

**EDUCATION IN ESTONIA:
PRESENT SITUATION AND DEVELOPMENTS
July, 1996**

Estonia is currently undertaking reforms in the systems of education, vocational training and youth affairs. These reforms are taking into account Estonia's aim of integrating into European Union structures.

Estonia's education system has been undergoing major changes since 1987. Since 1993, Estonia's education system consists of compulsory basic education (grades 1-9, children generally begin school at the age of 7), followed by upper-secondary education (either at an upper-secondary general "gümnaasium" school or a vocational school). The general education stream then offers higher education (at a university or at an applied higher education institution), and the vocational education stream offers post-secondary education at a technical school. However, movement between the general and vocational streams is provided for in the reformed education system.

Besides the formal education structures, Estonia's education system also provides for non-formal or adult education. Adult education is developing rapidly in Estonia and there are increasingly many courses available to adults, including for unemployed young people and adults. Folk high schools, which existed during the inter-war independence period, have been restored and are increasing in popularity. Courses conducted by private institutions are very common.

Education reforms are on-going in Estonia, particularly in the area of vocational education. The major problems in vocational education have been the location of schools in large towns and the teaching of courses which are no longer needed (too heavy industry oriented, using out-dated technology).

The reform of the research and higher education system, with the aim of further integrating research into higher education, is also a priority for the coming year.

Reforms in both vocational and higher education are being helped by cooperative EU-PHARE projects. Estonia also looks forward to participation in the EU education programs, such as SOCRATES and LEONARDO, in order to further integrate Estonia into European structures.

There are still a number of areas in education, vocational training and youth affairs which remain unregulated, which means that legislation is being constantly developed. All new legislation is being drafted to be in accordance with EU directives, and the schedule for legislation development takes into account the amendments required for EU compliance in existing legislation.

Legislation

- Law on Education (RT I 1992, 12, 192) adopted 23.03.1992, amendments (Law on Private Schools RT I 1993, 35, 547; Law on Pre-School Child Institutions RT I 1993, 40, 593; Law on Basic and Upper-Secondary Schools RT I 1993, 63, 892; Law on Amending the Law on the Organization of Local Government and the Republic of Estonia Law on Education RT I 1994, 12, 200; Law on Universities RT I 1995, 12, 119; Law on Public Service RT I 1995, 16, 228; Law on the University of Tartu RT I 1995, 23, 333; Law on Vocational Education Institutions RT I 1995, 58, 1003)
- Law on Private Schools (RT I 1993, 35, 547) adopted 02.06.1993, amendment (Law on Universities, RT I 995, 12, 119)
- Law on Pre-School Child Institutions (RT I 1993, 40, 593) adopted 09.06.1993, amendment (RT I 1995, 12, 482)
- Law on Basic and Upper-Secondary Schools (RT I 1993, 63, 892) adopted 15.09.1993, amendments (RT I 1993, 79, 1186; 1994, 91, 1528)
- Law on Adult Education (RT I 1993, 74, 1054) adopted 10.11.1993
- Law on the Organization of Research (RT I 1995, 5, 42) adopted 15.12.1994
- Law on Universities (RT I 1995, 12, 119) adopted 12.01.1995, amendment (RT I 1996, 51, 965)
- Law on the University of Tartu (RT I 1995, 23, 333) adopted 16.02.1995
- Law on Hobby Schools (RT I 1995, 58, 1004) adopted 14.06.1995
- Law on Vocational Education Institutions (RT I 1995, 58, 1003) adopted 14.06.1995

Structure of the Educational System

The current system of education in Estonia (see Table 1) covers pre-school education in kindergartens (ISCED level category 0); general basic schools and upper-secondary general schools (gümnaasium); vocational education; and higher education at universities and institutions of applied higher education. For handicapped children there are special basic schools and upper-secondary schools.

