material comes from the pockets of the students themselves or their parents.

### **3.1.5. Social partners (per taxes, direct private resources and etc.)**

The effect of these actors are in general minimal. However, in some fields - cosmetics, hairdressing - the producers of chemicals used also provide schools with similar manuals than they do write for practitioners. According to the persons interviewed, because these groups are very small and it would not be economically viable to write materials for the students, these professional manuals are also used in education.

### **3.1.6. Publishing houses**

As noted, publishing houses that produce materials for IVET are all market-based, even including the Finnish National Board of Education in its marginal material-publishing role. All the books written are market-tested and have a price that covers the production cost and leaves a profit for the publisher. The publishers do not aim to subsidise the publishing of books, but naturally sometimes individual books may face bad demand from the market and go at a loss. These are normally withdrawn from the market quickly.

Currently, except for the National Board of Education acting as a small publisher (and even then selling their books at market prices to students or teachers), there's no funding used for education materials from these sources according to the publishers.

## **3.2. Breakdown of funding of provision with teaching and learning materials according to the sources of funding**

As the funding picture is precisely the same no matter who the owner (IVET provider) of the school is, the original table to be used in this point does not make much sense. The author has thus here changed the table somewhat to reflect the Finnish funding situation.

As can be seen, the major funding for books and such comes from the students. The proportion of the schools and the state are marginal. Because these are not listed separately

for library books and computer software, we have here decided to put all of the reported school costs on the software until more correct information can be gained. The 5 % amount of books that state is paying refer to the materials made by the teachers for the salary they get, that again for 94 % comes from the state budget (as presented in the software column). Finally, teacher's books seem to be in nearly all cases sent to teachers by the publishers at no cost when the students of the course will use (and buy) the book. While the publishers are for-profit organizations, it could also be stated that the students ultimately also pay these books, but we have decided to mark that they are provided by the publishers.

**TABLE 5.** Funding of "soft" teaching material in Finnish IVET system.

Sources of funding	Financing, %		
	textbook	teacher's book	software
Students	95		
State	5		94
IVET provider / school			6
Publishers		100	

#### **IV. Advantages and Challenges for provision with teaching and learning materials**

The advantage of the market-based system, after comparing with the Lithuanian system, is that it definitely provides a motivation for both the authors and the publishers to keep the books up-to-date. This is true for the fields where there generally are lots of students every year, and these again seem to follow the changes in the national industry structure (e.g. when most of the textile companies have left Finland, textile engineering education attracts less students, which leads to less coursebook alternatives or aging coursebooks, which again leads to additional decrease of students). So as long as the market exists, the system is good; if the market fails, then some kind of complementary system would probably be required. This is the challenge of the market-based system.

It seems that in Finland the state participates in both creating the market and supporting the neighbour kid from the bad effects of the market system. The market is in effect created by the Ministry of Education and the National Board of Education through the work with the legislation (which fields are taught) and the curricula (what contents must be taught); the long period between the changes in the curricula are a benefit for the publishing houses to take the initial investment in producing a book. Again, the long sales period together with the remuneration of the writing to the authors are enough motivation in the bigger fields to write the book. In smaller fields, the National Board of Education then fills in with books that the market system cannot provide; it seems their lower price levels and relatively-seen very low numbers of printing may not guarantee a surplus from the publishing activity of the FNBE. No economic numbers to confirm this could be found, but some sentences from the commercial publishers would hint that the FNBE publishes a number of books at a loss, as a service for the schools and students. They seem, however, to be paying similar royalties to the authors as the publishing houses; thus there might in some future be a competition of the competent authors between the publishers and the FNBE.

## V. Conclusions

In Finland, there's no legal regulation on the coursebooks nor on inspection of teaching, but the publishers and the "free market" takes care of the demand and the quality of the teaching material. This means that the students and their families are the major funding source for teaching materials; the students buy most of the books personally and only some special material (such as patterns for clothing engineering or the classroom software) are acquired by the schools. The school libraries are generally small, and their acquisition budgets are practically nonexistent.

The national curricula say nothing about the books to be used, but just states the topics that must be included in the teaching. based on this, the publishers plan and publish books among which every individual teacher is free to select the literature to be used on his or her course. The teachers then tell the local bookshops what book(s) they have chosen and how many students they do expect to participate in the course, and the bookstore orders the books from the publisher based on this forecast. The authors of the textbooks are remunerated as would any author of a novel or so - on the basis of actual sales.

This system has been in existence for longer than anybody cares to remember. Thus, there is culture for supporting this system among both the teachers/authors and the students that maybe does not exist currently in Lithuania. Possible answers for Lithuania to be recommended by this authro (personal opinions) would include qa discussion with the Ministry of Education if a long-term curriculum could be provided in the main fields of study to attract commercial production of coursebooks. The relatively high cost of books in Finland could be countered by the much lower production cost in Lithuania; also translated books and even invitations of foreign publishers to provide good, nationally-corrected translations might be a possible solution.

For minor or marginal fields, a societal support system is probably required; the Finnish experience would suggest that the interest of the publishers is raised in publication numbers of thousands in a printing. (this might again be countered with the quick printing technologies opf today, if somewhat lower physical quality of the book is accepted, such as e.g. non-laquered thinner, 800 g/m<sup>2</sup> or even less, printer paper covers and matte pages instead of the lacquered 1200 g/m<sup>2</sup> cardboard and glossy pages often used in the Finnish

books; students are anyway free to protect their investment by covering the books how they want).

Thus the best system, and especially over a certain period of time before the curricula and the market system based on them would work, might probably be a combination of the existing and the Finnish type system. A centrally-guided system of coursebook provision does not provide interesting-enough books for teachers nor for students (a situation I have encountered also in university books in some new EU countries, such as Slovakia) and will definitely not provide a selection of books (that is anyway difficult in a small language area such as Finland or Lithuania without commercial competition) and, finally, burden central administrators and planners which creates an extra cost that is difficult to recover.

--

For more information or opinions, contact Tauno Kekäle at [tke@uwasa.fi](mailto:tke@uwasa.fi) or +358 400 761619.

## REFERENCES

- Blom, R. (1998) Mikä Suomessa muuttui? Sosiologinen kuva 1990- luvusta. Hanki ja Jää/Gaudeamus, Helsinki. (in Finnish only)
- Hanhijoki, I., Kantola, S., Karikorpi, M., Katajisto, J., Kimari, M. & Savioja, H. (2004) Koulutus ja työvoiman kysyntä 2015. Valtakunnallisia ja alueellisia laskelmia. Finnish National Board of Education, Helsinki. (in Finnish only)
- Ministry of Education: KOUTE - Tilastoja ja tunnuslukuja ammatillisesta koulutuksesta. [http://www.minedu.fi/OPM/Koulutus/ammatillinen\\_koulutus/tilastoja\\_ja\\_tunnuslukuj\\_a/index.html?lang=fi](http://www.minedu.fi/OPM/Koulutus/ammatillinen_koulutus/tilastoja_ja_tunnuslukuj_a/index.html?lang=fi) (in Finnish only)
- Ministry of Education: cost report of vocational education by class of cost 2005.
- Report of the Vocational Qualifications taskforce. Memorandum 44/043/2004. Ministry of Education, Helsinki.

Additional non-printed references: Websites of the major publishing houses and some individual vocational schools