3 The second stage of public education and the Matura

[Benő Csapó]

Students' success in upper secondary education is a direct consequence of their accomplishments at earlier stages. The final stage therefore cannot be renewed unless the problems characterising earlier stages have been resolved. Several conditions must be met before real improvement can be achieved in upper secondary education and the implementation of reform plans is extremely time-consuming. This means that, with perhaps a few exceptions, the effects of reform measures cannot be expected to surface in the near future, possibly for decades. Considering the projected time course of the reform process, development programmes should set targets matching the standards that the countries we perceive as our models are expected to attain in ten to twelve years' time.

The expansion of public education concludes with the realisation of a comprehensive secondary education programme in which (effectively) the entire population participates. In Hungary, this aim will be achieved when everyone completes full secondary education and attains the qualifications (the *Matura*) needed for an application to higher education. The task is therefore to ensure that the most problematic 20–25 per cent of students who currently do not participate in full secondary education programmes acquire these qualifications. Full coverage secondary education is a key objective since it is one of the most important factors determining the international competitiveness of the country, but the task demands strenuous efforts.

In this chapter the second stage of public education refers to upper secondary education, which in Hungary may cover years 9–12 (age 14–18) or years 7–12 (age 12–18) depending on the type of school. This is not meant to imply that we wish to show preference for any particular model of structuring. The division of educational stages varies greatly across the countries of the world and structuring is immaterial from the point of view of achievement. What does matter is that high quality education of unvarying standards should be accessible to all. International experiences indicate that the most successful European education systems are those where differences between students are accommodated within institutions and students with different backgrounds are not referred to separate schools. Research findings and the experiences of other countries suggest that the best solution is a non-selective 12-year public education programme with no abrupt structural changes, internal branching or dead ends.

■ DIAGNOSIS

The process of improving the school system is hampered by several obstacles, one of which is our inclination to see the solution in reform measures.

1. *Strategies of public education renewal — the absence of long-term development plans*. The process of improving the school system is hampered by several obstacles, one of which is our inclination to see the solution in reform measures. This approach envisages dramatic large-scale changes, which are meant to settle problems for the foreseeable future and dispense with any need for adjustments. This solution leads to a model where a long static period is abruptly replaced by another, a process which does not meet the requirements of dynamic development.[1] In developed countries education systems advance at a pace that sporadic reform measures cannot support: these systems continually evolve and adapt to changing socio-economic conditions with the help of various feedback and self-regulating mechanisms. In some countries previously unimaginable intellectual effort and financial resources have been devoted to the realisation of the scientific and infrastructural conditions of progress and to the improvement of education outcomes. Given this situation, Hungary is not in a position to choose the pace of development since any delay means that it will be irrevocably left behind in the race of knowledge-based economies.

Abrupt changes tend to divide involved parties with the result that the reforms are diluted by compromises and delivered unsystematically. Large-scale reform measures take a long time to implement and may even be out of date by the time they can be introduced. This issue has recently been raised in discussions concerning the institutional structure of upper secondary education, the relationship of the core and the frame curricula, and the introduction of a two-tier *Matura*, which should or should not be a requirement for admission to higher education. Unyielding education policies and professional standpoints, the priority of considerations of prestige in defending decisions, are obstacles in the way of establishing a scientific approach to changes.

One of the problems impeding the efficient renewal of secondary education is the underestimation of the scope of necessary changes.

2. One of the problems impeding the efficient renewal of secondary education is the underestimation of the scope of necessary changes. Although the concept of a knowledge-based society invariably features among arguments for change, the tasks awaiting public education in connection with this concept are still not fully grasped. The fact that every member of a modern society must have broad-ranging knowledge and therefore, at least secondary qualifications, is not duly appreciated by the several parties directly concerned or by broader professional audiences. Although it is now generally recognised in Hungary

[1] Several fields of science have to deal with the two opposing processes of system development as illustrated by the dichotomies of evolution vs. revolution, quantitative growth vs. qualitative reorganisation, normal development vs. paradigmatic change, assimilation vs. accommodation, periodic transformation vs. continuous development, etc. The requirement of stability rightly demanded of public education is in opposition to the kind of development where tensions build up to such an extent that only radical changes can provide relief.

that every worker — including manual workers — must be equipped with the highly developed social and cognitive skills and active foreign language skills that only an efficient secondary school can provide, the necessary conclusions have not yet been drawn. As shown by a variety of indicators, the populations of countries at a higher level of development than Hungary's are characterised by higher participation rates in education and stay at school for longer (EURYDICE, 2005*a*).[2] Based on current trends, young Hungarians are predicted to spend on average 2–3 years less in education compared to their peers in more developed countries over the next decade.[3] These facts make it clear that if the Hungarian economy is to catch up with the rest of Europe, current trends must change and the education system must develop at an accelerated pace.

Nostalgic sentiments for the (elite) grammar schools of "old times" pose a further barrier to progress. As formal education has opened up to the general public, the social elite, the intellectual leaders, are no longer educated at "elite" grammar schools but at Master's courses offered by universities, and the scientific elite (not only leading scientists but also the average researcher) are trained in Ph.D. programmes. The level of education attainable by an individual is meant to be decided at an ever later stage while the school system continues to set different students on courses offering very different opportunities. For secondary education to fulfil its function, it must prepare (almost) everyone for higher education and seek to permit students to defer the decision concerning the level and type of education they wish to follow for as long as possible. This goal can be best achieved by improving students' learning skills and by imparting a broad range of knowledge. Vocational training is surrounded by a similar nostalgic sentiment. The world of workshops, where master craftsmen with many years' experience introduce their apprentices to the tricks of the trade, is irrevocably a phenomenon of the past. With the spread of digital technology a whole range of trades have disappeared and several new occupations have emerged, which simply cannot look back to a significant period of experience. Manual (blue collar) occupations and broad-ranging knowledge are not contrary terms any more and, consequently, broad-ranging knowledge can no longer be left out of vocational training. The final stage of public education has been embedded in an institution network, which has the effect of stabilising the current setup debarring changes

For secondary education to fulfill its function, it must prepare (almost) everyone for higher education and seek to permit students to defer the decision concerning the level and type of education they wish to follow for as long as possible.

