



**A Preliminary Analysis of the Elementary and Secondary
School System of the
Republic of Croatia**

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**Management Analysis & Planning Inc.
508 Second Street
Davis, CA 95616**

**James R. Smith, Chief Executive Officer
Naomi Calvo**

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EXECUTIVE SUMMARY

This report briefly describes key features of the Croatian elementary and secondary school system, identifies possible areas for reform, and suggests some interventions that will, over time, move the Croatian schools towards a modern European system.

A number of features of the Croatian education system leave it poorly prepared to support the nation's transition to a modern economy. These are outlined below, along with recommendations for change. It is premature to make specific suggestions for reform, given the government's lack of a concrete vision for a new system and the scarcity of information about the state of the current system. Hence most of the recommendations focus on outlining a possible process for developing these prerequisites.

1. Need for Clear Vision for Change

Based on our limited observations in Croatia, it appears as if the government's vision of the role and nature of its schools is not formed in detail much beyond a desire for them to be modern and European. A process for developing such a vision is also lacking. Without a concrete idea of what a new system should look like, it is impossible to create an organized, systemic plan for change.

Recommendation: In order to stimulate broad-based public debate that is requisite to developing a shared vision, create a network of grassroots committees, with information flowing from the school communities up to the national level and back. A national development committee would be responsible for making recommendations about four major areas: organization, accountability, program structure, and student standards and assessment. International training and site visitations would be an integral part of the development process.

2. Insufficient Management Information Systems

The current information system does not provide decision-makers with the information necessary to make informed decisions. The existing databases are discrete and incompatible, and not all sources are sharing information. The lack of easily accessible, current information makes it difficult for officials to assess the current state of the system and make recommendations for change. In particular, budgeting and resource allocation decisions are based on now primitive methods and databases. This leads to inefficiencies in the way budget decisions are made.

Recommendation: The Ministry should conduct a systematic assessment of the current system and use this information to create up-to-date databases. Simulation models can also be constructed from this information, and these can be used to examine the effects of different policy options on the development of the system.

3. Inadequate Budgeting and Resource Allocation

Resource allocation in Croatia does not take into account regional cost differences or student population-related cost differences. Some types of students are more costly to educate than others, and some regions of the country are more expensive than others. A system that does not take these differences into account is inequitable and inefficient. Compounding the problem, a significant portion of construction and maintenance revenues come from local governments. Since these jurisdictions have unequal abilities to raise revenues, some districts are more adequately funded than others.

Recommendation: Develop a more cost-based resource allocation system.

4. Highly Centralized Management and Decision-Making Processes

Croatia has a highly centralized management and decision-making system. While some decisions are appropriately made at the state level, an overly-centralized system can lead to a number of problems. Central management is often inflexible and unable to deal with different situations at the local level. It tends to employ a one-size-fits-all approach that invariably fits none. The central government is often unable to respond quickly to changes at the local level, making it more likely that the wrong students will be prepared for the wrong jobs in the wrong place. Teachers and administrators lack discretion over content and methods, which inhibits innovation and experimentation that could facilitate long-term adaptation of the system to economic and social change. The central appointment of principals raises concerns about political partisanship.

Recommendations: Key Ministry staff should observe firsthand this type of system operating in other countries. Experienced consultants should conduct a series of seminars to raise awareness and build grassroots support. Ministry employees responsible for decentralization strategies should take part in an international exchange program.

5. Inconsistent and Inequitable Student Assessment

Final examinations, Matura examinations, and university entrance examinations are not standardized across schools. These exams play a key role in students' lives, as they determine career paths. Because there is no standardization, there is no way of ensuring that the degree of difficulty is the same across schools, thus the process is inequitable. It is also inefficient, since it does not ensure that the most qualified students are gaining entrance to post secondary programs.

Recommendation: The national development committee described above should play an instrumental role in developing comprehensive, standardized tests that are objective and fair.

6. Specialized Secondary Schools

The secondary school system in Croatia is highly specialized. Only 20% of students attend the university-track gymnasium; the rest go into vocational training programs. There are four problems with this narrow job-specific training at the secondary level.

- Croatian technical schools have out-of-date equipment and curriculum. Hence students are not being prepared adequately for trades. Even if the schools were technologically current, however, it is impractical to expect them to keep up with the rapidly changing needs in the workplace.
- Vocational program offerings do not respond quickly to changing needs in the workforce. Inevitably they accept too many students in some specialties and not enough in others.
- Vocational programs teach students specific trades rather than general problem-solving and critical-thinking skills. The result is a rigid workforce that is unprepared for shifts in the economy. Expensive re-training becomes necessary, against a backdrop of high unemployment.
- The Croatian practice of requiring job-specific certificates from in-school training for most jobs discourages small business formation.

