The Competitiveness of Croatia’s Human Resources: Quality of Formal Education

Joseph Lowther

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1. Introduction

One of the keys to developing human resource competitiveness is the quality of the formal education system. In developed countries there is a significant correlation between an increased level of education in a country and the country's economic growth (OECD, 2001b). It has been shown that education contributes to productivity – thus raising the general level of education should be a top priority for a country aiming to raise its standard of living (Hall, 2002). An additional year of education for a country's population is associated with an average increase in output per capita by four to seven percent (Bassani and Scarpetta). The quality of education is even more important than the quantity of education in determining economic growth in both developed and developing countries (Hanusek and Kimko, 2000). And for a worker, an additional year of education leads to increased earnings between five and 15 percent (Psacharopoulos, 1994).

The importance of education has increased as the global economy has become more sophisticated and integrated, and it appears that the need for properly educated workers will become more and more important during the 21st century. The nature of employment is changing – the trend is toward high skilled “knowledge workers.” Knowledge-based industries, which include producers of high-technology goods, high and medium-high technology manufacturing and the main users of technology, e.g. finance and professional services, account for more than half of OECD GDP and continue to grow rapidly (OECD, 2002b). Education systems and workers must adapt.

In addition to the challenge of global competition and the transformation of the global economy, Croatia now faces the challenge of quickly meeting the European Union's Copenhagen criteria for membership. To reach the Copenhagen criteria's requirement of the capacity to cope with the competitive pressure and market forces within the European Union, Croatia will need to move quickly to knowledge-based industries and jobs and innovation-driven economic growth. Customers will demand varied and continuously improving goods and services, high quality goods and services, and low prices. This will require increased functional flexibility of workers, as jobs, tasks, and technology change rapidly. This will also require workers to be able to deal directly with customers and manage themselves and others. The public sector will also need to change as the needs and demands of citizens for services become more sophisticated, the private sector competes to provide some of the services traditionally provided by government, and technology is used more. Thus, Croatian workers will need skills that will enable them to engage in continuous learning, i.e. reading, comprehension, information-processing, interpretation, writing, and mathematics. They will also need managerial skills, i.e. skills that enable them to develop, mobilize, and evaluate alternative strategies for solving unfamiliar problems.

In March 2000 the European Council set forth what is known as the Lisbon objectives, which set the following overall goal for the European Union: “…to become the most competitive and dynamic knowledge economy in the world, capable of sustainable economic growth and better jobs and greater social cohesion.” To reach this goal, of sustainable economic growth and better jobs and greater social cohesion.”
Box 1. What is the knowledge economy?

An economy in which the generation and exploitation of knowledge and ideas play the predominant part in the creation of wealth.

In the industrial era, wealth was created by using machines to replace human labour. In the knowledge era, wealth is created by knowledge and the use of high-technology.

“For countries in the vanguard of the world economy, the balance between knowledge and resources has shifted so far towards the former that knowledge has become perhaps the most important factor determining the standard of living - more than land, than tools, than labour. Today's most technologically advanced economies are truly knowledge-based.”


To reach this goal, The Education Council (the ministers of education of the member states) adopted a "Report on the concrete future objectives of education systems" that was accepted by the European Council in Stockholm in March 2001 and is now known as the “Stockholm Conclusions.” This report sets out an overall approach to national education policies for the member states on the basis of three objectives:

- improving the quality and effectiveness of education and training systems in the European Union;
- making lifelong learning accessible to everyone;
- making the EU's education and training systems more outward looking as regards the rest of the world.

The Commission and the Education Council subsequently developed a detailed work program to reach the objectives decided. A summary is attached as Appendix 1 to this paper.

Due to the pressures of globalization and accession to the European Union and convergence with E.U. economies, Croatia needs to focus on properly developing its human resources. Therefore, Croatia needs an education system that provides students with generalized knowledge, problem solving skills (and experience using them), communication abilities, and information technology aptitude.

Box 2. What are knowledge workers?

This term is widely used to describe people with considerable theoretical knowledge and learning, e.g. doctors, teachers, engineers. But in the 21st Century the highest occupational growth will be in “knowledge technologists,” e.g. computer technicians, analysts in clinical labs, manufacturing technologists, etc. They are as much manual workers as they are knowledge workers; in fact, they usually spend far more time working with their hands than with their brains. But their manual work is based on a substantial amount of theoretical knowledge which can be acquired only through formal education, not through an apprenticeship.

In light of the current and future requirements of the Croatian economy, this paper will examine the quality of Croatia's education system, compare it with E.U. and E.U. accession countries, and make recommendations for improvement.

2. How do we measure the quality of the education system?

It is difficult to assess the quality of Croatia’s education system since Croatia has not participated in international learning assessments. Thus we do not know how Croatia’s students perform in relation to students in other countries. In section 5.1. of this paper we attempt to compare the quality of the education system with other countries’ education systems using quantitative indicators. Although this gives us a limited picture of Croatia’s education system, from the available data we can make some conclusions about the Croatian education system.

Another way to measure the quality of the education system is to determine whether it is developing the necessary skills for the current and future needs of the economy. To determine whether the Croatian education system is producing graduates with skills necessary for the current economy we have conducted a survey of 300 Croatian employers (see Appendix 2). Discussions of the results of the survey appear in Sections 3 and 4 of this paper.

Many indicators of performance of the education system are impossible to quantify. This is particularly the case in Croatia since it does not have standardized national testing and has not participated in international assessments. Thus, in section 5.2. of this paper we will attempt to compare Croatia’s education system with other countries by using qualitative studies, particularly the OECD’s Reviews of National Policies for Education. These studies have been done for Croatia, Slovenia, Bulgaria, Bosnia-Herzegovina, and Serbia. Similar, albeit briefer studies, have been done by the OECD in Ireland, Czech Republic, and Hungary. We will look at several areas and provide a comparative analysis in each area.

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2 Some of the important international assessments of learning are the Third International Mathematics and Science Study (TIMMS), the OECD Program for International Student Assessment (PISA), and the OECD International Adult Literacy Survey (IALS).

3 It should be noted that Slovenia, Hungary and Poland performed poorly on PISA and IALS, as did Germany, which has an education system that has a similar design to the Croatian system. This could indicate that Croatia would also perform poorly on these assessments.
3. Does the education system meet the needs of employers?

Our survey of employers (Appendix 2) used several methods to determine the needs of Croatian employers and whether current employees met those needs. First human resource managers were asked to define a “competitive employee.” The responses emphasized knowledge and education for the task, being capable and hard-working, and taking responsibility.

Second, based on a list of skills that we presented to them, Croatian employers chose ethics, loyalty, reading capability, and basic knowledge as skills needed most. Croatian employers believe that the least important skills are knowledge of foreign languages, analytical ability, computer literacy, and teamwork. The most important skills differed for different levels of qualification for jobs:

<table>
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<tr>
<th>Table 1. Most important skills</th>
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<tr>
<td>Lower Qualification</td>
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<tr>
<td>1. Ethics</td>
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<tr>
<td>2. Loyalty</td>
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<tr>
<td>5. Reading capability</td>
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Croatian employers see the biggest gaps between necessary skills and actual skills in the areas of 1) management skills, 2) openness toward other employees, 3) self-initiative/self-motivation, and 4) good people skills (see Survey Table 53 and Graphs 1 to 9).

It is interesting to note that these skills are thought by economists and human resource experts to be among the most important skills for the 21st century.
It appears that the Croatian education system is producing many of the skills that Croatian employers currently need, since employers rate their employees’ ethics, loyalty, basic knowledge, and reading capability quite high. The survey indicates that there is a disconnect between the technical skills of workers and the technical skills needed for job performance, which indicates that the education system – including lifelong learning – needs to be better connected with the needs of the labor market.