According to the Law on Education, a child is obliged to attend school if he or she turns seven by October 1 of the current year. The law requires compulsory education until the student reaches the age of 17, or graduation from basic school is achieved. The basic school level covers categories 1 and 2 in the ISCED classification. After graduating from basic school a young person has the opportunity and the obligation to decide whether to continue studies at a school which offers upper-secondary general academic education (gümnaasium), a vocational school or a post-secondary technical school. Students at the upper-secondary level of education (whether vocational or general) are typically between the ages of 15 and 19.

Upper-secondary general education can meet the needs of students with different educational profiles. Some upper-secondary general schools (gümnaasium) also offer courses in commerce, technology and other practical studies. These schools, however, offer these courses as part of a largely academic program. The education at an upper-secondary general school is equivalent to level category 3 in ISCED.

Although vocational training is not offered in basic school, it is possible to complete basic school education within the vocational system. These classes do not constitute a separate program. They provide some training for students who are not academically inclined, and increase the possibility of successful studies for some students. There are two distinct curricula in the system of vocational education: the curriculum offered in vocational schools (ISCED level category 3) and the one provided in post-secondary technical schools (ISCED level category 5). Vocational schools provide vocational training for the equivalent of grades 10-12. It is also possible to complete additional work in general education at a vocational school and obtain a certificate of general, as well as vocational, education.

Post-secondary technical schools, the higher level of vocational institutes, have programs lasting two and a half years for those who have graduated from a program of upper-secondary education (i.e. upper-secondary general education, or vocational school), and about 5 years for those who enter after graduating from basic school.

Both levels of vocational education are often offered in the same building in order to utilize the investment necessary for equipment and maintenance of the building most effectively.

Higher education is divided into:

- . applied higher education
- . diploma programs (4 year study period, ISCED 6)
- . academic higher education
- . Bachelor's degree (4 year study period, ISCED 6)
- . Master's degree (2 year study period, ISCED 7)
- . Doctor's degree (4 year study period, ISCED 7)

There are two types of higher education institutions in Estonia:

- . universities, giving academic higher education and diploma programs
- . applied higher education institutions, giving diploma programs

The question of who has the right to compete for admission to universities and institutions of applied higher education is important. According to the Law on Education, everyone who has a diploma which confirms that he or she has graduated from:

- . an upper-secondary general level program of education
- . a post-secondary technical (about 5 years after basic school) program of education
- . a vocational school program which incorporated general education

has the right to compete for admission to these institutions.

School education

School education in Estonia is regulated by the Law on Education, the Law on Basic and Upper-Secondary Schools, the Law on Private Schools, and the Law on Pre-School Child Institutions.

Education is divided into general education, vocational education and hobby education.

In accordance with the International Standard Classification of Education (ISCED: UNESCO), the structure of education is the following:

Table 2 ISCED EDUCATION CLASSIFICATION IN GENERAL SCHOOLS

Category	Education	Level
0	base education	
1	basic education	I (grade 1-6)
2		II (grade 7-9)
3	secondary education	III (grade 10-12)

(source: Ministry of Education)

The requirements for each education category are determined by the state curriculum. The state base education curriculum is approved by the Ministry of Education, the state curricula for basic and secondary education are approved by the Government of the Republic. The structure of the education system and the state curricula create everyone the opportunity to move from one education level to another.

Base education is the education before basic education. Basic education, with the state curriculum, is the compulsory general education minimum. Acquiring basic education creates the pre-conditions and gives the right to continue studies in secondary education. Acquiring secondary education is based on basic education and gives the right to continue studies in higher education.

The state and local governments guarantee the opportunity for everyone to fulfil the compulsory education obligation and for continuing learning, according to the prescribed conditions and procedures, and the opportunity to acquire an Estonian-language education at all education levels, including in non-Estonian medium schools and groups.

Based on the tasks and categories of education, the schools are also categorized. A school is an educational institution where teaching and learning occurs on the basis of the state and school curricula.

A pre-school child institution is an institution providing care and base education of children younger than school age. A child institution supports and extends the family, encouraging the growth and development of a child as well as its individual development. A child institution is: a creche, a kindergarten, a special kindergarten, a day-care centre, a children's centre, a child institution can also be united with a primary school.