Recommendation: After analyzing the approach used in various other countries and considering the short- and long-term needs of Croatia, the national development committee should develop recommendations for the restructure of the education system.

7. Outmoded Curriculum and Instructional Materials

The current textbooks and curriculum contain materials that potentially encourage ethnic tensions as well as attitudes, beliefs, and behaviors not desirable in a modern economy. At the same time, they fail to promote necessary aspects such as critical thinking and problem solving, or democratic and tolerant attitudes.

Recommendations: Develop modern texts and curriculum consistent with attitudes, beliefs, and behaviors associated with democratic principles. Increase the involvement of local educators and professional associations in the development process. Consider the relative merits of private versus government textbook publishers.

8. Inadequately Prepared Teachers

Despite the fact that many have university degrees, concern was expressed that Croatian teachers trained under the previous socialist system are inadequately prepared for the challenges of a modern European school system. Existing in-service teacher training programs appear to be insufficient to meet this need. Teacher salaries and prestige are low, making it difficult to attract qualified people into the field. The compensation structure determined by the Ministry is not tied to performance, so there is little incentive for teachers to increase their productivity.

Recommendation: Develop a systematic professional development program which should follow from changes in management practices and curriculum design. Simulation models will be useful in assessing the trade-off in different compensation strategies that account for performance and teaching conditions.

9. Inadequate Facilities

Croatia faces a severe lack of space and adequate educational facilities. Many school buildings were damaged in the war, and others are old or in disrepair. New and

renovated buildings will need to accommodate extensive technology as well as provide safe and adequate facilities.

Recommendation: Develop planning and resource management simulations to assist in making capital construction decisions.

10. Insufficient Independent Private Schools

The Ministry appears to discourage the existence of independent private schools. Some private schools are state subsidized and have little more autonomy than public schools. Such a policy stifles the development of healthy alternatives in curriculum and methods, and does not model a desirable tolerance for diversity. Private schools can also be useful in reducing overcrowding problems in public schools.

Recommendation: Institute public policies to encourage the development of private alternatives to publicly funded and controlled schools.

INTRODUCTION

In this report we will briefly describe key elements of the Croatian elementary and secondary education system, identify high leverage opportunities for systemic change, and suggest some possible interventions that might, over time, move the Croatian schools towards a modern European system. This report is based on observations and interviews in conducted in Zagreb between the week of May 11, 1998. As a consequence it is based in part on incomplete information and should therefore be considered as preliminary; it is designed to stimulate a conversation that will ultimately result in a series of options that can be proposed to the Ministry of Education and Sports of Croatia.

CHALLENGES FACING THE CROATIAN EDUCATION SYSTEM

For less than a decade Croatia has been reinventing itself as an independent nation. Consistent with its stated desire to join modern Europe, it will need to create an economy and institutions that will permit it to compete on equal footing and facilitate commerce with its neighbors. The task of converting from a totalitarian government and centrally managed economy to a democracy with a market economy is in all circumstances complex, expensive and often disorienting to some segments of the population. Croatia's transition has been made all the more challenging by war. Even so, Croatia has made significant process toward its goals and should be judged more by what has been accomplished than by how far it still needs to travel. The concerns raised in this report are thus raised not as criticisms, but as observations from an outside, but sympathetic, perspective.

A number of features of the Croatian education system leave it poorly prepared to support the nation's transition to a modern economy. These include the lack of a clear vision for change; inefficient management information systems; inequitable resource allocations; highly-centralized management and decision-making processes;

inconsistent and inequitable student assessment; overly specialized secondary schools; outmoded curriculum and materials; inadequately prepared teachers; inadequate facilities; and insufficient numbers of independent private schools. Each of these concerns is discussed in more detail below, along with suggestions for possible interventions. It is premature to make specific recommendations for reform at this time, given the lack of a concrete vision for a new system and the scarcity of information about the state of the current system. Hence most of the recommendations made here focus on outlining a possible process for developing these prerequisites.

1. Need for a Clear Vision for Change

Based on our limited observations in Croatia, it appears as if the government's vision of the role and nature of its schools is not formed in detail much beyond a desire for them to be modern and European. Without a mission understood and shared by those responsible for its implementation, schools can not operate at optimal effectiveness. Without a clear vision, shared and articulated by the Minister and other government leaders, the mission is likely to be vague, at best.