[2] In the 2001/2002 school year 22.5 per cent of Hungary's population was enrolled in formal education — including all levels of education from kindergarten to university. This figure is slightly below the EU–25 average (23.1 per cent) and substantially lower than the corresponding figures observed in more highly developed countries, such as Finland (25.4 per cent), Sweden (27.3 per cent), Great Britain (29.4 per cent) and Iceland (32.3 per cent) (EURYDICE, 2005*a*, p. 127).

[3] According to EU statistical estimates, school expectancy at the age of five (the number of years a typical five year old child can expect to be enrolled in the education system during his or her lifetime) is 16.8 years in Hungary. Average school expectancy is 17.4 years in the EU–25, 19.2 years in Finland, 19.8 years in Sweden, 20.1 years in Great Britain and 18.5 years in Iceland. (EURYDICE, 2005*a*, p. 145).

of any substance. This includes the institution system supporting secondary vocational education, the complicated system of examinations, the human and organisational factors behind the educational programme leading to the examinations, the institutional framework of the examinations, the institutionalisation of secondary school entrance examinations and the compartmentalization of teacher training.

3. *There is an unclear relationship between declared principles and related legislation on the one hand and the institutional setup on the other.* One of the most frequently cited objectives of education policy is improved equality of opportunity and the country undeniably expends substantial resources on counteracting the consequences of selectivity and segregation. The Hungarian public education system, however, harbours several lawful or even explicitly encouraged mechanisms (such as specialised classes and entrance examinations) which work to create or sustain differences between schools and classes, and demonstrably, whether overtly or covertly, give rise to segregation based on students' family and social backgrounds.

The Hungarian public education system harbours several lawful or even explicitly encouraged mechanisms which work to create or sustain differences between schools and classes.

Selective and segregating mechanisms go hand in hand in the Hungarian education system with the result that the gap between schools has grown to an exceptional size by international comparison.[4] These facts have been known for years and the official remorse felt over them lives side by side with the equally official encouragement of entrance examinations. Since the publication of the first PISA results in 2001, practically nothing has been done to dispose of one of the main grounds of selection or at least to reduce the gap between different types of secondary school. The two-tier *Matura* system, which further increases inequalities related to social background, was introduced after the results of two PISA cycles had been published.

4. *The absence of standards for comprehensive public education.* The expansion of public education through the implementation of a universal 12-year school system can be characterised by two quantitative indicators. One of these is the share of students successfully completing public education (passing the *Matura*) and the other measure is the quantity of acquired knowledge. It is not enough to set the completion of secondary school and the attainment of the diploma as a target, since the diploma is worthless unless it is a guarantee of firm, demonstrated and useful knowledge. If the sole focus is on the number of graduating students, there is a risk that standards will have to be lowered to increase school completion rates. If the *Matura* certificate is not tied to pre-

[4] In all the three PISA assessment cycles so far (2000, 2003 and 2006) and in all domains (reading, mathematical and scientific literacies), Hungary was among the most selective education systems (ranking between 2nd to 5th). However, with regard to the degree to which between-school differences are explained by students' social status, the situation is undoubtedly the worst in Hungary. Out of 57 participating countries, this index was the poorest in Hungary in PISA 2006 (OECD, 2007).

To maintain the quality of knowledge which the completion of secondary education is meant to stand for (and which the *Matura* represents), a detailed set of standards and a reliable system of assessment need to be developed.

determined standards and objectives, it will inevitably depreciate as the knowledge behind it declines.[5]

To maintain the quality of knowledge which the completion of secondary education is meant to stand for (and which the *Matura* represents), a detailed set of standards and a reliable system of assessment need to be developed. Although the new framework of objectives for the *Matura* and the associated test bank constitute a step towards such a system, the set of standards and the set of measures aimed at preventing the depreciation of secondary school diplomas do not form a coherent system. The completion of secondary education on the one hand, and the *Matura* and its assessment scales on the other should be aligned with international assessments.[6] It could be stated in this spirit, for instance, that the public education programme must ensure that every student attains levels 2–3 as defined by the PISA surveys in reading, mathematical and scientific literacy and acquires foreign language competence corresponding to levels *B1* and *B2* of the Common European Framework.

5. *Hungarian education is exceptionally selective, even by international comparison.* In a comprehensive non-selective school system everyone has an equal chance of being admitted to any one institution; students from different backgrounds are not segregated into separate schools, classes or groups on a permanent basis. Schools and classes are characterised by a heterogeneous composition and students from various backgrounds are offered similar academic and social environments. Thus, there is a unified institutional (school or class level) framework, which includes, or which is complemented by, the individualised, differentiated support of students, including programmes compensating for disadvantages or supporting the gifted as necessary.

Student diversity is one of the most self-evident attributes of an education system. Individual countries vary with regard to the extent of student diversity (the total variance of a given measured trait). Hungarian society — and thus students' performance — shows relatively little variation. In 2006 the variance of Hungarian students' scores on the test of scientific literacy was 86 per cent of the OECD average. Some countries are characterised by far more heterogeneous populations; in the United States and in Great Britain, for instance, the corresponding variance is over 120 per cent of the OECD average (OECD, 2007*a*). A lot depends on the way the school system treats these differences, however. This is best examined from two closely related perspectives.

[5] The relative value of the diploma also declines with an increase in the number of people attaining it even if examination standards are maintained at a steady high level.

[6] One of the practical benefits of participation in international assessments is that the results can be used to audit and accredit national assessment programmes. Linking national and international assessment systems can be a way of preventing score inflation, i.e., the phenomenon when, for various reasons — such as "teaching for the test" — test scores increase faster than the real level of knowledge.