The basic school and a (general education) upper-secondary school (gümnaasium) is a unified school, where each year of study (grade) is directly based on the previous, and enables a transfer from one school to another without hindrance.

Basic education is the compulsory education minimum and this is acquired in a basic school (grades 1-9). In the basic school, the student acquires a basic education and fulfils the compulsory school requirement (every child reaching 7 years of age on October 1 must attend school until attaining basic education or becoming 17 years of age.)

In order to create better study conditions and to ensure the availability of education primary schools may be established, including kindergarten-primary schools, where, depending on the

needs of the students and parents and the existence of required conditions, there may be grades 1-6. After basic education has been acquired, study may be continued in secondary education, in a general education upper-secondary school (grades 10-12) or in a vocational institution.

General education schools, according to the education laws, are: kindergarten-primary school, primary school, basic school, upper-secondary school (gümnaasium) with basic school classes, basic school and upper-secondary school operating as one institution.

A basic school and upper-secondary school may be a handicapped special school or a sanatorium school. In the case of special education, the number of school years may vary, depending on the curriculum, from the number of years noted above for basic school and upper-secondary school.

Vocational education

Vocational education is regulated by the Law on Vocational Education Institutions, which determines the operation of vocational education institutions, the form and conditions for acquiring vocational education, the principles of school management, the financing of the schools and the use of school property, and the rights and obligations of the staff.

Higher education

Universities are regulated by the Law on Universities, the Law on Private Schools, the Law on the Organization of Research and the Law on the University of Tartu. Institutions of applied higher education are currently unregulated - a draft Law on Applied Higher Education Institutions is currently being prepared.

Estonia has the following types of institutions providing higher education:

- . public universities (6)
- . private universities (1)
- . public institutions of applied higher education (8)
- . private institutions of applied higher education (13)

Adult education

Adult education is regulated by the Law on Adult Education which was adopted on 10.11.1993.

Responsibility for regulation of adult education is divided between public, private and voluntary institutions (NGOs). Ministries are responsible for formal adult education, i.e. general education leading to a qualification and/or degree, and primary vocational training for adults and young people. Training and retraining of public administrators and courses for unemployed young people are also ministerial responsibility. Private companies deal mostly with adult education relating to the labour

market, especially in-service training for adults and professional continuing education. General adult education not providing a certificate, also hobby courses, are the fields of the NGOs.

The number of private general and vocational training centres for adults, also higher schools, is growing quickly. Courses in business, management, banking, also foreign languages and computer training are mostly their responsibility.

At present, adult education is offered by the following institutions and associations:

- . evening schools for adults, which offer a curriculum at secondary level
- . vocational schools
- . departments of correspondence and evening studies, including centres for refresher training at universities
- . vocational education and training centres in firms and businesses
- . cultural and folk universities
- . language schools, and cooperative societies for the teaching of foreign languages
- . national refresher education institutions, which provide advanced and further education
- . local research and development centres catering to adult learners
- . education centres within organizations for in-service training
- . TV and radio schools

Table 3 PUPILS & STUDENTS ENROLLED IN THE EDUCATION SYSTEM, 1991/92 - 1995/96

Institution	91/92	92/93	93/94	94/95	95/96
Basic school	191760	184435	181752	181680	184213
Upper-secondary	31955	31983	33584	36850	36847
Vocational	18058	17261	16671	16614	17020
Post-secondary technical	16337	13426	11537	11192	12365
Higher education					
Diploma	925	1589	4843	5793	6063
Bachelor	24880	22875	18371	17376	17959
Master	-	-	1554	1926	2588
Doctor	-	-	-	131	624
Total	25805	24464	24768	25226	27234
Total	283915	271569	268312	271562	277679

(source: Ministry of Education)