A first step toward building a world class, modern education system would be to clarify the government's vision and characterize it in more concrete terms. Among the questions to be addressed are: What is the role of schools in teaching civic values and principles? What is the role of schools in preparing citizens for employment? Are there other expectations for the schools? Even these questions require prior agreement on the nature of civic values and employment skills that should be taught. What kind of society does Croatia want? What will be the nature of its economy in five, ten, and twenty years?

This clarification and elaboration tends to be the most productive when it is the product of extensive public debate. Properly conducted the debate will produce shared understanding that will facilitate all that comes later. In democratic countries this debate is ongoing and rarely decided to the satisfaction of every individual and group. Universal agreement in Croatia is unlikely, as well. This is not a reason to avoid or delay the discussion. Nor is it a reason to limit participation in the discussion. The most fruitful discussions are those that systematically seek to involve the largest number of participants and broadest range of perspectives. Consensus, even a tentative consensus, should be the short term goal.

While Parliament is ultimately the appropriate forum for this debate, the discussion may not be adequately informed or provide sufficient opportunities for broad-based buy in if it is confined to that body. After a half century of communist rule, it seems unlikely that the government would necessarily feel the need to build broad-based support for its decisions in this arena. Nor is it certain that all of those affected by these decisions would feel comfortable voicing their opinions. If this analysis is correct, it seems that assistance in developing and conducting a process that seeks broad-based advice to reach consensus would be valuable. It may be valuable not only in this context, but as a model for future issues as well.

One approach to developing a vision for the education system would be to create a network of grassroots committees organized around school communities. Each school could form a 10-15 member committee consisting of the principal, teachers, support staff, and community members. Representatives from each school's committee could form a regional committee, which in turn would send representatives to a national Development Committee. Communication would flow both up and down the hierarchy, from the school level up to the national level and back. Each committee should be facilitated by consultants to provide structure and keep track of progress. While outside consultants could help guide the design of the process and provide training, Croatian consultants should primarily be responsible for facilitating the local committees. Not only are they likely to enjoy more credibility, but the process would over time create a leadership cadre.

The national Development Committee could include high-level Ministry staff, outside experts, and principals, teachers, and community members from local and regional committees. Following an intensive research and assessment process, the national Development Committee would be responsible for making a report to the Minister, outlining alternative plans for development. The plans would encompass four major areas: organization, accountability, program structure, and student assessment (each of these areas is discussed in more detail in the corresponding section below). It may be useful to form subcommittees to attend to each of these elements; however, the inter-relatedness of these topics requires that there be close coordination between and among the subcommittees at all levels.

In order to develop these recommendations, the committee members must have access to appropriate tools, such as site visits to other countries, research and analysis of other education systems, assistance from outside experts, training programs, and current information on the state of the existing system.

2. Inefficient Management Information Systems

In an environment of scarcity, high leverage strategic expenditures are particularly critical, and poor or uninformed decisions are especially costly. A reliable, flexible database that is readily accessible to decision makers in forms that are useful to them is fundamental to management of a complex educational system, centralized or decentralized.

An improved database is necessary, but probably not sufficient for strategic decision making in the Croatian context. The ability to simulate the effects of alternative resource allocations or changes in assumptions about demographics, enrollments, economic trends, etc. greatly enhances the probability of effective decision making.

In Croatia, budgeting and resource allocation decisions appear to be primitive in comparison to the possibilities afforded by modern computer technology. Information about budgets and expenditures seems to be maintained in various locations in discrete and perhaps incompatible data bases. Funding for education comes from a variety of sources which may or may not share data with the Ministry of Education. Among these sources are counties, municipalities, and the Ministry of

Reconstruction Development. The Ministry of Education does not appear to be able to account for expenditures from these other sources, nor to attribute costs to individual schools or levels of schooling. Budgeting seems to be an incremental process, based mostly on augmentation of historical expenditures, with little attention to strategic resource allocation.

Even without a study of the cost of providing an adequate education (see section 3 below), the Ministry would enhance its decision-making if it had access to more comprehensive, more reliable and more timely information about its schools. An integrated management system could not only improve the quality of information available, but may reduce administrative costs of data gathering and processing by the Ministry and at school sites.

A first step in creating a modern database system would be to gather information about at least the following aspects of the education system.

- Facilities and their condition
- Textbooks and other materials
- Final examinations and university entrance exams
- Professional development services
- Curricula
- Number of teachers, administrators, students, and shifts at each school
- Student statistics (such as repeat and drop-out rates at each grade level, and examination pass/fail rates)
- Budgets for each school

The centralized nature of the school system could even prove helpful in facilitating data collection. Once collected, these data could be used to develop a modular simulation model of resource allocation and student flows. Such a model would help decision-makers examine the effects of different policy options on the development of the education system. For instance, it could be used to make cost-of-living adjustments, assess the impact of different class sizes, or examine the trade-off among transporting students, housing them, or building new schools. Properly integrated with outcome data, it could not only ensure that resources were not being wasted, but also provide insights into the cost-effectiveness of practices as well as suggest interventions.