During the past 15 years, Croatia has seen a trend toward up-skilling of jobs. There have been increases in high- and medium-skilled workers and consistent decreases in low- and un-skilled workers. We expect this trend to continue – and probably accelerate – as Croatia accedes to the European Union. Thus the skills that Croatian employers rate as important for high skill employees are the skills that the education system should focus on. It should be noted that managers rate good people skills, openness toward others, and communication skills nearly as high as the skills rated in the top five in importance for high skill employees.

4. Does the education system fit the needs of the future economy?

With regard to the future needs of the Croatian economy, we are using the “Hurry Up” scenario for Croatia developed by Foundation 2020⁵ and assume that Croatia will increasingly be a knowledge economy. See the boxes above for definitions of the knowledge economy and knowledge workers.

Several studies have identified skills and competencies needed for the knowledge economy and knowledge workers:

- Reading, writing and arithmetic skills
- Technical/ICT skills
- Communication
- Learning ability
- Team work
- Capacity for self-management
- Problem identifying and solving
- Analytical⁶

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⁵ Foundation 2020, *Kreacija Kroacije 2010*, sets forth three scenarios for Croatia’s development during 2001 to 2010: “Do It Yourself,” “Hurry Up,” and “Emperors New Clothes.” In a survey of 1,000 Croatian citizens, “Hurry Up” was the preferred scenario. The “Hurry Up” scenario foresees acceptance of new forms of organization and strong integration with European politics. The main values are individual responsibility and risk taking. Business and civil society are the main social drivers and the winners are young educated people and the losers are traditional industry workers, small farmers and the natural environment.

⁶ Many of these studies are summarized in OECD, (2001:104-113).
Do Croatian workers have these skills? According to Croatian managers (see section 2.9 of our Survey on Competitiveness of the Croatian Workforce), Croatian workers generally have high reading and writing skills. Computer literacy is very low, particularly for lower skilled workers. Communication skills are good, with the exception of knowledge of foreign languages which is quite low. Learning skills are good. Teamwork abilities are somewhat low. Capacity for self-management is also lower than it should be, particularly for middle and high skilled employees. Problem solving skills are good. Analytical skills are somewhat low. The following chart shows employers' estimation of skill levels on a scale of 1 to 5, 1 being a lack of skills and 5 being extremely present skills. Since the skill levels are broken down by the three levels of employee qualifications, 15 would be the highest score possible.

The skills needed for the knowledge economy are primarily developed in the formal education system before work. They can be – and typically are – developed on the job, but a basic, generalized education that imparts these skills is a necessary base for these skills. Thus, Croatia needs a high level of workers who have completed tertiary level education and a general education to provide core competencies that provide the base for lifelong learning and skill upgrading (OECD, 2001:112).

In addition, the Croatian economy will develop clusters of businesses to produce competitive goods and services – again they will increasingly be in service, technology, and knowledge intensive industries. Such clusters will also require a close connection with universities and a reliance on universities to develop innovative products and to provide graduates that are able to develop innovative products and services.
5. How does the Croatian education system compare with other countries?

We will now attempt to measure the quality of the Croatian education system based on quantitative indicators and qualitative analyses, comparing Croatia with E.U. and E.U. accession countries where it is possible. Some of the indicators relate to the education system itself; others relate to the outputs of the education system.

5.1. Quantitative indicators/comparisons with E.U. and transition countries.

C. Adult literacy rate

The Croatian literacy rate is reasonable, but could be improved. The literacy rates in the table below substantially correlate to the number of people completing a secondary education (UNESCO/OECD, 2002).
B. Pupil/Teacher ratios

Croatia’s pupil/teacher ratio is excellent and indicates that there is no need to hire additional teachers.

![Figure 4. Pupils per teacher](image)

C. Enrollment rates

Croatia has relatively low preschool enrollment rates, very high basic education enrollment rates, average rates at the upper secondary level, and relatively high rates for tertiary education. However, the number of years of education that the average Croatian student completes is about four years less than that which the average OECD student completes.

<table>
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<tr>
<th>Table 2. Croatia's gross enrollment rates by level of education and age</th>
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<tr>
<td>Level of Education</td>
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<tr>
<td>Preschool</td>
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<tr>
<td>Basic</td>
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<tr>
<td>Secondary</td>
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<tr>
<td>Academic secondary</td>
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<tr>
<td>Technical secondary</td>
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<tr>
<td>Vocational secondary</td>
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<tr>
<td>Tertiary</td>
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<tr>
<td><strong>Expected Years of Education for Average Five Year Old over His/Her Lifetime</strong></td>
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<tr>
<td>Croatia</td>
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<td>Average for OECD</td>
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</table>

Source (Berryman and Drabek, 2002)

In addition, Croatian students’ instructional time per year is less than average OECD students’ time. For example at grade 4, Croatia has 525 mandatory instructional hours per year, compared to OECD countries that have 50 to 100 percent more instructional hours.
at grade 4. At grade 8 Croatia has 814 mandatory instructional hours, while the OECD average is 944 hours (Berryman and Drabek, 2002). This of course negatively impacts the skills Croatian students acquire in comparison with students in OECD countries.

D. Education levels

Croatia trails EU countries in the percentage of workers who have completed tertiary education. It has a higher percentage of workers who have completed some type of secondary education. But among Croatian workers, a much higher amount completed only the basic vocational program of one to three years in comparison to their counterparts in OECD countries (55 percent compared to only 9 percent in the OECD countries (Berryman and Drabek, 2002:13). A basic vocational program does not provide the competencies required in the modern workplace and it appears that the Croatian education system is not providing enough knowledge workers (ILO, 2003).

E. Expenditures on Education

Croatia’s expenditure on education as a percentage of GDP is somewhat low in comparison to other European countries.

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F. Adult participation in formal education

Croatians’ participation in lifelong learning is quite low. This indicates that workers are not keeping pace with technological advancement and other changes in the workplace.

G. Use of Technology (World Bank, 2002)

Due to a lack of survey data on the use of technology by Croatian workers, we use a rather crude measurement of the use of technology: the number of personal computers per 1,000 people. This measure indicates that Croatia is behind other European countries in the use of PCs, the dominant technology in the workplace.

![Figure 6. Personal Computers per 1,000 People (2001)](image)

5.2. Qualitative indicators

The survey results and comparative data do not reveal everything needed to fully analyze the state of the Croatian education system. Specifically, analyses are needed on the following issues:

- What is the quality of the teachers/professors and the teacher training systems?
- How does the education system management compare with that of more developed countries (best practices)?
- How do curriculum, standards and assessment compare with best practices?
- How does financing and the financing system compare with best practices?
- Are competencies for the knowledge economy being developed?
✓ Reading, writing and arithmatics skills
✓ Technical/ICT skills
✓ Communication
✓ Learning ability
✓ Team work
✓ Capacity for self-management
✓ Problem solving
✓ Analytical

- Appropriate curriculum for developing competitive human resources?
- Appropriate teaching methods for developing competitive human resources?
- Appropriateness of state role in the education system and degrees of centralization of control/school autonomy
- Quality, quantity and appropriateness of standards and assessment
- Quality of administration/management
- Linkages between schools and the market and community
- Level of educational equality
- Quality of learning materials
- Appropriateness of skills learned in vocational schools.

We now attempt to provide some of that necessary analysis by comparing several facets of the Croatian education system with the education systems in several other countries, including Slovenia, Serbia, Bulgaria, Hungary, and Czech Republic.

A. Reform Strategy

Although education “strategies” have been drafted in Croatia, they have not been implemented, and major reforms have not yet been undertaken at any level. Croatia’s situation in this regard is similar to Serbia’s and Bulgaria’s. By contrast, Slovenia, Czech Republic, and Hungary have implemented wide-ranging reforms based on agreed upon strategies.

Croatia has produced several strategies relating to education, including some that have been deemed to be “official” government strategies. During the mandate of the 1999 to 2003 coalition government, The Basis for the Education System in Croatia, Croatian Education System, Interim Report, Concept of Changes in the Education System of the Republic of Croatia, were published by the Ministry of Education, and Strategy for the Development of the Republic of Croatia “Croatia in the 21st Century – Education was published by the Government Office for Strategy.\(^8\) These documents are quite general

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and, while they contain prescriptions of the problems and the reforms needed, they cannot really be considered strategies, i.e. they do not include priorities and do not contain concrete actions, timing and responsible parties. And the strategies have not been implemented and for the most part the status quo in the education system has been maintained.