One factor to consider is the tendency of the system to direct different students to different institutions, i.e., to guide them toward distinct developmental paths. This issue is the subject of an extensive range of literature discussing a variety of solutions from grouping students according to abilities (ability grouping, streaming) to assigning students to different types of school or training programme (tracking).[7] It is a common belief that education is more effective if students with different abilities are taught in separate groups, where each student can receive the education best suited to him or her. Research has revealed, however, that abilities develop at varied rates and the level of abilities measured at a given point is a very weak predictor of future abilities. The ability-based placement of students at an early stage of development will therefore turn out to be the wrong choice for the great majority of students.[8] It has also been found that a decision to assign a student to a low ability group or a low prestige school tends to be based on the social status and influence of the family rather than on actual abilities as originally declared. Students in low-track environments tend to perform far below expectations, which is detrimental to the overall efficiency of the education system. Underachievement can be attributed to several factors, including a negative shift in self-concept, the phenomenon of self-fulfilling prophecies, decreased motivation and poorer resources (poorer school infrastructure, teachers with lower levels of training and motivation, etc.). Low-track groups may generate anti-learning, anti-school and anti-social subcultures, thus manifoldly exacerbating the initial problem, i.e., the difficulties stemming from poorer academic performance. But the most unexpected effect of selectivity is that it fails to bring out the best in students whose abilities, or relatively influential parents, got them into high-ability groups or high-prestige schools.[9]

The practice of ability-based placement of students at an early stage of development is detrimental to the overall efficiency of the education system; it even fails to bring out the best in students who have been assigned to high-prestige schools.

The Hungarian school system displays every possible symptom of selectivity and, as shown by international surveys, outcomes are correspondingly poor.

The Hungarian school system displays every possible symptom of selectivity and, as shown by international surveys, outcomes are correspondingly poor. The latest demonstration of this fact comes from the PISA survey conducted in 2006, where between-school variance was found to amount to 60 per cent in Hungary compared to the OECD average of 33 per cent. The most revealing measure of the selectivity of the school system is the ratio of the two variability figures: between-school variability observed in Hungary accounts

[7] For a discussion of the cultural determination of tracking and of the disadvantages of the system see YONEZAWA ET AL. (2002) and LETENDRE ET AL. (2003).

[8] It has been shown, for instance, that of the top 3.5 per cent of fourth year pupils (which approximately corresponds to the share of pupils enrolling in 8-year secondary schools after their fourth year at primary school) only 20 per cent can be expected to be among the top 3.5 per cent in year 12 (CSAPÓ, 2002).

[9] This phenomenon is known as the Big-Fish-Little-Pond (BFLP) effect, which is a consequence of the fact that if high-end students are brought together in a group, they cannot all be among the best in their new group. Most of these students can therefore no longer experience the success of outstanding performance, which may lead to a sense of failure, decreasing motivation and various developmental anomalies among gifted students who are typically more sensitive than their peers. The reunification of Germany provided an interesting opportunity to study this phenomenon by comparing the Eastern (comprehensive) and Western (selective) school systems (MARSH ET AL., 2001).

for 70 per cent of total variability. These facts are accompanied by average or even lower than average performance (OECD, 2007*a*).

The PISA surveys have also demonstrated, however, that selectivity can be substantially reduced by firm education policies and perceptible improvement can be achieved in a short period of time. In Poland, around the turn of the millennium a comprehensive school system was introduced in secondary education. The PISA survey of 2006 reveals that between-school variability of scientific literacy is only 14 per cent in Poland, which is less than a quarter of the Hungarian figure. The reduction of selectivity is clearly reflected in student performances. Variation between schools fell by two thirds between 2000 and 2003, which was accompanied by a 17-point improvement in reading literacy. The improvement was explained by a reduction in the proportion of low performing students. The results of the assessments in 2006 show a further 11-point improvement, most of which was now due to an increase in the proportion of high performers.

A second factor to consider in tackling the problem of variation is ways of meeting the needs of students whose abilities deviate from typical performers' either because they develop much more slowly than others or because they perform much better. As we have seen, selectivity and segregation are not the right way of meeting the needs of either group in Hungary. Some improvement can be achieved by decreasing selectivity but a good school system must do more than that to support atypical children. The following paragraphs look at the problems which are especially relevant to these two groups.

The added benefits associated with heterogeneous groups of learners have received little attention — and are therefore virtually unknown — in Hungary. These include cognitive benefits (such as the extra knowledge gained by explaining the material at hand to peers) and affective gains, both of which should be carefully investigated. Heterogeneous groups offer especially notable opportunities for personal and affective development (regarding, for instance, sense of identity, offering and accepting help, experiences of being different, tolerance and empathy). In addition to the universal benefits of discovering the complexity of society and improving social cohesion, research efforts should be directed to the more specific advantages potentially offered by a heterogeneous environment for those who are more advanced than usual or are from a privileged social background. To win the public support needed to implement a comprehensive school system, the results of the investigations, and information concerning the overall social benefits of heterogeneous schools, should be disseminated not only among professionals but also among the general public.

Compensatory support for underperformers is the weakest point of Hungarian schools and it is also the area with the greatest potential for improvement.

6. *The final years of secondary education present insurmountable obstacles to many students*. Compensatory support for underperformers is the weakest point of Hungarian schools and it is also the area with the greatest potential for improvement. The current mechanisms underlying the operation of schools are directly counteractive to compensatory instruction (upward levelling).

Students tend to drop out of school sometime during years 7–12 and schools do not have any established tools to diminish or prevent dropping out. This gives rise to a paradoxical situation where it is precisely the slowest learners who — for various reasons — attend school for the shortest period of time. It is these students who should be kept in the education system for the longest to enable them to acquire a level of knowledge that can be put to practical use. Hungary, however, does not have a workable model for this goal. Young people not showing academic progress are instead directed to vocational training programmes. The problem is firstly, that this does not meet the demand for well-educated, flexible, trainable and re-trainable manpower and secondly, that the strategy has proved not to work in practice. Faced with repeated failures, students become alienated from learning and cannot achieve success in vocational training either.

If a school accepts variability, it must deal with the consequences of this decision at an institutional level. Students whose abilities are no more than one standard deviation below the mean can be taught in usual classroom settings with methods designed for typical students although those at the border of this range require special attention. Together with students at most one standard deviation above the mean, they constitute the middle two-thirds of the population.