We recommend that the system be appraised and model be developed by a group consisting of Ministry staff and an outside consultants. Ministry staff who do not currently have the requisite skills should be provided with appropriate training. This approach ensures that the data and model are not “black boxes” to their users, that they are more likely to be used appropriately, and that they can easily be changed and updated as needed on-site.

3. Inadequate Budgeting and Resource Allocation

In a recent interview Minister Pugelnik confirmed his commitment to the development of a European style school system and indicated the need to clearly

define how much it would cost¹. Presently Croatia's spending on education probably is inadequate to produce a world class modern education system; however, it may be all that its citizens can afford under current circumstances. The amount of resources allocated to education in most countries is frequently a function of the total resources available and some political process for allocating those resources among competing priorities. This seems to be the case in Croatia. Decisions on educational expenditures appear to be incremental, without any target for what they should be over time nor adequate consideration of strategic investments. Without a clear sense of the relationship of current expenditures relative to the cost of an adequate education system, policy makers may hold unrealistic expectations for the ability of the schools to produce desired outcomes. Disappointing outcomes may be the product of an inefficient school system, inadequate resources or some combination of each. Without a sense of what desired outcomes should cost, it is not possible to determine with any certainty whether more resources would be helpful or some other corrective action is indicated.

Besides difficulties in determining an appropriate level of funding nationally, Croatia also faces challenges in allocating resources to individual schools and localities. Resource allocations based primarily on historical expenditure patterns or some equal amount per pupil are almost always unfair. Some schools operate in areas where it costs teachers more to purchase basic necessities, such as food and housing. If teachers in these schools are paid the same salary as their colleagues in lower cost areas, they are forced to buy less or lower quality goods and services than teachers in lower cost areas. This reduced buying power in fact translates into lower real salaries, and ultimately lower pay will purchase lower quality teachers. Similarly, some students because of unique circumstances related to language, poverty, or handicap require more intensive attention than students who are not similarly disadvantaged. Schools with large numbers of such students must either devote more resources to these students or allow them to fall further and further behind their classmates. Thus some schools, by virtue of the nature of their students, face higher costs. To fund every school as if it cost an equal amount to educate every child is to under-fund some and over-fund others, and is therefore inequitable.

Resource allocation to Croatian schools appears not to take into account the differences in cost described above. While all schools are to some degree under-funded, some are clearly more disadvantaged than others. As the general level of resources increases, it is likely that this disparity will be exacerbated.

Finally, a significant portion of the funding for school facilities construction and maintenance is raised and spent by counties and municipalities. Apparently localities are unequal in their ability to raise revenues and as a consequence some are better able to maintain local schools than others.

The databases and simulation models described previously would prove invaluable in helping Croatia develop an adequate, equitable funding system that would address the problems presented above. Procedures that have been developed and

¹ Croatian Government Bulletin, No. 11, April 1998

employed in Western democracies and elsewhere could be applied in Croatia to estimate the cost of a school system capable of competing with Croatia's more prosperous neighbors. Such a study could provide policy makers not only with realistic targets for funding over time, but also with a user-friendly tool to predict the effects of various expenditure choices such as lowering or raising class size, or extending the school day or school year. It also would be possible to estimate the cost differences associated with different regions and student populations, in order to devise a mechanism for equitably allocating resources among schools. Facility needs and local revenue-raising capacities could be considered as well.

4. Highly Centralized Management and Decision-Making Processes

The single most prominent feature of the Croatian school system is the centralization of decision making. All decisions of any importance are made by or must be confirmed by the Ministry. Curriculum is developed at the Ministry (although Minister Pugelnik indicated that in the future schools would be given discretion over approximately 30 percent of the subject matter, allowing them to offer electives of their choice). All public school educators, teachers, principals, and specialists are employees of the Ministry. The Ministry appoints principals, although local school boards do play a role in their selection. Most of a school's budget emanates from the Ministry. Textbooks are written and published centrally. Even the very existence and nature of a school is determined by the Ministry. According to law, the Ministry of Education and Sports is the owner of all public schools.

Some decisions are appropriately made at the national level. Expected student outcomes, personnel competence, and efficient use of resources are legitimate national concerns. However, there are more effective ways for the Ministry to address these concerns than through a highly-centralized system. The problems caused by such a system often outweigh the benefits, and some of these concerns are enumerated below.