Slovenia’s strategy for reform has been based on the *White Paper on Education in the Republic of Slovenia* (1996), which sets for the principals and values underpinning the reform process as well as the policies that need to be translated into action. In connection with the White Paper, Slovenia established a National Curriculum Council that reviewed and changed the curriculum framework at all levels of education to emphasize active participation of students, flexible thinking, and interpersonal skills. Slovenia has also developed a *Higher Education Master Plan* (OECD, 1999a).

In Czech Republic, the Ministry of Education published a strategy document titled *Quality and Accountability* in 1994. The document included principles for the development of the education system, and concrete steps to achieve a better balance of responsibilities between the state, education institutions, students, parents, local governments, and social partners. The document was implemented and implementation, while difficult, has resulted in national education standards, evaluation, improved teacher training, improved cost-effectiveness of education and training. Even before the document was published there was a strong move in the Czech Republic towards decentralization and devolution of responsibility to schools and local authorities, establishment of private schools, freedom of choice of schools, and transfer of enterprise-based vocational education to the state sector (OECD, 1997).

In Hungary, there was no overall strategy per se published by the Government. However, between 1990 and 1999 there were five new laws or major amendments affecting public education. The Acts of Parliament determining public education were passed in 1993 (Public Education Act, Vocational Education Act and Higher Education Act). These Acts essentially guarantee basic rights of freedom, consolidate the principle of shared responsibility and local autonomy, have opened the way for a vertical transformation of the school system, have extended the period of general education and postponed the beginning of vocational education (from 14 to 16 years of age), have improved the links of vocational education to the economy, and by replacing a former system of central regulation of teaching content, have introduced two-tiered regulation promoting local curricular independence. The key document regulating the content of teaching, the National Core Curriculum, was passed in 1995. Amendments were passed in 1995 and 1996, improving the original 1993 Acts with new elements (including new norms of local

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9 The White Paper sets forth the following principals and values for the public education system: 1) it should be transparent and open; 2) it should not be ideological; 3) it should provide the possibility of choice at all levels; 4) it should encourage democracy in decision-making in the system; 5) it should emphasize learning rather than the accumulation of facts.
responsibilities, a more detailed regulation for evaluation and exams, the responsibilities of curriculum design on the county level and new rights for students). In 1997 the government accepted a new system of secondary school-leaving examination to be phased in gradually by 2004, in which the student is entitled to select the exam level (Ordinary or Advanced). The most recent amendment was passed in 1999, which has increased the official responsibilities of the Minister of Education, introduced the concept of frame curriculum and provided a significant role for quality assurance (Lannert, 2000). Nonetheless, a comprehensive strategy, particularly for tertiary education and lifelong learning, would be helpful (OECD, 1999b).

Bulgaria's strategy for education reform has been mainly based on legislation, including the Public Education Act, Higher Education Act, Law on the Level of Schooling, the General and Educational Minimum and the Syllabus, and Vocational Education and Training Act, and several amendments thereto. There are also several strategy documents, including the Higher Education Strategy and EU Phare project papers (OECD, 2002a:10-11). As discussed below, the lack of an overall strategy has led to a stratification of Bulgarian education.

Serbia only recently enacted legislative changes intended to reform the education system, e.g. decentralization, professional development, monitoring and evaluation, school system structure, democratization of content and governance, minority education, VET. Serbia does not have an official overall strategy for education, but the Ministry of Education and Sport has issued Strategic Priorities in Pre-Schools, Primary and Secondary School Education, and a number of organizations are involved in the discussion and development of an education strategy. For example, the Education Forum, an independent think tank, works to develop education policies (OECD, 2001d, 10-12).

B. Governance and Management

Decentralization of the education system has been a priority in several transition countries, although the extent and success of decentralization have varied. Croatia has carried out very little decentralization, and this – along with conflicting authorities, a lack of system-wide focus, and poor management – has resulted in a lack of change, innovation, and accountability. In comparison with other transition countries, Croatia has rigid, hierarchical and opaque governance and management of its education system.

In the Croatian education system management is centralized and Government involvement is heavy handed. Although the official policy is decentralization and deregulation, the path is not clearly marked and attitudes are sometimes ambivalent. The system remains centralized and as long as each school has to interact directly with the Ministry on all financial and management issues, real decentralization cannot occur. The Primary Education and Secondary Education Acts are supposed to be modified to expressly stipulate the decentralization of financing and management. The Ministry of Labor is responsible for employment issues relating to education, although the Croatian Employment Service carries them out. The Ministry of Crafts and SMEs is responsible for practical training in vocational education. The Employment Service provides training for the unemployed. The lack of focus for the whole system means that the roles of
various authorities at the national and regional levels have not been fully defined (OECD, 2001c).

In addition, the Croatian Government’s centralization of power and micro-management of provision of education is crippling initiative and accountability in the educational systems, the state is unable to manage change in the systems, and many bureaucrats in the education system have been selected on the basis of political loyalty rather than technical expertise (Berryman and Drabek, 2002:29).

Hungary has carried out an impressive amount of fundamental education reforms during the post-communist period, including decentralization of responsibility for provision of education, consultative mechanisms to involve the social partners in key aspects of education, employment and training policies, a requirement that counties prepare six-year educational plans encompassing their municipalities, a single set of training requirements for vocational schools, and a national framework for assessment and certification of vocational training. However, responsibility for administration and financing of education in Hungary is shared between several Ministries and is somewhat confused. The Ministry of Culture and Education is responsible for education as a whole, the Ministry of Labor is in charge of vocational education and training, the Ministry of Home Affairs is responsible for the transfer of the central government’s financial contribution for education to the municipalities, and the Ministry of Finance sets the level of the national education budget. There has been inadequate co-operation between the Ministry of Culture and Education and the Ministry of Labor (OECD, 1999b).

Slovenia has already decentralized much of its education system, although there is still debate about further decentralization. The OECD and Ministry of Education and Sport (MoES) favor decentralization in general, although there is an argument that too much decentralization would be inefficient as Slovenia is a small country and local institutions may not have the capacity to develop policy and manage change. At present the school system is very decentralized in administration and funding, with municipalities charged with establishment of pre-schools and primary schools, and they can establish secondary schools with the agreement of the MoES. Each school has a council composed of representatives of the municipality, teachers, parents, and students. The council appoints the head teacher and approves the annual work-plan for the school. The head teacher has many responsibilities, including teacher recruitment and development, pedagogic areas, and management of resources. The OECD team believes that schools in Slovenia have reached a level of autonomy that allows them to offer teachers opportunities to make their own decisions concerning their teaching and students opportunities to make their own decisions concerning their studies. In vocational education and training, Slovenia has successfully managed a restructuring to adapt it to the market economy, although a more coordinated national and regional approach to planning and delivery is needed. Slovenia’s two universities are fairly flexible in terms of degree programs, non-degree courses, full- or part-time study, but need to respond better to the changing needs of the economy and labor market. And as in Croatia, the university administration does not have enough power vis a vis the faculties, causing inefficiencies and other problems. Slovenia has gone a long way toward implementing its lifelong learning policy, but better
information about labor market trends and the education system needs to be developed – it also needs to be widely and timely distributed (OECD, 1999a:12-21, 34-43).

In Bulgaria the Council of Ministers sets state policy in education and the Ministry of Education and Science is responsible for management of education policy. The National Agency for Vocational Education and Training (with members from Government and the social partners) has responsibility for vocational education and training. Education Inspectorates are managed by the MoES. Bulgaria also has a Pedagogical Council that is a professional rather than administrative entity. Municipalities provide compulsory school education to children up to 16 years old, including funding. The decentralization that Bulgaria has undergone in recent years has led to problems in many municipalities since they did not have sufficient managerial skills and ran up large debts. At the level of the school, school boards are set up and operate under guidelines issued by the MoES (OECD, 2002a: 10-12).