Students whose intellectual development is two standard deviations below the mean are classed as having special educational needs. Around 14 per cent of students are found in the range between these two threshold values; if they were distributed evenly across schools and classes, teachers would need to deal with 3–6 difficult-to-teach students in an average class. The proportion of these students is around 20 per cent in the current school system, where differences are allowed to grow and knowledge deficiencies are multiplied.[10] Methods of individual instruction in regular classes and in special sessions must be developed to enable these students to progress with their peers in the main stream of education. An education assessment system suitable for student-level diagnostic feedback could warn teachers of perilously poor performance every year. These warning signals could be linked to recommendations for intervention. Students showing slower than typical development are in the greatest need of learning activities beyond frontal instruction. Differentiated education calls for a varied range of methods, classroom designs that allow for flexible rearrangement to suit individual, pair and group work and personalised instruction continuously adapted to the progress of students. In a past era of Hungarian public education, one-class schools developed instructional methods suitable for teaching different years of students in a single class. These methods, however, have almost entirely disappeared from educational culture and the tradition can only be revived through purposeful planned development efforts.

Students showing slower than typical development are in the greatest need of learning activities beyond frontal instruction.

[10] With a successful delivery of programmes aimed at renewing the first stage of primary education this share can be substantially reduced, to an average of 1–2 students per class in the best case. See the chapter on primary education in the present volume.

Underachievement does not necessarily have cognitive origins; failures at a young age can be the result of a family background unsupportive of learning, and for older students they may be explained by a lack of motivation. It is well known that grade retention is highly unlikely to bring about significant improvement. A remedial year inserted between educational stages may, however, be a viable solution for students showing exceptionally slow progress. This option — albeit with a different function — has a tradition in the Hungarian school system. Practical implementation is constrained by class-size requirements, which means that only secondary schools are likely to be in a position to consider this option. Another problem is that currently no provision is made for students characterised by slow progress to successfully complete their secondary education according to a personalised curriculum possibly extending to one or two extra years but avoiding the stigma of grade retention.

The causes of dropping out of school have been investigated across a series of disciplines and research fields including developmental psychology, cognitive science, motivation research and educational social psychology. The results of this research have had barely any effect on educational practices in Hungary. Using the range of tools emerging from this large body of knowledge and through a careful analysis of international research and development programmes and experiences (the creation of heterogeneous groups through detracking and diversification), teaching methods could be developed aimed at adjusting classroom practices to the needs of students characterised by slow progress and learning difficulties.

7. *The Hungarian school system similarly fails to guarantee that high-achieving students reach their full potential*. The most commonly cited argument for a selective education system is that society needs a narrow layer of very highly educated people, whose needs can be best met by separating them from students learning more slowly and with more difficulty. This hypothesis is not supported by empirical evidence. First, studies evaluating the effects of selectivity indicate that permanent separation and the creation of homogeneous groups are not the most efficient means of supporting gifted students. Second, not only the average performance of Hungarian students remains below expectations in an international context but Hungary also has a lower proportion of high achievers than other countries.

Permanent separation and the creation of homogeneous groups are not the most efficient means of supporting gifted students.

The PISA surveys define six levels of competency and also describe performance failing to reach Level 1, thus giving a total of seven distinct levels. In the survey of 2006 only 0.6 per cent of Hungarian students attained Level 6, which is less than half of the OECD average (*Table 3.1*). In the non-selective Finnish school system, where there are minimal differences between schools, 3.9 per cent of students performed at this level, which is six times more than the Hungarian figure. Finnish students came out on top with an average of 563 score points, while the score of 504 points achieved by Hungarian students was around the OECD average. It should be noted that some countries

[TABLE 3.1] THE DISTRIBUTION OF STUDENTS ACCORDING TO LEVEL OF SCIENTIFIC PROFICIENCY AS MEASURED BY THE PISA SURVEY OF 2006 IN OECD COUNTRIES (PER CENT)

COUNTRY	LEVEL OF PROFICIENCY						
	Below 1	1	2	3	4	5	6
Australia	3.0	9.8	20.2	27.7	24.6	11.8	2.8
Austria	4.3	12.0	21.8	28.3	23.6	8.8	1.2
Belgium	4.8	12.2	20.8	27.6	24.5	9.1	1.0
Canada	2.2	7.8	19.1	28.8	27.7	12.0	2.4
Czech Republic	3.5	12.1	23.4	27.8	21.7	9.8	1.8
Denmark	4.3	14.1	26.0	29.3	19.5	6.1	0.7
Finland	0.5	3.6	13.6	29.1	32.2	17.0	3.9
France	6.6	14.5	22.8	27.2	20.9	7.2	0.8
Germany	4.1	11.3	21.4	27.9	23.6	10.0	1.8
Great Britain	4.8	11.9	21.8	25.9	21.8	10.9	2.9
Greece	7.2	16.9	28.9	29.4	14.2	3.2	0.2
HUNGARY	**2.7**	**12.3**	**26.0**	**31.1**	**21.0**	**6.2**	**0.6**
Iceland	5.8	14.7	25.9	28.3	19.0	5.6	0.7
Ireland	3.5	12.0	24.0	29.7	21.4	8.3	1.1
Italy	7.3	18.0	27.6	27.4	15.1	4.2	0.4
Japan	3.2	8.9	18.5	27.5	27.0	12.4	2.6
Korea	2.5	8.7	21.2	31.8	25.5	9.2	1.1
Luxembourg	6.5	15.6	25.4	28.6	18.1	5.4	0.5
Mexico	18.2	32.8	30.8	14.8	3.2	0.3	0.0
Netherlands	2.3	10.7	21.1	26.9	25.8	11.5	1.7
New Zealand	4.0	9.7	19.7	25.1	23.9	13.6	4.0
Norway	5.9	15.2	27.3	28.5	17.1	5.5	0.6
Poland	3.2	13.8	27.5	29.4	19.3	6.1	0.7
Portugal	5.8	18.7	28.8	28.8	14.7	3.0	0.1
Slovakia	5.2	15.0	28.0	28.1	17.9	5.2	0.6
Spain	4.7	14.9	27.4	30.2	17.9	4.5	0.3
Sweden	3.8	12.6	25.2	29.5	21.1	6.8	1.1
Switzerland	4.5	11.6	21.8	28.2	23.5	9.1	1.4
Turkey	12.9	33.7	31.3	15.1	6.2	0.9	0.0
United States	7.6	16.8	24.2	24.0	18.3	7.5	1.5
OECD average	5.2	14.1	24.0	27.4	20.3	7.7	1.3