The centralized command and control management system runs counter to trends in education governance in most Western European and North American countries and to what is known about effective management of complex organizations. These countries, taking their cues from the management practices of successful business enterprises, recognize that most operational decisions are best made by those who must implement those decisions. The central authority sets standards and holds personnel at local levels accountable for results. Those closest to the client or customer are best positioned to make proper decisions. Highly centralized management tends to be inflexible and unable to deal with unpredictable and idiosyncratic contexts and student needs. It inevitably employs one-size-fits-all standard operating procedures that just as inevitably fit none. Such systems forego the benefits of innovation, problem solving and adaptation to a changing environment.

Many of the advantages purported to accrue to centralization rarely materialize. Standardization of curriculum and methodology ignores the reality that students and their communities are not standardized. In order to produce similar outcomes,

each school may find it necessary to adapt curriculum and teaching methods to the unique characteristics of its students. Mediocrity tends to be the upper limit of standardization.

The economies of scale attributed to centralization also are usually overstated. For example, textbooks produced by private publishers are frequently more modern, of higher quality, less politically biased and less costly than those published centrally. A similar observation can be made about other materials and supplies used in schools.

A market economy is far less predictable and may be far more local than one that is centrally planned. The nature of jobs is changing at a rate far faster than a central bureaucracy is able to respond. Schools that must wait for the central government to decide which classes to offer and to which students, run a greater risk of preparing the wrong students for the wrong jobs in the wrong place.

A final concern about central control of schools that was raised by some of the persons we interviewed was the potential for political partisanship. Several persons mentioned the concern that the appointment of school principals was based more on compliance with Ministry dictates and party membership than on competence. A decentralized system is not immune to this problem; however a system that holds local school officials accountable for results is far less vulnerable because there is far less tolerance of individuals who fail to produce.

Creativity, innovation and quality are all casualties of a centralized, command and control governance system. Minimal compliance, passive resistance, resentment among local educators, and mediocrity are its likely dividends. Local educators can be made to comply with all the Ministry rules; but they cannot be coerced into producing thoughtful, effective educational programs. School managers can be required to allocate scarce resources legally, but not necessarily intelligently. Of course, the state does have legitimate interests in ensuring that all of its citizens receive a high quality education, that the schools educate students to become loyal citizens and productive workers and that society's resources are not wasted. Fortunately, other nations have found ways to empower local educators while simultaneously enhancing the state's influence over those matters legitimately the purview of the state.

There are many variations on the theme, but the principle is described as follows: *Mission, means and measurement stem from the state. Methods and management flow from the local schools.* In short, the state sets forth a vision of the outcomes that all schools are expected to produce. Typically the vision is cast in terms of standards for student performance. The state then provides resources that the schools need to produce the desired outcomes. The state holds local school officials accountable for producing the desired outcomes. Local officials and teachers are thus empowered and assisted to find the best ways to produce student outcomes prescribed by the state. Those who do are recognized and rewarded. Finally, there are clearly specified consequences for local officials and teachers who, in due course, can not or will not deliver the desired outcomes.

This is of course a gross simplification of what must be a complex and sophisticated system if it is to succeed. It would be alien in form and substance to most Croatian officials. However, without significant reduction of central control, all other reforms are likely to have little lasting effect. Fundamental change is indicated and fundamental change will require a shift in the culture of the institutions governing schools. Prognosis for this shift is bleak unless officials in charge can be persuaded that (1) it is possible, and (2) it will yield positive results.

In order to convince officials of the latter, it is imperative that key actors view firsthand systems where this paradigm is in place. It is essential that these observations be structured and of sufficient duration for the observers to gain a thorough understanding of the system's potential. Key actors would include both those who, because of institutional power, can bring about the change or veto it and those who are likely to support it. The former would almost certainly include the Minister of Education and key ministry officials as well as perhaps other influential members of the government. The second group could include representatives of professional associations, teacher union leaders, academics and representatives of some of the country's more modern and progressive businesses. Hungary and Germany would seem to be logical choices of locations for such observations.

Simultaneously, or shortly after these visits, consultants who are experienced operating in such a system could begin a systematic campaign of awareness among influential groups by conducting a series of seminars. This would not only increase awareness, but quite likely build grassroots support.

A third intervention would be an exchange program for ministry employees responsible for functions that are essential to a strategy of decentralization.

National and/or local Development Committee members should take part in this information-gathering process. They would then be able to help make recommendations for developing and instituting a more flexible, decentralized system that can adapt quickly to changing social and economic conditions and is less subject to political partisanship, but at the same time allows the proper exertion of state control over mission, means, and measurement.