Serbia is enacting education governance reforms, including thorough reforms of the Ministry of Education and Sport (“MoES”), schools, higher education, and vocational education. The MoES is being organized to shift from controlling schools to directing and supporting their performance, develop an information based educational policy, work with external experts on strategies, and international co-operation (OECD, 2001d:12).

In the Czech Republic, there has been greatly increased school-level responsibility for management, as well as greater participation by parents, the local community, and local industry in school management. School directors and teachers have been given responsibility for curriculum design, teaching methods, teaching materials, and equipment. Per capita funding and establishment of private schools for primary and secondary education has introduced competition between schools for students and funds. The results have been generally positive, including the rapid response of the education and training system to changing demands and opportunities in an increasingly market-oriented economy and employment system. However, school directors and teachers have in many cases had difficulty adjusting from their old ways of managing and teaching and school, university and VET graduates are still not adequately matching the needs of the market. It seems that improved training for administrators and teachers and better data on educational institutions and the labor market are needed (OECD, 1997:4-6).

C. Financing

The main characteristics of Croatia’s education financing are: chronic under-funding, lack of equity and transparency in budgetary allocation, unbalanced structure of the education budget in terms of categories of expenditure and source of funds, and lack of synergy (legislative, professional and institutional) for system change. The MoES covers 100 percent of expenses, except for capital investment and pre-schools which are financed locally. Financial control is centralized on inputs, with allocation based on budgets relying on previous years allocations. The share of education expenditure of about four percent of GDP is well under the European average, and the current level of funding is insufficient to support the reform process. There is no adequate management
information system to assist in developing an appropriate investment strategy. The physical conditions vary widely from school to school but facilities are often inadequate (OECD, 2001c).

Hungary’s educational expenditure has not kept pace with the growth of GDP in recent years, but it is still close to the OECD averages in education as a percentage of GDP and expenditure per student. However, spending is rather lavish at the tertiary level (70 percent of GDP per capita as opposed to an OECD average of 46 percent) but is below the OECD average for secondary education. Financing for schools is divided between the central State budget (approximately 60% of schools’ resources) and municipalities’ resources. Vocational schools have State budget and municipality funding, plus contributions from the Vocational Training Fund and their own fundraising (OECD, 1000b:10-11, 14-15).

In Bulgaria, municipalities provide compulsory school education for children up to 16 years old. The Ministry of Education directly funds and manages special schools and vocational schools. Most Bulgarian schools are funded from a block grant to the municipality from the Ministry of Education for social services which include education, a share of the municipal tax revenues, and funds raised by the schools themselves. Since municipalities vary in their capacity to raise tax revenues, the provision of resources to schools is uneven. VET has an oversupply of programs and many of the training institutions have financial problems. Schools – except for those that take part in a “delegated budget” pilot project of 104 schools – do not manage funds themselves. Rather the municipality pays salaries, building maintenance, and all other expenses. 70 percent of education spending goes to pay salaries, 12 percent goes to pay utilities, and only one percent is spent on school libraries and teaching materials. Salaries are low, and salary increases for teachers climbing the teacher scale (through experience or training) are very small. Thus there is little incentive for teachers to develop professionally, especially since training courses are often expensive (OECD, 2002a).

In Slovenia, funding of higher education is being reformed, with the system of financing individual study programs within faculties giving way to a new system providing faculties a lump sum for their programs and a smaller amount going to the university administration. Slovenia has many small and remote primary schools that are much more expensive per student than large schools. Some schools may need to be closed, a difficult issue in the countryside and small towns (OECD, 1999a).

**D. Primary and Secondary Schools**

- **Curriculum**

One common feature of the education systems in Central and Eastern Europe during the communist regimes was the belief in the accumulation of knowledge as a main source of progress of society rather than the use of knowledge in solving problems. The transitions from central planning and socialist economies to a free market economies integrated with
the global economy have challenged the education systems of these countries, particularly in terms of curriculum and pedagogy.

In Croatia, the current organization of curriculum around subjects and teacher-dominated learning methods with focus on factual knowledge and passive learning is not conducive to developing high-level technical, technological, and social competencies needed in the competitive economy. There are too many compulsory subjects and not enough optional subjects. Vocational education has too early and too narrow specialization. Links with the economic environment are generally weak (OECD, 2001c). The stakeholders, including social partners, are excluded from curriculum design. The result is a pre-tertiary curriculum that contains too many subjects, is excessively fact-oriented, memorization-based, age-inappropriate (it doesn’t fit the cognitive capacities of the students) or grade-inappropriate (it presumes knowledge that is not introduced until later grades), and does not include problem-solving and project-based learning (Berryman and Drabek, 2002:37-39). And graduates do not have the skills necessary for the competitive, flexible, knowledge economy of the 21st Century.

Bulgaria has an overloaded (in terms of volume and level of knowledge) curriculum that is slanted toward high academic achievers with too little attention to a practical element of learning and preparing students for a fluid world of work. Curriculum development is probably too centralized, with too little influence from schools and teachers. But the MoES has developed coherent State Educational Standards that set forth targets for all students, Programs of Study specifying the content and topics to be studied for each subject and grade level, and a National Assessment Framework setting forth key features of assessment and reporting results, key features for assessment for vocational studies, and a new Matura examination. A Law on the Level of Schooling, the General Education Minimum, and the Syllabus sets levels of schooling, requirements for moving from one level to another, the nature and content of a “general educational minimum” for Bulgarian students, and a curricular structure of compulsory, elective and optional subjects. The MoES has aimed to create a framework for curriculum rather than detailed requirements, and a curriculum with less emphasis on knowledge of facts and more emphasis on basic skills like quantitative reasoning, literacy, communication, critical thinking, problem solving and self-learning. Curriculum changes have been introduced in Bulgarian schools since September 1999, and the changes have been accompanied by a series of teacher training seminars (OECD, 2002a:24-26).

The curriculum in Serbian schools is old fashioned, with subject matter syllabi mainly consisting of “lists of content items” without any reference to the real learning process in the classroom. And it is impossible to teach or learn tall the information covered by the curricula. There is a narrow subject-based range of learning opportunities and experiences, and personal opinions, creative or critical thinking, and development of life skills are not encouraged (OECD, 2001d).

After independence Slovenia reformed its curriculum quickly, taking politics and ideology out of the curriculum, and de-emphasizing memorization of facts and developing isolated skills in favor of development of higher-order thinking skills and
problem solving abilities. The White Paper on Education provides a solid basis for curriculum reforms, and the Basic Education Act of 1996 redesigned the curriculum and syllabi. Now the curricula have more emphasis on learning and process orientation and focus less on the content and more on developing cognitive and social skills during the formal education. However, teaching programs are overloaded and curriculum content is too extensive to provide teachers and students with necessary time for deeper learning and understanding. Teachers have been greatly involved in reviewing the proposals for new framework curricula, but technically the municipalities and schools have little involvement in defining curriculum (only up to six percent of the curriculum if the school allows. Social partners have not had enough input in developing VET curricula (OECD, 1999a).

Hungary has adopted a National Core Curriculum for the first 10 grades of school. The National Core Curriculum organizes knowledge in a number of broad cross/disciplinary fields rather than in traditional academic subjects (OECD, 1999b).

- Pedagogy

The predominant teaching methods in Croatian schools are the teacher is an expert who conveys knowledge to the students who are rewarded for obedience to authority, and the focus is on the facts and getting the right answer. These are not methods that will produce students with skills that are valuable in the 21st Century economy. Rather, Croatian students need teaching methods that give students responsibility for learning, reward students for initiative, focus on alternative ways to analyze issues and solve problems, enable students to learn from mistakes, and use facts and ideas in a meaningful context (OECD, 2001c).