Table 4 HIGHER EDUCATION INSTITUTION ADMISSIONS 1995/96

Institution	Number of students
Public universities	4643
Estonian Music Academy	96
Estonian Agricultural University	464
Tallinn Art University	155
Tallinn Pedagogical University	578
Tallinn Technical University	1423
University of Tartu	1927
Public applied higher education	924
Estonian State Defence Academy	173
Estonian Maritime Academy	164
Narva Higher Education Inst.	60
Tallinn Higher Technical Inst.	130
Tallinn Pedagogical Seminary	131
Tartu Teachers Seminary	81
Tartu Air Academy	10
Viljandi Cultural College	50
Virumaa Higher Education Inst.	125
Private universities	363
Estonian Higher Commercial Inst.	363
Private applied higher education	1362
Concordia International University	206
EEKB Higher Theology Seminary	21
Estonian-American Business College	213
Estonian Humanities Institute	61
Est. Evangelical Theology Inst.	12
Est. Methodist Theology Seminary	12
Institute I Studium	252
Law Institute	115
LEX International Social Sciences	405
Tallinn Bacalaureus Private Inst.	50
Tartu Theology Academy	15

(source: Ministry of Education)

Table 5 HIGHER EDUCATION INSTITUTION UNDERGRADUATE COURSE ADMISSIONS, 1995/96

Course	Diploma		Bachelor	
	Total	Female	Total	Female
Teacher training	348	285	314	272
Art and music	53	34	193	135
Humanities	-		362	280
Theology	45	21	40	21
Social & behavioral sc.	245	126	111	76
Commerce & business	308	172	1022	539
Law	482	270	150	83
Natural sciences	31	18	128	47
Mathematics & computer sc.	-		90	24
Health care	10	10	125	97
Engineering	209	34	1055	250
Architecture	25	8	42	20
Agriculture/forestry/fishery	28	6	166	68
Transport & communications	80	15	-	
Mass media & documentation	12	12	35	24
Home economics	-		11	11
Defence & other	205	69	90	48

(source: Ministry of Education)

Reforms in the Educational System

School education

Management of education

The renewal of legislation and the regulation of all areas of activity by laws has clearly determined the authority of education in varying areas of government (legislative, government, and local government). There has been a decisive attempt over the last four years to reduce the number of state regulations, and the number of levels in the decision-making process. At the same time the number of decisions made by the implementers has increased.

In the period 1988-1996 the Estonian education management structures have been continually re-organized. At the end of 1995, the Ministry of Education was formed by the re-organization of the Ministry of Culture and Education and the State Board of Education. In 1988 the Education Committee was formed by the uniting of the Ministry of Education, the Ministry of Higher and Secondary Specialized Education, and the Vocational Education Committee. This was re-organized in 1989 to be the Ministry of Education (with the areas of general, vocational and higher education). In 1993 the Ministry of Culture and Education (with

general education policy, and higher education and research) and the State Board of Education (general and vocational education) were formed.

Estonian and Russian-medium schools

In the Law on Education, Estonian-language and Russian-language schools are treated as parts of a unified education system. During the Soviet occupation, an extensive Russian-medium schools network was established. All-Union curricula were used both in the Estonian and Russian-medium schools. In Estonian-medium schools there was a greater proportion of art subjects in the curriculum, and there was an extra year of study in the general education schools due to mother tongue instruction and Estonian topics. In Estonian-medium schools there were Estonian language textbooks written in Estonia, based on the standard program, for mother tongue instruction and literature, music, history (of the Estonian Soviet Socialist Republic), foreign languages, geography, mathematics. Starting from the 1988/89 school year, Estonian-medium schools taught all subjects according to Estonian-compiled curricula, and applicable textbooks began to be published. The importance of studying the official state language has been increasingly recognized by the Russian-medium schools. From the 1993/94 school year, the number of years in a Russian-medium general education school was increased by one year to be the same as in an Estonian-medium school.

School reform movement

School reforms began with the 1987 Teachers' Congress. The varying streams for the upper-secondary schools were developed: humanities, sciences and general, with the applicable elective and optional subjects, and combinations thereof. Up until the 1990s, Estonian schools followed inflexible subject curricula and teaching methodologies. The 1987 Teachers' Congress modified the subject curricula and the teaching materials were updated.