[SOURCE] OECD (2007*a*).

are characterised by a higher proportion of outstanding students even though their average results are lower than Hungary's. In the United States (with an average of 489 points), for instance, 1.5 per cent of students reached Level 6 of the scale. Looking at the proportion of Level 5 performances, the 6.2 per cent figure observed for Hungary is only a third of the Finnish figure (17.0 per cent) and remains below the international average (7.7 per cent). These fig-

The Hungarian school system fails to ensure that top performing students reach their full potential and thus produces a very small proportion of students with outstanding performance.

ures give further support to the observation that the Hungarian school system fails to ensure that top performing students reach their full potential and thus produces a very small proportion of students with outstanding performance. Even those Hungarian secondary schools which are in a privileged position and enforce strong selection criteria in admitting students fail to show outstanding performance in an international context. The data reveal general problems in science education and critical deficiencies in training new generations of professionals in science and engineering.

The top 15–20 per cent of the student population is characterised by abilities so far above the average that teaching methods tailored to typical needs cannot offer optimal support for them. Education experiences suggest — in agreement with the results of the PISA surveys — that the permanent separation of outstandingly gifted students is not the most felicitous solution in several respects. A better solution is to allow these students to participate in programmes where their exceptional skills can bring their reward. As a positive deviation from the average may take several different forms, a variety of individual approaches are needed in offering support.

The Hungarian school system is highly fragmented with respect to settlement geography. Almost a fifth of the population live in the capital city and a further fifth live in small villages where the number of children born per year is not large enough to fill a single classroom. Given these conditions, a highly diverse system must be established in order to create equal opportunities and enable every child to complete secondary education. A network should be set up for schools offering different years of study and a system of collaboration between them should be developed. Pupils attending small schools should be given the opportunity to stay together when moving on to the next stage of education. Schools should dispense with selection procedures and admit all students living in their catchment area and wishing to study there. Students should be given the opportunity to progress within the system without encountering any kind of selection or segregation and to receive the support needed for their optimal development. Through an enhanced relationship between schools and parents, parents must recognise that the answer to their rightful expectations — that their children should receive the best possible education — is to be sought within the system. It must be ensured, at the same time, that the comprehensive school system meets these expectations. Parents' rights to choose their children's school can then be granted without the risk of jeopardising the programme of non-selective comprehensive education. Schools cannot be expected to embrace this programme unless they are offered explicit models. Arguments for the widespread use of such models should of course be based on evidence of their efficiency.

Students displaying outstanding special talent in a particular subject should be allowed to progress at a faster pace in that subject, and follow a personalised course of study and take examinations in advance of their peers. The option of sitting the *Matura* early has already introduced an element of this kind in the system. In some countries students whose overall intellectual develop-

ment significantly exceeds the typical level are allowed to complete the various stages of education faster than the normally prescribed period and may start higher education at a younger than typical age. The Hungarian system makes no provision for this even though there is a great need for flexible options for outstandingly gifted students with regard to the transition from secondary to higher education. It is dictated not only by individual but also by broader public interests that gifted students should be allowed to quickly leave their compulsory studies behind and devote the most receptive and creative period of their lives to genuinely productive work.

8. *Learning does not end with secondary education*. In countries where lifelong learning is a realistic objective for most of the population, secondary education is no longer expected to provide self-contained, accomplished knowledge. With the expansion of higher education general knowledge subjects are given greater weight in undergraduate programmes. This trend can be observed in tertiary vocational training as well. In Hungary secondary education has not yet embraced this approach, thus the task of preparing students for further studies and for the acquisition of further knowledge while shaping the cognitive (learning skills) and affective (inquiry, motivation) conditions needed for making progress is not assigned sufficient significance.

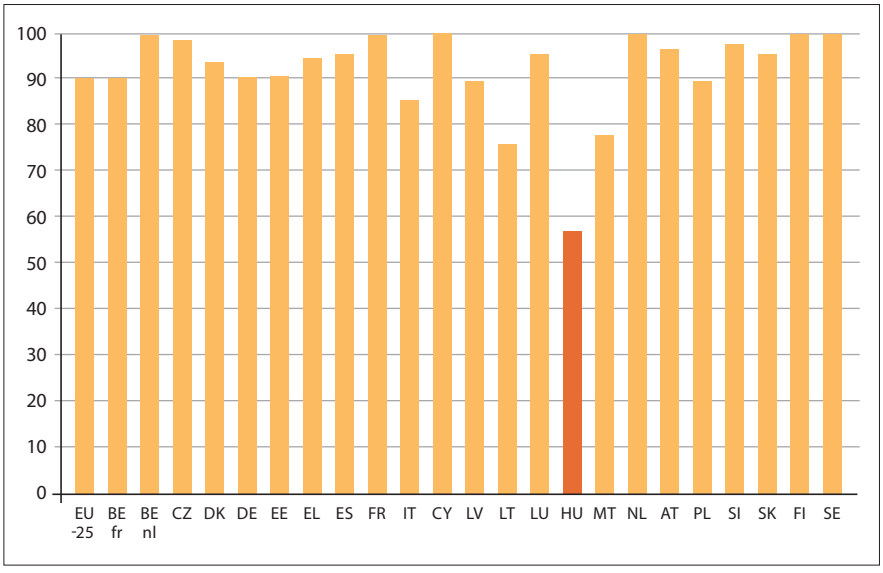
Secondary education has not yet embraced the approach that students should be prepared for further studies and for the acquisition of further knowledge.