Serbian teaching methods are similarly out-of-date, and the teacher-centered model predominates. Students are not encouraged to express opinions, debate, solve problems, interact during class, or engage in individual or group projects. Many teachers would like to change, but lack the necessary training to become facilitators for students to learn according to their own interests and rhythm. There is also a bias towards gifted students at the expense of the majority of students (OECD, 2001d:23-24).

As mentioned above, Slovenia has made great strides in developing a more flexible and democratic education system, with substantial administrative, financial, and curriculum reform. However, teaching methods have not kept pace with these changes, despite the fact that the teachers have been retrained. The OECD recommends that Slovenia involve the teachers more in curriculum development, planning, and evaluation so that teachers can more easily change their teaching methods (OECD, 1999a:17-18).

Nearly all teachers in Bulgaria are using traditional teacher-led learning methods. While these methods do develop the skills still valued in Bulgarian education – a firm grasp of facts, quick and articulate oral responses and presentations, and discipline – these methods will not foster the creativity, independence and problem solving skills needed for the globalized market economy (OECD, 2002a:26).
In general, Croatian textbooks are inappropriate for the subjects and skills that should be taught. The MoES needs to integrate textbooks with curriculum development. Efforts are being made to improve the quality of textbooks. Prices are high for average Croatian families (OECD, 2001c).

Bulgaria’s textbooks are required to go through a complex approval process. The MoES publishes content standards, curricula, and timetables, and manuscripts are submitted for approval, with anonymous competitive bidding. Once books are selected (up to three per subject per grade), teachers can review and choose the books. Schools then order the books for sale to students. They are also available at bookshops. In general parents, although typically poor, are willing to sacrifice in order to buy good-quality books and there is an active used textbook market. Quality of textbooks is increasing (OECD, 2002a:27).

The market for textbooks in Slovenia has become more open with a much wider choice. However, because the state only subsidizes certain textbooks, there is currently a lack of choice in many subjects, especially civics, history, economics, and environmental studies (OECD, 1999a:13-14).

Serbian textbooks are old-fashioned, overloaded with information, encyclopaedic, and unappealing to students, and they have not changed much in the last ten years. They do not offer any challenging or interesting learning activities, nor are they adapted to students’ interests and real life needs. Development of textbooks is extremely centralized, with the National Textbook Publishing House producing all textbooks and other educational materials in the country. The Publishing House selects the authors through unclear procedures; sometimes there is a competition and other times a selection of a group of authors, who are usually university professors. An outside committee reviews the text before publication (OECD, 2001d:22).

Croatia’s teacher salaries and status are rather low, although average gross annual salaries as a percentage of GDP per capita are higher in Croatia than in OECD countries (Berryman and Drabek, 2002:44). The teacher training colleges are poorly equipped and younger people are getting less interested in entering the profession. However, currently there is an adequate supply of teachers and most have sufficient qualifications. Financial incentives for teacher promotion are small or non-existent, there are only two levels of promotion, and assessment criteria are vaguely defined. Teachers are not exposed to new methods of teaching. Teachers in vocational education are not exposed to practical work environments, leading to an overly academic environment in vocational education. The teacher training system is merely a series of insufficiently linked and discontinuous trainings (Strategy, 2001). The keys to improving teaching seems to be continuing
training of older teachers and bringing in new teachers (and young people need to be attracted to teaching and well-trained. This is because Croatian teachers are aging.

Table 3. The age of Croatian teachers

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>21-30 year-olds</td>
<td>15%</td>
</tr>
<tr>
<td>31-40 year-olds</td>
<td>23%</td>
</tr>
<tr>
<td>41-50 year-olds</td>
<td>30%</td>
</tr>
<tr>
<td>over 50 years old</td>
<td>32%</td>
</tr>
</tbody>
</table>


Teachers have, on average, 20 years of work experience. An analysis done by the World Education Forum showed that there was no connection between the work experience of teachers and achievements of pupils in Croatia (World Education Forum, 2001).

The Bulgarian education system is undergoing a dramatic change that requires teachers to be adaptable and innovative regarding curricula and pedagogy. New subject content is being introduced, and a more integrative teaching style is sought which encourages learners to question, surmise, and take risks. Teachers are expected to work together, and be open to relationships with parents and local communities. However, the OECD team found that improving the teaching profession and supporting teachers is not a high public priority. At present a teaching career is structured on a five-grade promotional path, but the differential in salary is very little. Teachers are low paid (approximately 150 Euro per month for the highest paid), and teachers cannot always be sure that such a salary will arrive on time. Teachers' social status is still high, but seems to be eroding. There is no strategy for pre-service teacher training, and the Ministry of Education is not very involved in the issue. Training is done in 10 university faculties, with students pursuing their academic specialty in the relevant faculty and additional courses totalling one year at the Faculty of Education. In-service teacher training has been given a higher priority, but funding for in-service training is distributed through the universities, making it difficult to have consistency or accountability. In-service training is not obligatory for Bulgarian teachers and due to financial difficulties in the Government providing free courses and teachers paying fees for other courses, and the fact that upgrading skills does not pay off financially, the number of teachers taking in-service courses has dropped by almost 50 percent (OECD, 2002a:32-37).

Serbian teachers worked in a highly politicized environment during the Milosević era, and teachers operated under close control by the Ministry of Education and government inspections. At the same time teachers' salaries dropped and the previous high status of the profession has dropped dramatically, resulting in poor morale and teachers taking second jobs. The teachers have been trained mainly in subject matter knowledge with little training in pedagogy. Thus modern teacher training is urgently needed. Teachers for grades 1 to 4 are now being trained in relatively new teacher colleges. Single subject teachers for grades 5 to 8 and for secondary schools are trained in a wide range of faculties in universities, and receive eight semesters of training. The training is not standardized and the teachers typically receive little training in pedagogy. The OECD team concluded that the pre-service training system does not prepare teachers adequately for their work in schools and classrooms, and there is no systematic organization of in-
service teacher training. Schools are overcrowded and in many schools lessons are shortened and classes overlarge (many teachers have over 40 students) (OECD, 2001d:28-32).

The Hungarian educational tradition is rather academic and elitist and places considerable emphasis on the cognitive aspects of teaching. Teachers are now struggling with how to motivate and raise the performance levels of lower achievers. Hungarian teachers, particularly those in vocational schools, do not have the qualifications or skills to teach a general education curriculum, as is required in the new National Core Curriculum (OECD, 1999b:22-23).

Although the Czech education was reformed rapidly after the fall of communism, teachers have been slow to change their old ways of teaching, i.e. as givers of knowledge to passive students. Thus, since 1994, the educational system has concentrated on establishing and intensifying the support systems through the further training of teachers, educational research, the production of training materials, and other assistance to teachers (OECD, 1997:4-6).

Slovenian teachers have also had some trouble adjusting to the education reforms and new curriculum. There is still unclear prioritization of the teacher in-service training courses. Instead there are extensive catalogues of short and longer courses that teachers had proposed. And there is still an unresolved issue of how specialized teachers should be (OECD, 1999a:16-17).

Standards and Quality Assurance

The standards being discussed in Croatia refer to inputs (equipment, textbooks, facilities, etc.). There is no discussion yet on standards relating to educational processes and learning outcomes. Currently the MoES ensures quality control through inspection. There are no national examinations; all assessment is school-based. Distribution of students in general or vocational areas at the end of the 8 year primary school curriculum is based on student performance, with assessment left to the mainly arbitrary requirements of receiving schools. There are no national standards or external evaluations or tests, and there are few qualified experts to develop tests and to monitor the assessment process. Thus, the MoES cannot make valid comparisons between students, schools, regions, or over time. The assessment process does not adequately reflect all relevant educational inputs (curriculum, textbooks, teacher training, etc.). Vocational education does not focus on testing students’ ability to act in real-life work situations (OECD, 2001c).