This meant greater freedom for the schools. Estonian educational history was rediscovered, new methodologies were implemented. The organization of instruction was also reformed, e.g. upper-secondary education can now be obtained in some evening schools and private schools, and separate study of selected subjects is now possible. The various forms of acquiring an education applicable to the school level and class have increased. Home instruction in the junior classes is more in use (according to the wishes of the parents, it is possible in grades 1-4).

Timetables

The Ministry of Education approves each year the timetables for Estonian and Russian-medium schools. The 1996/97 timetable has reduced the number of mandatory areas. For example, the school can itself decide on the divisions of classes into groups. The new curriculum (implementation begins in autumn 1997) has the possible minimum and maximum indicators in each subject, and the relation between the mandatory and elective subjects, taken over a three-year period.

Textbooks

The publication of textbooks has changed. There are new publishing houses and the possibility of a number of parallel texts. This process began for the schools in 1992, with a choice between two primers (one primer was published with Finnish financial assistance). In the 1995/96 school year, the basic school has a selection for teaching English, German, music, nature studies, chemistry, geography, history; and at the upper-secondary level, in both the humanities and sciences streams, in Estonian, and three choices in Mathematics. There are already four primers, the choices are in Mathematics, Nature Studies and Estonian for the junior classes. Russian-medium schools do not yet have a regular system for new textbooks - there are a number of new print textbooks offered by publishers.

Estonian history books have been published for Russian-medium schools, and in the junior classes there is a gradual movement to the same program and textbooks as in Estonian-medium schools. The Russian-language as mother tongue textbooks for junior classes have been written in Estonia. The Ministry of Education has authorized a publisher to purchase textbooks for Russian-medium schools from Russia.

A large part of the responsibility for the existence of appropriate textbooks and their supply to the schools has been transferred by the Ministry to publishing companies. According to the procedures set in 1996, the Ministry of Education submits the curriculum to the publishers, and checks the compliance of the textbook with the curriculum. The school chooses which material it uses to fulfil the requirements of the curriculum. (The purchase of textbooks by the schools is funded from the state budget according to the number of students in the schools.)

Compulsory schooling

The 1992 Law on Education specified compulsory schooling as completing basic school. Since 1992, in parallel with the development of the new curriculum, the development of basic school as a complete education level has been on-going. The aim is to ensure the preparedness of the student so that, at graduation, the student is mature enough to select the next area of study. Once the new curricula is implemented, this process should logically end.

Renewal of the curriculum

In 1991, the Ministry of Education commissioned from the Pedagogical Research Institute the formation of a new curriculum. This work takes into account the directions for Estonian society, the history of Estonia's educational development, and the global development trends in education. Teachers, teacher trainers, and education officials have been involved in this process, so that, in parallel with writing the text, the necessary changes would also occur in the development of education methodology. The management and coordination of the process has been transferred

from the research institution into the Ministry. Two versions of the curricula have been issued (in 1994 and 1995), and in 1997 the transition to the new curriculum should begin.

The state curriculum prescribes certain principles for schooling, and the organizational and content framework for the teaching process, for all Estonian general education schools, regardless of their language of instruction. The program on the basis of the state curriculum - the school timetable - is compiled by the schools themselves. This process for the development of a new curriculum is the start for the transition to a learning-centered school, where the students and teachers are cooperation partners, the choices and, responsibilities of the students for their results, are greater.

From the 1995/96 school year, some schools have partially implemented the new curriculum to test organizational or content reforms. There are both Estonian and Russian-medium schools in the experiment. The new curriculum offers bigger opportunities in combining freedom and responsibility.

Educational standards

The preparations for state examinations began in 1994, so that state graduation diplomas can be issued as a document confirming acquisition of a state education standard. These provide the basis to in future unify the upper-secondary final exams and the entrance exams for higher education institutions. It is planned to prepare state examinations in 10 subjects: Estonian and Russian as the mother tongue, the state language, English, German, Mathematics, History, Biology, Chemistry, Physics. In spring 1996 there were test examinations in English and German, pre-testing was done in Mathematics and Chemistry, and preparations have been made for Estonian as the mother tongue examination. In conjunction with the implementation of the new curriculum, the tests to confirm the standard at each educational level are being prepared.