5. Inconsistent and Inequitable Student Assessment

Student achievement is the sine qua non of schooling. While there are other measures of the effectiveness of schools, a reliable measure of student achievement is essential. In Croatia students are assessed throughout their academic career and their performance on these assessments has a profound effect on the life time career. Beginning in the earliest schooling teachers' evaluations of students are recorded. These "notes" largely determine the nature of a student's subsequent educational experience. Good notes (grades) in academic subjects are necessary for matriculation into gymnasium. Admission into the better technical programs requires good notes in technical subjects.

Examinations developed by the Ministry and graded by mentor teachers selected by the Ministry are administered at the end of grades 4, 6 and 8. The results of these examinations have no consequence for individual students and are used only for feedback to schools and teachers.

Upon completion of secondary school, students sit for the Matura (gymnasium) or final examination (vocational/technical school). These examinations are developed and scored by teachers at each school, and are therefore not standardized. This implies that there is no means to tell whether they are of equivalent difficulty from one location to another, although students are held accountable for the results in an equivalent manner.

Students seeking admission to university or other post secondary education are required to pass an entrance examination developed and scored by each faculty.

The existing system represents significant potential opportunity costs for the state. Student assessment can be a powerful tool for monitoring the quality of elementary and secondary schools and for influencing the nature of the curriculum taught in those schools. Lack of standardization of assessments also raises a question of equity. When examinations play such a prominent role in individuals' life chances, there would seem to be a strong argument for ensuring that examination results truly measure a student's accomplishments and abilities with minimum influence from those developing and scoring the examinations. Moreover, there is a cost to society and the economy for students who do not receive an education that exploits their highest potential.

The process for gaining admission tends to be idiosyncratic, redundant and subjective. The rigor of a particular examination tends to be dependent on the biases of the test developers. Whether a student passes or fails a particular examination depends heavily on where and when it is given. Conceivably, two students of equal ability and equal accomplishments, completing a university entrance examinations at different institutions or at different times would obtain very different results. One may obtain admission to the faculty of his/her choice and the other be rejected. University entrance examinations appear to exhibit little evidence of predictive validity. As a consequence, universities enjoy little confidence that the students admitted are those most likely to succeed in university studies. The state is thus twice disadvantaged. Students who ultimately fail absorb scarce resources that could have been devoted to more able students, and the state is deprived of the contribution of able students who could have succeeded had they been admitted.

Measuring how well students are performing against important criteria is essential to ensuring an effective school system. Systematic assessment of student achievement serves a variety of purposes. It informs students about their accomplishments. It provides the public information about the performance of its students and its schools. It helps guide instruction and provides feedback to educators about the effectiveness of curriculum and instruction. Finally, it is a powerful lever for holding local schools accountable.

Clearly a tool with so much potential must be designed and implemented with care. First it is essential to specify desired student outcomes that are consistent with the vision. Assessment sends a powerful message to students and teachers, about what is most important. It not only necessary to specify what students are expected to learn, but also how well.

Members of the national Development Committee would be charged with creating a plan that ensures that examinations are comprehensive, standardized to some degree, objective, and fair. Before developing achievement measures, however, the subcommittee must first come to agreement about what standards are appropriate for each grade level. It is, of course, essential that what gets tested, how it gets tested and how it gets reported are related to vision and accountability.

6. Specialized Secondary Schools

Another prominent feature of the Croatian education system is highly specialized secondary schools. Early on, perhaps as early as the third or fourth grade and certainly no later than age 14, students enter a course of study aimed at a specific career. Fewer than 20 percent of all students enter gymnasium, which is the primary path to university. The remaining students enter a four, three or one year vocational or craft program. The Ministry restricts the number of students who can attend gymnasium, based on the premise (probably erroneous) that students who do not acquire a job-specific skill in secondary school will fail to find employment upon graduation. For 1998-99 the Ministry has reduced the student population eligible for gymnasium from 21 percent to 19 percent. Students not fortunate enough to find a spot in gymnasium enter one of over 300 vocational specialties. Transfers from a program once begun is quite difficult and is almost always to one that is less rigorous.

Based on a very limited observation of Zagreb's flagship technical school, it appears as if the equipment and curriculum in vocational and technical schools are generally obsolete. It is hard to imagine how many of the graduates of these schools will be prepared to work in a high tech economy. In addition, a single school may graduate in a single year all of the electric motor repair technicians needed in Zagreb for several years.