Slovenia does not have national attainment targets. Instead this role is fulfilled by the Matura Catalogi, which are prepared by National Subject Commissions, and are checked on compatibility with the existing curriculum by the National Education Institute. These have revealed gaps in teaching in many schools and gave schools the opportunity to rationalize their curriculum. Classroom assessment has been strongly influenced by the Matura, which has both good and bad effects. Almost all gymnasia students take the Matura, and about one-third of students in technical secondary schools take it. This is a big change from previous practice whereby school-based test and a wide range of university faculty entrance examinations controlled access to universities. The Matura
consists of five subjects, three of which are compulsory (Slovenian, mathematics, and a foreign language). The other two may be chosen from a list of about 30 subjects (OECD, 1999a:27-30).

In Bulgaria the *Law on the Level of Schooling, the General Educational Minimum and the Syllabus*, specifies the “general educational minimum” for all students. The MoES is responsible for detailed regulations, but the structure of the syllabus is set by law, with compulsory, elective, and optional components. Students are required to pass a Matura at the end of grade 12, but only about half take the test. The Matura contains three subjects: Bulgarian language, civics, and one further subject chosen by the candidate. The MoES does not use indicators to assess the outcomes of the education system; instead the results of the Matura have served as a rough indication of learning achieved. Recent reforms include content, timetable and assessment standards for core subjects, and development of a semi-independent National Assessment Unit. The Matura examination will be external and based on national curriculum and assessment standards. Bulgaria also takes part in international comparative studies of student achievement, e.g. TIMSS, PIRLS, and PISA. A new framework for inspection has been developed, and it foresees a strong supporting role for inspectors in improving the quality of teaching and learning in schools (OECD, 2002a:27-30).

Hungary has introduced a national examination for 10th graders and a standardized national matriculation examination.

**F. Early Childhood Education and Care**

The level of expertise, legal climate, and tradition of pre-school education in Croatia provide solid grounds for raising the quality and scope of early childhood development and care. However, participation is low at less than 30%. Costs are partly covered by local authorities and partly by parents, depending on family income. But local government funding is not assured in all regions. The different kinds of pre-school programs are: fundamental pre-school programs, alternative pre-school programs, pre-school preparation for the school program, and part-time programs. Greater public awareness of the importance of early childhood development is needed (OECD, 2001c).

Early education (years 3 to 6) in the Czech Republic is provided by the State, and Kindergartens are under the responsibility of the Ministry of Education, Youth and Sport. Financing comes from multiple sources: the regional school authority (teachers salaries, books and equipment, municipalities (running costs and capital investments) and parental fees, as well as private sponsors fro equipment and toys. The system is relatively decentralized, and kindergartens have a great deal of autonomy (OECD, 2001e:157-159).

In Bulgaria, pre-school education for children aged 3 to 7 comes under the aegis of the MoES and education for children under 3 are the responsibility of the Ministry of Health. Pre-schools are entitled to develop their own programs, but must comply with basic MoES requirements, and the MoES developed a curriculum and guidelines that are widely used. New obligatory standards, that are internally and externally assessed, for
pre-school were published in September 2000. Costs are paid by the state or municipal budget and a fee set by each municipality’s council. Parents’ fees (which include meals and materials) average between 10 and 15 Euros per month, but this covers only about one-sixth of the actual cost. Approximately 66 percent of children between ages 2 and 8 were in pre-school in 1999. Pre-school teachers are required to graduate either from university or teacher training college. Children who are not in pre-school education are increasingly offered school-readiness programs (OECD, 2002a:37-39).

In Serbia, municipal authorities are tasked with organizing education and health care for pre-school children and to cover the expenses for children from low-income families. The national government provides some funds for pre-school and pays for children without parental care, emotionally or mentally disturbed children, and children who must be hospitalized for a long time. The national government also regulates pre-school institutions’ premises, equipment, employees, numbers of children, etc, and municipal authorities must verify compliance. But pre-schools have considerable flexibility in developing programs. The MoES must endorse private pre-schools’ programs. Pre-schools have programs for 1 to 3 year old and 3 to 7 year old children. However, the level of pre-school provision does not meet the needs of families, and only 20 to 30 percent of children are involved in pre-school. Decentralized allocation of funds has increased regional disparity, and the economic crisis in Serbia has led to disrepair of buildings and equipment and overcrowded classrooms. Pre-schools have two choices of models for curriculum to choose from for 3 to 7 year olds. Pre-service and in-service training for teachers are of adequate duration, but the quality of pre-service training needs to be improved and in-service training is suffering from insufficient funding and poor organization (OECd, 2001d:36-38).

In recent years, Portugal has made significant progress in early childhood education. The whole sector was reformed and the budget has more than doubled. A government Program for the Expansion and Development of Pre-School Education was drafted in 1996, followed one year later by the 1997 Framework Law. Implementation of the Program and Law has led to an increase in children attending pre-school from 57.5 percent in 1995 to almost 75 percent in 2002. Much attention has been devoted to staff training and status and Portuguese pre-school teachers are now required to have a four year higher education degree. New curriculum guidelines are expected to improve educational quality, as pre-school has traditionally been loosely structured, play oriented, and geared toward care (OECD, 2001e).

G. Vocational Education and Training

Croatia has 3 and 4 year educational programs, special programs for under-qualified workers or students with special needs, and a dual system of schooling with work placement. Vocational schools serve 438 specializations in 31 vocational areas. However, due to technological developments and structural changes in the Croatian economy there is no longer a need for most of the listed specializations. The curriculum is too focused on subject-specific skills, competencies, and attitudes. The programs need a broad theoretical and practical foundation that provides a flexible, adaptable education. Due to
the poor image of the vocational education and training system, it has been difficult to recruit teachers and trainers. Vocational education has not adjusted quickly enough to the changes in the economy and to the needs of small and medium sized businesses (OECD, 2001c).

Hungary has transferred responsibility for vocational training from the Ministry of Labor to the Ministry of Education. In 1993, Hungary adopted the Vocational Training Act and Chamber Act, which re-introduce apprenticeship with private companies. The apprenticeship training is combined with school-based vocational education and training. Hungary has lower vocational schools that provide basic skills, but enrollment has declined during the past 10 years as more students go to upper secondary vocational schools that offer advanced specialization at a technician level. The lower vocational schools need to be modernized to meet the new demands of the labor market, but teachers are a major obstacle since they are civil servants, many are highly specialized and difficult to retrain, and they have low salaries compared to private industry so recruitment is difficult. A National Training Register has been established by the Ministry of Labor, and it defines a single set of training requirements for vocational training institutions and a common national framework for the assessment and certification of vocational training. Hungary has also set up a Vocational Training Fund, with mandatory monetary contributions from employers and oversight by the government and social partners, that is designed to increase vocational training institutions’ responsiveness to labor market requirements. Nine regional training centers were set up to serve the needs of both the unemployed and enterprises, and they have a more flexible and responsive model of vocational training than traditional school-controlled vocational training (OECD, 1999b:13-15, 25-26).

Czech Republic has reformed its vocational education system in conjunction with broad educational system reforms. Initial basic education has been lengthened to nine years, technical and vocational schools have been integrated under one roof, and higher professional schools have been established. More students are opting for longer periods of study, e.g. more students opt for 3 to 4 year secondary vocational courses rather than 1 to 2 year programs. The longer courses provide access to the labor market while keeping open the possibility of university entry (OECD, 1997).