Local and international assessments have indicated for decades that there are serious problems with the quality of Hungarian students' knowledge: although secondary school students are required to acquire a vast range of knowledge, they cannot apply this knowledge to solve practical problems beyond the school context. The PISA Expert Groups have designed a theoretical framework for assessing the new concept of literacy — knowledge that can be put to practical use and has social value. In Hungary, however, this concept has not been widely explored and no evidence-based attempts have been made to plan the necessary action programmes. An education programme focusing on competencies has been launched without a broad professional consensus concerning its objectives and methods. In public discourses on education, the teaching of scientifically structured factual knowledge is commonly contrasted with skills development, overlooking the fact that the most appropriate means of improving skills is to encourage the meaningful, interpretive analysis of scientific knowledge.[11] There is a danger that, misinterpreting the message of the PISA and other international surveys, education will shift its focus to an unorganised, ill structured, simplified body of knowledge. Teaching practical knowledge through a direct, reproductive approach is even less likely to help improve literacy and promote applicable knowledge than curricula based on

[11] The PISA survey of 2000 included a special assessment of learning strategies and habits. The results revealed that Hungarian students preferred learning methods focusing on memorising and reproducing subject matter knowledge. Strategies involving analytical thinking or an exploration of cause-and-effect relationships were rarely used.

[FIGURE 3.1]
Percentage of students learning English at secondary school in the countries of Europe (per cent)

[SOURCE]
EURYDICE (2005*b*) p. 52.



Abbreviations EU–25: EU total, BEfr: Belgium (French), BEnl: Belgium (Dutch), CZ: Czech Republic, DK: Denmark, DE: Germany, EE: Estonia, EL: Greece, ES: Spain, FR: France, IT: Italy, CY: Cyprus, LV: Latvia, LT: Lithuania, LU: Luxembourg, HU: Hungary, MT: Malta, NL: Netherlands, AT: Austria, PL: Poland, SI: Slovenia, SK: Slovakia, FI: Finland, SE: Sweden.

disciplinary subject matter knowledge. The most important element of change is the renewal of the culture of instruction, specifically, the strengthening of elaborative, interpretive learning methods permitting a deeper understanding of scientific knowledge and the transfer of this knowledge to novel situations and problems (e.g., adopting the approaches of meaningful learning, teaching for understanding and teaching for transfer).

An increasing number of specialised theoretical or practical subjects are offered in public education, which is inconsistent with the (appropriate) objective of reinforcing the general education function of secondary schools.

An increasing number of specialised theoretical or practical subjects are offered in public education, which is inconsistent with the (appropriate) objective of reinforcing the general education function of secondary schools. The role of core subjects, which equip students with general knowledge and help develop their personalities (Hungarian language and literature, mathematics, science, history, social sciences, foreign languages, art and physical education), should be reinforced in an effort to improve essential learning and thinking skills and to equip students with in-depth knowledge with wide ranging applicability. An especially acute problem is that notwithstanding concentrated attention and efforts, Hungary's position in the international scale of foreign language education has not improved to a significant extent. Hungary comes last, for instance, in terms of the proportion of secondary school students learning English: 57.6 per cent as opposed to an average of 90.5 in the EU–25 countries and approaching 100 per cent in some countries (*Figure 3.1*).

The position of vocational training is fraught with contradictions; the relationship between public education and vocational training is ill-defined, voca-

tional training programmes incorporated into public education struggle with serious problems. Secondary vocational training fails to keep up with labour market changes or to adapt to the demands of modern knowledge management. It does not maintain the right balance between general knowledge of broad applicability and skills specific to a given vocation and workplace — a heavy emphasis being placed on the latter.

9. *Intellectual considerations have always been given priority in efforts to improve public education and this is especially true for secondary education*. This intellectual aspect is naturally reinforced by the indicators of international assessments and by recent development programmes (assessment and evaluation, education for the gifted and the reform of the *Matura*). The question of "instruction and/or education" has featured in professional debates for decades, mostly arriving at the conclusion that education must be given priority — and mostly to no avail. The inadequacy of the educational function of secondary schools gives rise to increasingly heavy tensions. There has been a proliferation of discipline problems and the negative experiences of recent years concerning the development of emotions, values, attitudes and motivation suggest that the affective effects of schooling leave a lot to be desired.

It is evident that neither a repeated listing or description of surfacing symptoms nor an offering of philosophical analyses of the issue will lead to a solution to these problems. The marginalisation of the affective side of educational goals is not a new phenomenon.[12] With the "cognitive revolution" emerging in the second half of the 20th century, the gap in the availability of scientific evidence for methods of supporting cognitive vs. affective development further widened. This process intensified as the findings of cognitive science were gradually incorporated into tools of education development, such as instructional materials or the theoretical frameworks of assessment programmes.

One of the consequences of public education becoming widely accessible is that secondary schools must be prepared to work with difficult students, who, in the past, dropped out of school for various reasons before they could enroll in secondary education. To achieve improvement, major research and development programmes should be launched and the causes should be carefully investigated. Thus far, however, we have not even completed a comprehensive scientific survey of problems or mapped out possible solutions. As indicated by the experiences of some countries, art and physical education may be part of the solution.

[12] When in the 1950s Bloom's initiative started the development of a set of taxonomies of educational objectives and evaluation, educational objectives were assigned to three main domains: the cognitive, affective and psychomotor domains. (This division roughly corresponds to the century-old Hungarian distinction between intellectual, emotional and physical education.) The taxonomy of the cognitive domain was quickly completed and had a major international impact — it played an important role in the first assessment programme of the *International Association for the Evaluation of Educational Achievement* (IEA). The taxonomies of the two remaining domains were completed at a later stage and had barely any practical consequences.

The *Matura* is in urgent need of modernisation.

10. *The transformation of the Matura must be continued*. The structure of the *Matura* did not undergo any significant changes for more than one and a half centuries and is in urgent need of modernisation. Major problems appeared around the mid 1980s, when it became clear that the *Matura* failed to fulfil its functions both as a reliable certificate of secondary education and as a, at the time much needed, filter to higher education entry. Reform plans were first drawn up a decade later and after another decade had passed the new standardised two-tier *Matura* was introduced.[13] The main features of the new system include standardised tests that do not vary between school types and the availability of standard and advanced level examinations, the latter of which are school-external. It is compulsory to take examinations in Hungarian language and literature, mathematics, history and a modern foreign language. A further 130 plus subjects are available to choose from.