Even if the equipment and curriculum were more modern, such specialized vocational training runs a high risk of training students for jobs which will soon disappear. Given the narrow focus of such job-specific training, it seems inevitable that large segments of the population will at any given time be unemployed or in need of extensive retraining. As a consequence, job shifts in a rapidly changing economy are likely to feature significant delays and reduced productivity. The Ministry does attempt to respond to changes in the economy and devise programs accordingly. Recent changes in the hotel employment programs to address the trend toward smaller hotels was cited as an example.

In modern market economies there is a growing consensus that the best preparation for employment is a strong grounding in reading, writing, speaking, and problem

solving, understanding how the economic system works, and developing a good work ethic. Jobs in a modern economy are so specialized and so subject to change that most vocational training is conducted by employers or in post-secondary institutions. In some parts of Western Europe, employers train students as an integral part of secondary schooling. In both instances there is a tacit assumption that secondary schools will have neither up-to-date equipment nor sufficiently skilled instructors to adequately train employees for jobs in a rapidly changing modern economy. In a dynamic economy, education for employment is not an event that culminates with graduation from school but a lifelong process integral to one's employment.

The Croatian system raises yet another potential concern. To be employed in virtually any job in Croatia, one must possess a job-specific certificate gained through in-school training. Certificates are required for virtually all jobs from auto mechanic, grocery clerk and bicycle repair to mushroom picking. In theory such a practice is appealing. Ostensibly it protects the public by assuring a minimal level of competence. However, practiced in the extreme, it discourages formation of small businesses. An entrepreneur would not be able to establish and operate a restaurant, grocery store, or bakery unless he possessed the appropriate certificate or was able to hire someone who did. Given the importance of small business employment in most modern economies, such an impediment to their formation seems short-sighted.

After analyzing the approach used in various other countries and considering the short- and long-term needs of Croatia, the Development Committee would be responsible for making recommendations on the structure of the secondary school system. An integral part of program structure is the connection between the education system and the labor force profile. Committee members must consider the balance between academic and technical curricula, and determine to what extent job-specific training should be conducted by the schools and by employers.

7. Outmoded Curriculum and Instructional Materials

Becoming a modern European nation implies important societal changes for Croatia. Finding ways to live in harmony with its neighbors and with the ethnic minorities within its borders is as important as creating a modern market economy. Success as a modern European state is heavily dependent the creation of "social capital²." Schools should play a major role in changing attitudes and behaviors that affect these relationships.

Education contributes in three ways. First, it helps provide public knowledge about social contracts themselves, what they mean, and why they are important, etc. Second, education helps provide the behavior expected under social contracts, in part through the socially heterogeneous experiences students have

² Heyenman, Stephen P. From the Party/State to Multi-Ethnic Democracy: Education and Its Influence on Social Cohesion in the Europe and Central Asia Region. The World Bank, February 26, 1998

in the schools themselves. Third, education helps provide an understanding of the expected consequences for breaking social contracts.³

If schools are to successfully perform this important mission, textbooks, curriculum materials and teaching methodology must model and reinforce desirable attitudes, beliefs and behaviors. First, textbooks and curriculum materials should be revised to eliminate passages that are likely to encourage hatred and group stereotyping. Second, textbook and curriculum materials should be developed that emphasize constructive attitudes and behaviors. Third, constructivist teaching methodology which requires critical thinking, problem solving and cooperative behavior seems to hold promise for encouraging more democratic and tolerant attitudes as well as better preparing young people for employment in a high tech economy

Various activities are underway to address the need to introduce the teaching of tolerance and democratic values and civics in Croatian schools, but they appear to lack support from the Ministry. Curriculum materials have been developed and are being made available to schools by groups outside of the Ministry. Some professional associations offer training, but implementation is dependent on voluntary adoption by schools and teachers. There is some evidence of these issues being addressed in some pre-service training, but overall the effort does not seem to deal with a systemic problem in ways that are likely to have a substantial impact in the foreseeable future.

The practice, to the extent that it exists, of providing ethnocentrically biased textbooks to ethnic Croats in neighboring countries would seem to be inconsistent with a stated desire to live peacefully with ones neighbors.

The Ministry seems appropriate as the ultimate authority for approval of curriculum and textbooks, however expanded involvement of expert teachers, relevant university faculty and professional associations is likely to enhance the quality of content and pedagogy, as well as credibility among local educators. Similarly, private sector publishers are likely to develop higher quality textbooks at a prices equal to or less than current government costs.