Slovenia passed legislation in 1996 to reform the vocational education system. The reforms include new structures of vocational education like technical gymnasia – secondary schools similar to gymnasias but with a strong technical or professional orientation – and post-secondary professional colleges. The legislation also established multiple tracks and options for students, including establishing a dual system whereby students are offered apprenticeships alongside vocational school studies. The Center for Vocational Education and Training and the VET Curriculum Commission are establishing new curricula, with involvement by the social partners. Occupational standards still need to be established so that the vocational education system provides the knowledge, skills, and abilities needed in the economy (OECD, 1999a:17-19, 30-32).
In Croatia there is little contact on strategy between the MoST (which is responsible for higher education) and MoES. Higher educational institutions are not really autonomous since funding and staff decisions are made by the MoST. Amendments to the Higher Education Act of 1994 are being proposed by the MoST, including autonomy of higher educational institutions, an improved quality assurance system, better internal management, new procedures for program and curriculum development, financing linked to performance, and a much-reduced role of the state in management of institutions and academic matters. Professors are of poor quality, particularly in terms of teaching and testing methods. In addition to 4 universities and 16 polytechnics, higher professional schools and non-university higher education studies were introduced in 1998. This has increased the flexibility of the system to meet demand. Again, the universities are not sufficiently in tune with the needs of employers although the universities are more influenced by the needs of the market than other parts of the education system. And as in primary and secondary education, there are no effective university standards relating to educational processes and learning outcomes (OECD, 2001c).

Each of Croatia’s four universities is a collection of separately budgeted faculties, with MoST negotiating directly with each faculty about its budget and some management and staffing issues. Thus the university’s rector and top management have little ability to modernize the university, e.g. merging, eliminating, adding, diminishing, or expanding faculties, and there is little collaboration between faculties and no opportunities for students to engage in interdisciplinary studies (Berryman and Drabek, 2002:46-47).

In Slovenia the Higher Education Act provides the foundation for diversification of higher education, including traditional undergraduate degree programs, professional education degrees, professional tertiary institutions, specialists, masters or doctoral postgraduate degrees, and non-degree courses, and full or part-time study. By 1997, higher education institutions offered 131 university degrees and 53 professional degree programs and 54 specialist and 115 masters graduate degree programs. Demand exceeds supply for economics, business, and law programs, and one solution to this problem has been to increase part-time studies. Higher education is almost entirely publicly funded. Universities have a high degree of autonomy, with the task for setting minimum standards given to the Council for Higher Education, which has implemented the 1994 Criteria and Procedures on the Accreditation of Study Programs and Higher Education Institutions. In addition to the two universities, seven independent institutions and their programs have been accredited. The Quality Assessment Commission monitors and assesses the quality and effectiveness of teaching, research and professional activities (OECD, 1999a:19-20, 23-33, 39).

There are 119 public and 38 private institutions of higher education in Hungary. Colleges provide three-year courses and universities provide five-year courses. Higher education institutions have a high degree of autonomy and within a standardized procedure approved by the Ministry of Education, institutions are free to decide their own admission requirements. Their proposals for the numbers of students admitted must be approved by
the Ministry. The number of full-time students doubled during the 1990s. All students receive a small scholarship based on academic results. Very small tuition fees were introduced, but met a great deal of opposition. Private institutions and public institutions with private programs have relatively high fees. University teaching is very conservative, academic and theoretical, and there is little relationship between higher education and the demands of the labor market. Hungarian policy makers assume that tertiary education funding should be increased to allow the system to expand to meet the high levels of demand, based on Hungary’s comparatively low levels of tertiary participation and the high proportion of applications who are denied admission. The OECD disagrees, stating that the proportion of GDP per capita that Hungary spends on tertiary education is already high by international standards and the ratio of students to professors is very low by international standards, the allocation of resources could be greatly improved, and students’ fees should be rationalized. Hungary lacks a comprehensive strategy for tertiary education (OECD, 1999b:26-32).

Czech Republic has created a three-year degree program at Bachelor level and the Magister degree course has been extended by one year and now involves five years of full-time study (OECD, 1997:6).

I. Lifelong Learning

Workers at all levels in the 21st Century need to be lifelong learners, adapting continuously to changed opportunities, work practices, business models, technology, management. As mentioned in other sections of this paper, the education system needs to prepare students to engage in lifelong learning. But the education system also needs to enable and encourage adults to participate in formal education.

7. Conclusions regarding the quality of the education system

Based on our survey data and quantitative and qualitative analyses of Croatia’s formal education system, as well as recent studies by the World Bank and OECD and comparisons with other European countries education systems, we make the following conclusions:

• Croatia’s education system, like those of other CEE countries, is slowly making the transition from the socialist system that favored memorization of facts, discipline, and lecturing to a system that fits the needs of a democracy with a globally integrated free-market that needs problem-solving skills, creativity, communication skills, and flexibility.
• Higher education in Croatia suffers from too much centralized administration by the national government. Professors are of poor quality in general, particularly with regard to their teaching methods.
• Although education “strategies” have been drafted in Croatia, they have not been implemented, and major reforms have not yet been undertaken at any level. Croatia’s situation in this regard is similar to Serbia’s and Bulgaria’s. By contrast, Slovenia, Czech Republic, and Hungary have implemented wide-ranging reforms.
• As in most transition countries, Croatia’s education system is under-funded and budgets are poorly developed and managed.
• Croatia has carried out very little decentralization, and this – along with conflicting authorities, a lack of system-wide focus, and poor management – has resulted in a lack of change, innovation, and accountability. In comparison with other transition countries, Croatia has rigid, hierarchical and opaque governance and management of its education system.
• Croatian workers generally have sufficient skills to meet the current needs of employers.
• Croatian workers are underutilizing technology, and lack many of the skills necessary for the 21st century economy. Croatian workers also lack the functional flexibility and ability to self-manage that are needed in the knowledge economy.
• Croatia has a very low adult participation in formal education, i.e. little lifelong learning compared to other European countries.
• The curriculum in Croatian schools needs further reform, with more flexibility (including more optional subjects) and greater connection to the needs of the modern economy among the priority reforms needed. It appears that Croatia’s curriculum reforms lag those of Slovenia and Bulgaria, but surpass those of Serbia. In connection with curriculum reforms, Croatia has inadequate teaching materials and a poor process for developing and approving them.
• Croatia has not developed standards relating to educational processes and learning outcomes, and there are no national examinations, external evaluations, or tests. Thus it is impossible to make valid comparisons between students, schools, and regions, or to analyze trends. Croatia lags Slovenia and Hungary in these areas.
• As is the case in other transition countries, Croatian teachers are using inappropriate teaching methods. The shift from teacher-focused teaching to teaching methods that give students responsibility for learning, reward initiative, and focus on problem solving has been much too slow.
• Croatia has enough teachers, although they are underpaid and inadequately trained.
• Croatia has high quality pre-school education, but participation is rather low and the public is ill informed about the importance of early childhood education.
• Croatian vocational education and training is too subject-specific. Teachers and trainers are inadequately trained and do not have necessary knowledge of the needs of the workplace. The system does not have enough of a connection with the labor market.

Recommendations for improvement

− The MoES and MoST must immediately work with the stakeholders (school and university administrators, teachers, professors, students, social partners) to develop a vision, strategy, and action plan for reform of the education system. Previous strategies can be used as resources but the approach should be collaborative and inclusive of representatives of those who will be responsible for implementation of the strategy and action plan (professors, teachers, students, parents, etc.). The action plan must include tangible actions, deadlines, and persons and institutions responsible for each action.
- The education system should be changed from supply-driven to demand-driven, i.e. the system should provide learning alternatives that students (of all ages) can choose from, with increasing responsibility by students as they get older.
- Management of the education system should be decentralized, i.e. budgeting, personnel, curriculum, should be done by the schools and local governments and universities instead of the Ministries. At the same time, schools and local governments must build the capacity to effectively manage schools.
- The MoES and MoST - working with the stakeholders - should focus on implementation of reform strategies. Their performance should be measured by the success of implementation of reforms. The Ministries should improve their management by focusing on increasing their abilities to implement strategies and action plans.
- Schools and universities should be accountable for results. Thus, the Ministries should set standards and hold schools accountable for learning outcomes, e.g. reading comprehension, ICT skills, etc., and give the schools and universities freedom to use their own methods to produce them. This will require nationally written, administered, and graded learning assessments.
- Curricula in schools should be reformed to increase links with the needs of the economy and to reduce compulsory subjects and increase optional subjects, begin specialization in the vocational track later, broaden specializations, to emphasize problem solving, develop teamwork, increase the ability to learn, develop students’ ability to manage themselves and others, build communication and technical/ICT skills, and reduce the emphasis on memorization of facts. The curriculum reform should be accompanied by new textbooks, teacher guides, and learning materials, changes in teaching methods, and new measures of learning outcomes.
- In conjunction with radical reforms of curriculum, materials, and pedagogy, Croatia will need to intensively train existing and new teachers including imparting new teaching methods, use of teaching materials, and testing methodology. Such training should be mandatory for teachers.
- Croatia should participate in international learning assessments, including PISA.
- Curricula in universities should also be reformed to increase links with the needs of the economy, and dialogue and cooperation between the private sector and universities should be greatly increased.
- Universities’ autonomy and powers should increase (vis a vis the MoST and faculties), including having single university-wide budgets and university administration’s freedom to develop their own faculty structure. Universities should compete against each other for students.
- Universities should select their own management staff, faculty members, support staff, and students, and set and enforce performance criteria for them.
- Instructional pedagogy in schools and universities should be restructured so that teaching methods give students responsibility for learning, reward students for initiative, focus on alternative ways to analyze issues and solve problems, and use facts and ideas in a meaningful context.
- Teachers should be required to receive lifelong training on teaching skills and methods, use of information and communication technology, and subject matter. The training should be interactive, with teachers sharing ideas and experiences.
Vocational education and training should be more generalized and should focus on the competencies needed for the labor market. Occupation-specific training should be restricted to the tertiary level.