The implemented reform of the *Matura* constitutes a significant step towards standardisation; the reliability and objectivity of the examinations have been greatly improved. However, the 150 year-old process of evolution in Hungarian education did not stop when problems were first identified — further major changes have taken place during the past two decades. The expansion of education, for instance, has extended to higher education. Hungary has adopted the three-stage higher education structure with the result that neither the final level nor the contents of higher education studies are decided when a student is admitted. That is, it is now pointless to force students to choose specialisations at secondary school as the new *Matura* demands.[14] An early decision is likely to be influenced by haphazard factors and to reflect parents' ambitions and plans rather than students' actual knowledge and competencies. It is pointless to force a decision at an age when students are burdened with the many developmental challenges of adolescence and are at very different stages of social and emotional *matura*tion. The two examination levels of the current system introduce another selection factor into public education, where clearly not only abilities but also social status play a role.

The *Matura* system forces students to choose specialisations earlier than necessary.

The two-level structure has failed to fulfil expectations concerning its student selection function for higher education.

The two-level structure has failed to fulfil expectations concerning its student selection function for higher education. The plan was originally conceived at a time when there was heavy competition for admission to higher education.

[13] For a Hungarian language overview of the new Matura programme and the first experiences of the programme, see HORVÁTH & LUKÁCS (2006).

[14] Early specialisation is one of the most heavily criticised elements of the new system. Hoffman (2005) writes, for instance, "In most European countries subject-specific entrance examinations were abolished a few years ago as part of the Bologna process. The focus of assessment has shifted to general knowledge and skills and aptitudes required for the successful completion of higher education. In sharp contrast with international trends, the new advanced level examinations encourage narrow-focus learning with the aim to master "admission subjects". Moreover, the system has the effect of prompting students to concentrate on mastering the two "admission subjects" at the inevitable cost of neglecting their studies of general knowledge from as early as the age of 16." (HOFFMANN, 2005, p. 133)

It appeared to be a rational option to replace entrance examinations by a programme of advanced school leaving examinations. In the meantime, however, higher education has opened its gates to a much wider audience and most higher education institutions have chosen — in their own best interest — not to require advanced level examinations for admission. In line with the new three-level structure of higher education, student selection takes place within higher education: it is decided at the end of the three-year undergraduate programme whether a student can continue his or her studies at Master's level. The relationship between the two levels of the *Matura* is not clearly defined concerning differences either in terms of examination content (the nature of knowledge assessed by the standard level as opposed to the advanced level) or in terms of quantity. Admission to higher education institutions is based on a score point system, where advanced level examinations are worth extra points. This method of crediting, however, involves an unreliable conversion process and fails to reflect the (possible) knowledge discrepancy between the two levels.[15]

The highly heterogeneous system of *Matura* subjects is not consonant with either the overall direction of development in public education or the demands of higher education.

The highly heterogeneous system of *Matura* subjects characterising the Hungarian school leaving examination programme is not consonant with either the overall direction of development in public education or the demands of higher education. The choice of more than 130 examination subjects adds unjustifiable complexity to the *Matura* making it incomprehensible and unnecessarily costly. A reliable assessment of core competencies and general knowledge would offer final year students a far more accurate indication with regard to the subject areas they should choose for their further studies and it would provide a far more reliable test of suitability for higher education or tertiary vocational training institutions than the results of a specialised examination. The absence of natural sciences from the list of compulsory examination subjects gives rise to a major conflict. It has serious consequences for professions in engineering and science: the student base of these higher education courses has substantially diminished.

The student base of engineering and science programmes of the universities has substantially diminished.

For the purposes of selection for higher education institutions, a considerably smaller number of examination subjects would be sufficient. The American Scholastic Aptitude Test (SAT, 1926–), for instance, consists of only two components: a verbal and a mathematical section. It is essentially a test of general aptitude for using knowledge and, as demonstrated by SAT-related statistical analyses, has successfully fulfilled the function of higher education entrance examinations. It is not applicants' familiarity with specific subjects that needs to be assessed by entrance examinations but whether applicants possess

[15] The two-tier *Matura* has been criticised by higher education instructors as well. "Since universities have decided to accept standard level examinations, the two levels have become essentially meaningless. If there are two levels, it should be ensured in some way that they fulfil their original functions. And if there is no way of doing that, the two-level system should be relinquished; there is no point in overcomplicating the system for nothing." (TÓTH, 2006, p. 206)

[TABLE 3.2] EXAMINATION APPLICATIONS IN THE *MATURA* PERIOD MAY–JUNE 2007

SUBJECT	STANDARD	ADVANCED	TOTAL	PERCENTAGE OF ADVANCED RELATIVE TO ALL APPLICATIONS	PERCENTAGE OF ADVANCED RELATIVE TO ALL SCHOOL LEAVERS
Hungarian language and literature	92,826	4,302	97,128	4.63	101.69
Mathematics	91,496	4,088	95,584	4.47	100.08
History	87,171	8,799	95,970	10.09	100.48
English language	45,808	3,900	49,708	8.51	52.04
German language	29,013	1,944	30,957	6.70	32.41
Informatics	25,118	1,307	26,425	5.20	27.67
Geography	20,967	591	21,558	2.82	22.57
Biology	16,161	5,254	21,415	32.51	22.42
Physics	66,68	1,353	8,021	20.29	8.40
Chemistry	3,230	1,822	5,052	56.41	5.29
Economics	3,403	652	4,055	19.16	4.25
Physical education	3,263	146	3,409	4.47	3.57
Marketing	2,417	221	2,638	9.14	2.76
French language	1,391	647	2,038	46.51	2.13
Art and visual culture	1,634	49	1,683	3.00	1.76
Tourism	1,377	177	1,554	12.85	1.63
Art history	1,498	29	1,527	1.94	1.60
Social science	1,420	81	1,501	5.70	1.57
Law enforcement	1,270	0	1,270	0.00	1.33

[SOURCE] Based on data by ÖTVÖS (2007).

the skills needed for academic success in their studies. SAT subject tests have recently been introduced in literature, (US and world) history, mathematics (at two different levels covering the same topics), science (biology, chemistry and physics) and languages.