A regulation (Health Regulation for Basic and Upper-Secondary Schools, No. 8, 07.02.1995) issued by the Minister of Social Affairs determines the requirements for school territory, school rooms, their lighting, air and heating system, school room fittings, school cafeterias and the organization of instruction and education.

The requirements for a teaching license are determined in a regulation issued by the Minister of Culture and Education (No. 4, 23.02.1994).

A number of normative documents have been issued: children eligible for compulsory schooling, registering for courses, the formulation of report cards, movement from class to class, permission to take examinations, organization of home study, etc.

Reforms regarding the role of local government

Due to the various laws adopted from 1993 onwards (Law on Pre-School Child Institutions, Law on Basic and Upper-Secondary Schools, Law on Adult Education, Law on Hobby Schools), the local government responsibility for development and education opportunities has been growing. This forces optimization of the school network, and mutual cooperation so that the schools in one region could be assured of the necessary personnel, schoolrooms and resources.

The cooperation between local governments and schools has begun to operate in the education work as well. Local governments have not been prepared to carry the administrative costs allocated to them by law. Since the implementation of a state curriculum assumes the existence of the necessary technical base, this encourages the local governments, due to pressure from the education system, to fulfil their obligations according to the law. The changes to the financing system mean that it is necessary to understand the aims of the expenditure, to be convinced of the need to change the bases for the financing of schools. The school seeks its identity, keeping in view the goals of the local government, but based on the formation of its own curricula, and the need to prove the competitiveness of the school. The school also helps the formation and carrying out of local development plans. This has already been demonstrated by the schools experimenting with the ideas of the new curriculum.

School development

Since 1993 it has become more common in schools to formulate school development programs as projects. This was initially a necessary format to receive support from foundations, but has now become the means for better planning of activities and maintaining continuity. Besides funding from the state and local budgets, there are also a number of foundations and funds (Open Estonian Foundation, Estonian Culture Capital, Arno Tali Foundation) which help schools with project funding, and support for teachers and students. In the formation of the school budget the responsibility lies more and more with the school. Starting from the 1996/97 school year, the schools have the right to themselves distribute the teachers' pay fund, resulting from the cost of a student place and corrected with the so-called local index, thereby abiding by the Ministry of Education limits. The part of the school in planning the administrative costs associated with school property depends on the authority given by the school owner.

Base education

Ensuring the opportunities of base education is, according to the law, the task of the parents and local government. Compared with the 1980s the pre-school child institutions have become much more open. There are also new forms of education and care, cooperation with various official bodies. There are now new forms: family day care, groups for children with special needs, advice is provided to parents, private kindergartens are being established. The tasks of base education are determined in the Law on Pre-School Child Institutions and in the state curriculum, the discussion draft

version of which became available in May, 1996. Implementing this curriculum means the formation of a parental advisory system, because only 50% of children attend pre-school child institutions.

Special education

The state has recognized the equal right of handicapped children and young people to education. The 1992 Law on Education and the 1993 Law on Basic and Upper-Secondary Schools determine for the first time that the school is obligated to guarantee the opportunity to study for every child on its service territory. If applicable conditions do not exist, the state or local government will guarantee study opportunity in a special school. The general concept "Standard rules for the creation of equal opportunities for handicapped persons" initiated by the Estonian Chamber for Handicapped Persons and confirmed by the Government of the Republic on 16.05.1995, emphasized this principle. The re-organization of the existing special schools network has begun, as well as the formation of study opportunities, taking into account the above legal acts.

Teachers' associations

There are numerous teacher associations for various subjects, and there are other pedagogical associations as well. The Teachers' Association is an umbrella organization for the subject and other associations, and this was formed at the 1996 teachers' congress. The basis for the association of teachers is content, there are only a few regional teacher associations.