Croatia needs to increase participation in pre-school education. The main strategy should be to inform the public of the importance of early childhood education.

Trade unions should be actively involved in education reform, especially in the area of vocational education, and improving the education system should be a top priority for the unions. Teachers’ trade unions should be particularly involved in education reform in general.

The Croatian people should be informed of the need for each Croatian to constantly upgrade his or her skills. The Croatian Government, business community, and trade unions should jointly develop and deliver a public information campaign exhorting Croatians to focus on education.
APPENDIX 1

SUMMARY OF THE DETAILED WORK PROGRAM ON THE FOLLOW UP OF THE OBJECTIVES OF EDUCATION AND TRAINING SYSTEMS IN EUROPE


- Objective 1: Improving the quality and effectiveness of education and training systems in the EU
  - 1.1 Improving education for teachers and trainers
    - Identifying the skills that teachers and trainers should have, given their changing roles in the knowledge society.
    - Providing the conditions that adequately support teachers and trainers as they respond to the challenges of the knowledge society, including through initial and in-service training in the perspective of lifelong learning.
    - Securing a sufficient level of entry to the teaching profession, across all subjects and levels, as well as providing for the long-term needs of the profession by making teaching and training even more attractive.
    - Attracting recruits to teaching and training who have professional experience in other fields.
  - 1.2 Developing skills for the knowledge society
    - Identifying new basic skills, and how these skills together with the traditional basic skills can be better integrated in the curricula, learned and maintained through life.
    - Making attainment of basic skills genuinely available to everyone, including those less advantaged, those with special needs, school dropouts and to adult learners.
    - Promoting official validation of basic skills, in order to facilitate ongoing education and training and employability.
  - 1.3 Ensuring access to ICT for everyone
    - Providing adequate equipment and educational software so that ICT and e-Learning processes can be best applied in teaching and training practices.
    - Encouraging the best use of innovative teaching and learning techniques based on ICT.
  - 1.4 Increasing recruitment to scientific and technical studies
    - Increasing the interest in mathematics, science and technology from an early age.
    - Motivating more young people to choose studies and careers in the fields of mathematics, science and technology in particular research careers and scientific disciplines where there are shortages of qualified personnel, in a short and medium term perspective, in particular through the design of strategies for educational and vocational guidance and counseling.
    - Improving gender balance among people learning mathematics, science and technology.
• Securing sufficient numbers of qualified teachers in mathematics and scientific and technical subjects.

1.5 Making the best use of resources

• Increasing investment in human resources while ensuring an equitable and effective distribution of available means in order to facilitate general access to and enhance the quality of education and training.
• Supporting the development of compatible quality assurance systems respecting diversity across Europe.
• Developing the potential of public-private partnerships.

• Objective 2: Facilitating the access of all to education and training systems

  2.1 Open learning environment

• Broadening access to lifelong learning by providing information, advice and guidance, on the full range of learning opportunities available.
• Delivering education and training so that adults can effectively participate and combine their participation in learning with other responsibilities and activities.
• Ensuring that learning is accessible for all, in order to better respond to the challenges of the knowledge society.
• Promoting flexible learning paths for all.
• Promoting networks of education and training institutions at various levels in the context of lifelong learning.

  2.2 Making learning more attractive

• Encouraging young people to remain in education or training after the end of compulsory education, and motivating and enabling adults to participate in learning through later life.
• Developing ways for the official validation of non-formal learning experiences.
• Finding ways of making learning more attractive, both within the formal education and training systems and outside them.
• Fostering a culture of learning for all and raising the awareness of potential learners of the social and economic benefits of learning.

  2.3 Supporting active citizenship, equal opportunities and social cohesion

• Ensuring that the learning of democratic values and democratic participation by all school partners is effectively promoted in order to prepare people for active citizenship.
• Integrating fully equal opportunity considerations in the objectives and functioning of education and training.
• Ensuring fair access to acquisition of skills for the less privileged or those currently less well served and motivating them to participate in learning.

• Objective 3: Opening up education and training systems to the wider world

  3.1 Strengthening the links with working life and research and society at large

• Promoting close co-operation between education and training systems and society at large.
• Establishing partnerships between all types of education and training institutions, firms and research facilities for their mutual benefit.
• Promoting the role of relevant stakeholders in developing training, including initial training and learning at the workplace.

3.2 Developing the spirit of enterprise
• Promoting the sense of initiative and creativity throughout the education and training system in order to develop the spirit of enterprise (“entrepreneurship”).
• Facilitating the acquisition of skills needed to set up and run a business.

3.3 Improving foreign language learning
• Encouraging everyone to learn two, or where appropriate, more languages in addition to their mother tongues, and increasing awareness of the importance of foreign language learning at all ages.
• Encouraging schools and training institutions in using efficient teaching and training methods and motivating continuation of language learning at a later stage of life.

3.4 Increasing mobility and exchange
• Providing the widest access to mobility to individuals and to education and training organizations, including those serving a less privileged public and reducing the remaining obstacles to mobility.
• Monitoring the volume, directions, participation rates as well as qualitative aspects of mobility flows across Europe.
• Facilitating validation and recognition of competencies acquired during mobility.
• Promoting the presence and recognition of European education and training in the world as well as their attractiveness to students, academics and researchers from other world regions.

3.5 Strengthening the European co-operation
• Enhancing the effectiveness and timeliness of recognition processes for the purpose of further study, training and employment throughout Europe.
• Promoting co-operation between responsible organizations and authorities in view of more compatibility in quality assurance and accreditation.
• Promoting transparency of information on education and training opportunities and structures in view of the creation of an open European area for education.
• Promotion of the European dimension of teaching and training.

The Commission has only a limited mandate to work on educational matters, i.e. to contribute to the development of quality education by encouraging cooperation between Member States and, if necessary, by supporting and supplementing their action. However, the process described in the Work Program, has been started on the initiative of the member states, i.e. the European Council, and not the Commission. Thus, the Commission is using the Open Method of Cooperation, which provides a new cooperation framework for the Member States with a view to convergence of national policies and the attainment of certain objectives shared by everyone. It is based essentially on:
− identifying and defining jointly the objectives to be attained;
− commonly-defined yardsticks (statistics, indicators) enabling Member States to know where they stand and to assess progress towards the objectives set;
comparative cooperation tools to stimulate innovation, the quality and relevance of
teaching and training programmes (dissemination of "best practice", pilot projects,
etc).
[To reach this, the Commission has set up eight working groups to work on the thirteen
topics listed above. These working groups consist of representatives for the Commission,
the member states, the EES countries, the accession states and the candidate states.]

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