8. Inadequately Prepared Teachers

Most teachers in Croatia are university graduates. Even so, a number of people with whom we spoke voiced concerns about whether teachers were adequately trained. Particular concern was expressed about the level of subject matter knowledge possessed by secondary school teachers. Teachers were trained for teaching in the former socialist system, which in many ways had different aims and was based on different assumptions about the nature and purposes of education. New curriculum, new theories and assumptions inherent in the changes Croatia is undergoing present a formidable challenge to even the best teachers. Changes of this magnitude imply a need for extensive in-service training for teachers who will be required to change their practice accordingly. It is unlikely that existing in-service training opportunities are sufficient to support teachers in the necessary

³ Ibid

change process. Financing for in-service training can take the form of direct subsidies, financial incentives for participation, or seed money for development.

Teaching conditions are often difficult. Classes are large, facilities frequently are inadequate and pay and prestige are low. Unlike university faculty salaries, which are reported to have increased significantly in the past two years, elementary and secondary teachers have not received a salary increase. The average teacher is paid less than \$400 US per month, and one observer reported that certain benefits, such as transportation and lunch allowances, are being reduced or eliminated. Recently teachers staged a one-day strike to protest low salaries and reduction of benefits.

Teacher salaries are set by the Ministry and are the same throughout Croatia, regardless of teaching conditions or cost of living differences. An individual teacher's salary is based on years of experience and rank. Teachers may be promoted by the Ministry to the ranks of mentor or advisor. The former remain assigned to schools and are reported to be unevenly allocated among schools. The latter number about 50 nationwide and work out of the Ministry. Promotion depends, at least in part, on regular attendance at Ministry-conducted seminars.

It does not appear as if the full range of in-service activities are systematic, sustained or sufficiently intense to bring about meaningful change in teaching in Croatia. Moreover the method of determining compensation features little incentive for teachers to be more productive. Conversations Minister Pugelnik and other key actors revealed an interest in exploring alternative methods of compensating teachers. These could be considered further using the simulation models created for resource allocation and budgeting.

An additional potential impediment to improved teaching is the lack of discretion over content and methods by teachers and administrators at individual school sites. The potentially deleterious effects of this should not be underestimated. National standardization eliminates the benefits of hundreds of sources of experimentation and innovation that could facilitate the entire system adapting over time to economic and social change. Equally important, the ability of the schools to instill democratic values is attenuated when teachers' professional behavior is governed by bureaucratic control. It is insufficient to teach about democracy as an abstract concept. Students are more likely to internalize these concepts when they see them in action. These concerns about standardization should be addressed by the committee studying decentralization.

There is no quick or easy remedy to the situation described above. Extensive revisions to the current system of preservice training may be warranted. Clearly, inservice should be more systematic and more intensive. Virtually all elementary and secondary teachers need access to ongoing professional development if they are expected to implement new curriculum and take greater responsibility for their professional lives. These interventions are, of course, an integral part of and dependent upon the systemic changes discussed above. In the short term it would seem that professional development would have greater credibility and ultimately more effect if it were conducted solely or primarily by professional associations and university faculty. If it were necessary for the Ministry to play a role beyond

financing these activities, it seems advisable that it be in collaboration with professional associations and university faculty.

9. Inadequate Facilities

Croatia suffers from a sheer lack of space to house and teach students. In areas involved in the recent war many schools were severely damaged or destroyed. Many of the schools in Zagreb appear to be old and in poor repair. Double shifts are common and even triple shifts are not unusual. While the first priority should be to safely house all students, a modern school system ultimately will require facilities that can accommodate the extensive use of technology. For the foreseeable future Croatia is likely to face the complex trade-off between expenditures for buildings and the costs of providing an educational program, such as teachers' salaries and textbooks. The debate surrounding these dilemmas could be significantly better informed by improved data and resource allocation simulation models.

10. Insufficient Independent Private Schools

Private schools, secular and religious, in most countries provide a healthy alternative to schools operated by the state. They offer parents and students opportunities for curriculum content, teaching methods or learning environments that may not be available in the public schools. In Croatia, some private schools, including religious schools, are subsidized by the state. Student transportation, some materials costs and teacher salaries are paid by the state. They may also charge tuition. Funding for private primary schools has recently expired and their status is presently unsettled. Apparently these schools enjoy little autonomy greater than the purely public schools owned by the Ministry.

It was reported that the Ministry discourages the existence of independent private schools; and indeed this impression was reinforced in conversations with Ministry personnel. If this is official policy or even de facto policy, it seems short sighted. Private schools can serve many useful functions in Croatia, including alleviating over crowding in the public schools and demonstrating a tolerance for diversity. Concerns about program quality and content can be addressed in ways that protect societal interests without jeopardizing the unique features that make these schools attractive to a portion of the population.

The government should consider adopting policy that encourages the creation and continued existence of independent private schools.