Foreign contacts for schools

Student exchanges involving school study are relatively infrequent. It is usually the school who makes the decisions regarding continuity of study and the results. Those who wish to study abroad are given a notarized Ministry translation of their graduation report. There is an extensive twin-school network with Scandinavian schools, but less with other countries. Teacher exchange is occurring in science and language subjects. There is very little foreign contact which is regulated by inter-state agreements - most of the contacts are direct mutual agreements.

Vocational education

The vocational education system before the re-establishment of Estonian independence was completely subordinate to Moscow. All curricula were compiled in Moscow, they did not reflect local needs, infrastructure, traditions or cultural characteristics. Equipment was also centralized, even the students' clothing was determined by Moscow. Russian was taught as the official state language, textbooks and literature were either in Russian, or translated from Russian. This then is the reason why vocational education is the most difficult area of our education system to reform. It is also difficult to obtain data which can be internationally compared - e.g. the transition from basic to vocational school was not carried out on merit but the numbers to

graduate were predetermined. Inspection was carried out through central control.

The changes which have occurred since reestablishing independence have been major. In the process of the reforms, the entire vocational school network is being re-organized, the curricula are being decentralized, and parts of the financing as well. Supply has already been decentralized. The existing ISCED 4 level (secondary specialized education) is being reduced. Vocational education statistics are still being reorganized. In 1994 the determination of the evaluation indicators for vocational education was begun.

The vocational education system needs to be reformed in order to take into account the conditions of a market economy. This means that the following needs to be done:

- . curricula renewal
- . teacher replacement (vocational teacher training, re-training, and further training)
- . optimizing the vocational schools network
- . re-organizing financing

The reforms in the curricula and the popularity of certain courses reflect the demands of the labour market: more emphasis on computer courses, law, tourism and catering, commerce and business, mass media. Curricula reforms are an ongoing process, and as professional associations are gradually being established and become more active, their participation in the curricula updating process becomes more important.

Within the framework of the vocational education reforms, a number of international cooperation projects have been initiated: principles of curriculum compilation (DEVS I with Denmark), compilation of specific curricula (DEVS II with Denmark), vocational education and training reform (EU-PHARE project).

Adult education

A coherent system of adult education and training does not yet exist in Estonia, because the provision is fragmented and uncoordinated among a great many public, private and voluntary institutions. The network of schools dating from the Soviet era no longer works efficiently, while a new network has not yet been firmly established. There is very active participation in adult education from the voluntary sector. In the period of transition the most important duties in adult education have been discharged by voluntary societies and associations.

Higher education

The Estonian higher education system is basically well-developed and balanced. There is the University of Tartu with its recognized standard, the competitive Tallinn Technical University, and other higher education institutions (see Table 4). The function of these

institutions of higher education is generally clear and agreed-upon, they have a reasonable international reputation, their activity within their existing framework is generally effective. The agricultural and pedagogical universities fulfil in their existing conditions their specialty role. The formation of institutions of applied higher education has begun - but a clear definition of roles between them and the remaining post-secondary technical institutions has not yet occurred, neither is the development of the academic and material basis of the institutions of higher education yet resolved.

The basic principles of our higher education policy are currently as follows:

- . institutions of higher education are autonomous in their teaching activity
- . increasing the effectiveness of institutions of higher education:
This requires the following to be done: a) eliminate unnecessary duplication of specialties in the various higher education institutions (e.g. physics specialization is offered by 3 higher education institutions), b) eliminate the separation of closely related specialties and the duplication of subjects within one higher education institution (unite the teaching of similar specialties in the first year, eliminate the teaching of the same subject in differing versions for students of differing specialties), c) increase the size of the classes, and d) reduce the proportion of lectures in relation to increasing the proportion of independent work (currently 27-28 hours/week, down to 18-20 hours, which would be an average western level).
- . higher education institutions should become self-regulating and self-developing; accreditation is the most important mechanism for improving the quality of higher education: Periodic self-assessment and the checking of this evaluation with the help of foreign experts (together with an in-built system that only accredited courses give the educational institution the right to issue state recognized diplomas) is the motor pulling the self-regulation and self-development of the higher education institutions. It is only such a mechanism, particularly if financial factors are added, which makes the educational institutions interested in self-improvement, and creates a more objective basis to compare one higher education institution with another.
- . encourage international cooperation:
Encourage foreign students to study in Estonia; find measures to develop specialties which are weak academically, but necessary for Estonia by inviting professors from abroad; encourage the division of international work in higher education, training students abroad in the specialties which are not in demand here.

- . develop applied higher education:
Begin the consistent and balanced development of applied education and post-secondary technical schools, creating the necessary conceptual base and weighing the alternative possibilities of acquiring the applicable applied education, including at universities. Proceed from the fact that research and higher education may have vacant capacity, and that currently almost half of the secondary school graduates who do not go to a higher education institution do not receive any specialty preparation.
- . keep the numbers of university students at the same level, attempt to gradually increase the financing of higher education institutions:
The amount spent on one student must be increased according to the improvement in our economic situation. In the near future (3-5 years) there is no possibility of increasing the total number of students because of a shortage of funding. This is also the strongest argument for not establishing any new higher education institutions in the near future, or at least there must be strong arguments for any establishment.
- . ensure that higher education, and research & development financing is a certain percentage of the GDP:
Taking into account the experience of varying countries, this would be 1% of the GDP for higher education and 2% of the GDP for research. In the case of research, it should be ensured that half of the financing comes via the state budget and half from the private sector. The state budget financing of research should grow from the current 150 million EEK (0.54% of the GDP together with applied research and development activity) by the year 2000, to 700 million EEK (0.9% of the GDP). From this amount, at least 300 million EEK should go to support research in the universities.
- . one of the bases for financing higher education institutions should be financing according to specialty:
The following specialty coefficient system is currently being tested. It has been in use since 1995 (Written Order No. 107, June 3, 1994, by the Minister of Culture and Education).

Table 6 WEIGHTED COEFFICIENTS FOR FINANCING SPECIALTIES IN HIGHER EDUCATION

Course	Weighted coefficient	
	university	applied higher ed. inst.
Law	1.0	0.80
Theology	1.0	0.80
Humanities	1.0	0.80
Health care	1.1	0.88
Economy	1.1	0.88
Social sciences	1.1	0.88
Psychology	1.3	1.04
Pedagogy	1.4	1.12
Engineering	2.0	1.60
Pharmacy	2.0	1.60
Physical culture	2.0	1.60
Agricultural sciences	2.1	1.68
Natural sciences	2.1	1.68
State defense	3.0	2.40
Music, theatre, art	3.5	2.80
Medicine	4.0	3.20
Veterinary science	4.0	3.20
Dentistry	6.6	5.28

(source: Ministry of Education)

The levels of study are also weighted: basic study - 1.0, masters - 2.0, doctors - 4.0, as are the forms of study: full-time - 1.0, part-time - 0.67, correspondence - 0.2.

- . clear direction for integrating research and higher education
 - For this:
 - . the universities need to pay particular attention to masters and doctors study, and more resources should be directed there
 - . basic research needs to be more concentrated in the universities, where they are associated with teaching, particularly degree teaching
 - . part of the research institute should be integrated with the universities, since keeping two separate systems is expensive and pointless: a sensible integration, and leaving some as independent units after thorough consideration should be the guiding aim
 - . 10-20% more for university budgets, due to research funding, and with more integration, this amount will increase

- . introducing a credit points system and mutual recognition for higher education institutions:
This will enable students to take courses in varying Estonian and foreign universities. Encourage student exchange between Estonian and foreign universities. Encourage the internationalization of higher education - i.e. introduction of international masters and doctors programs which are unique, at least in the Nordic area, to Estonia
- . development of the electronic database network for higher education institutions, and research and cultural institutions:
The further development of the state data communications network EENet must be considered to be vital in the creation of a modern information society. EENet is a computer communications network which will link up in the future all the Estonian teaching, research and cultural institutions, and ensure communication with similar networks in other countries. The in-depth study and use of information and telecommunications technology is a task of primary importance.
- . closer ties must be created between higher education institutions and industry
- . the introduction of the concept of the state commissioning certain fields of study