We have so far looked at the two main problems characterising the *Matura* — its two-level structure and the proliferation of examination subjects — from a theoretical point of view. The data presented in *Table 3.2* reveal that, in terms of the number of applicants, the two problematic features do not appear to have any practical advantages either.

While test development for more than 130 *Matura* subjects has a considerable cost, most of these subjects are chosen by only a few examinees.

Table 3.2 summarises application data from 2007 displaying examination subjects with more than 1000 applicants. The first notable feature of the data is that only a total of 19 subjects met the frequency criteria, i.e., each of the remaining subjects was chosen by less than one per cent of all examinees. A total of 189 examination subjects (including foreign language versions) were chosen by students, of which 116 subjects were taken by fewer than 50 people.

The standard-level physical education test, for instance, was taken in English by 3 people, in German by 2, in Romanian by 1, in Serbian by 4 and in Slovakian by 1.

Few of those taking the test choose an advanced examination in compulsory subjects.

Another notable finding is the low ratio of advanced level examinations in compulsory subjects: in Hungarian language and literature and in mathematics the proportion of advanced level examinations remained below five per cent. This means that only one in 20 of those taking the test chooses an advanced examination in these subjects. Since the choice between the two levels is left to the student and does not depend on any prior assessment, there is no guarantee that it is the most gifted and best prepared five per cent of students who take the advanced tests. History is the only compulsory subject where the advanced examination was chosen by at least 10 per cent of students; even the two most popular languages, English and German, were taken at the standard level more than 90 per cent of the time.

Our third comment concerns the very low proportion of natural science subjects. Only five per cent of students applied to take an examination in chemistry and eight per cent in physics. (These two subjects are in fact known to be the least popular among students in every year of public education.) The figures clearly indicate that science subjects are at a considerable disadvantage in secondary education and the student base of science and engineering higher education courses has critically diminished.

Only one more subject should be added to the current catalogue of compulsory examination subjects (mathematics, Hungarian language and literature, history and a foreign language) to create a school leaving examination system that, while preserving Hungarian traditions, conforms to international trends: this subject is science. Scientific literacy is regularly assessed both by PISA and by TIMSS surveys, and the PISA's theoretical framework unequivocally views this area as part of general knowledge in modern societies.

The contents of examination subjects are decided unsystematically, with no reference to scientific norms, and the accreditation process fails to guarantee the necessary standards across all subjects.

The choice of examination subjects should be reconsidered. The current (constantly expanding) list of more than 130 subjects is unnecessary, costly and fails to meet the above requirements. The contents of examination subjects are decided unsystematically, with no reference to scientific norms, and the accreditation process fails to guarantee the necessary standards across all subjects. It is clearly impossible to develop a scientifically sound examination system for such a large number of subjects within reasonable cost limits. Public education cannot be expected to document these specialised areas of knowledge at an examination level. Moreover, there is no need for prospective higher education students to possess the kind of specialised knowledge that can be acquired during a single college course. They do, however, need to possess the general abilities that will enable them to continue their studies in higher education. The assessment and documentation of all areas of knowledge other than the compulsory subjects mentioned above should be the responsibility of higher education and tertiary vocational training.

■ SUGGESTIONS

1. A short-term objective should be to create a comprehensive, twelve-year public education structure and all further development plans should be placed in this framework. The basic legal conditions for this system have already been created by the extension of compulsory education to age 18. As the next step, learning support programmes must be developed and implemented in order to ensure that these twelve years of schooling provide high quality education leading to the successful completion of secondary school. Currently there are two types of secondary school that offer complete *Matura* programmes and thus satisfy the requirement of comprehensiveness. The programmes of vocational training schools should be gradually altered to approximate vocational secondary school programmes and, as the next step, differences between vocational and academic secondary schools should be progressively reduced until a uniform public education programme has been achieved. Rather than dramatic restructuring, the renewal process needs a series of small but systematically implemented steps leading to steady quantitative progress whereby an increasing number of students attain higher standards. Our objective must be to enable every young person in Hungary (at least 95 per cent of the population) to complete secondary education and sit the school leaving examinations by 2025–2030. Given the education reform programmes launched in other countries, a less ambitious objective would jeopardise all hope of Hungary preserving its competitiveness. However, distant though this programme may appear, the first steps toward realisation must be taken right now. First, legal and management frameworks should be adjusted to this goal and regulations should be developed in this spirit. And second, any future policy proposals should be evaluated with respect to the question of whether they are consistent with these long-term objectives.

2. A comprehensive but relatively short-term research and development programme should be set up to review the legal framework of public education and a scientifically based law making programme should be established to act as a guide to future policy planning. Policies must be consistent and point in the same direction, i.e., it must be ensured that they do not cancel out each other's results. The changes they introduce should be of a manageable scale and their impact should be trackable. The principles of evidence-based education policy, which have been adopted by several countries, should be adapted to Hungarian conditions and observed within the bounds of local legal and legislative frameworks.[16] A scientific investigation is needed into the causes of the emergence of an exceptionally selective school system in Hungary. We should find out what

[16] A several-year OECD programme has been launched to disseminate the tools of evidence-based education policy. For an overview of the outcomes of discussions on evidence-based policy, see OECD (2007b) and, in Hungarian, an OKA background study by HALÁSZ (2007).

keeps the system alive, and what the concerns are which motivate schools to admit students selectively and parents to prefer some schools to others. What is it that sustains the — in many respects false — belief that the best or the only way of gaining access to higher education is to enrol children in a "better" secondary school? What legal anomalies arise from the contradiction between the public's rights to school choice and schools' rights to student selection? There should be an investigation into what legislative tools and support options are available to turn these interests around. The public education assessment and evaluation system should be extended in order to permit the monitoring of local (regional, micro-regional, local government, maintainer and school level) implementations of selection. A system of indicators characterising the various modes of selection should be developed. Similarly to the PISA programme, the national assessment system should also measure and publish differences between schools on a regular basis. Research and development programmes should be set up to develop educational methods suitable for teaching heterogeneous groups of learners.

3. As suggested by *Carrol*'s (1993) model, one method of dealing with input differences in an effort to homogenise output at the highest possible level is to exchange developmental differences for learning time differences. Some students take longer, while others take less long to attain the same objective. If this is disregarded, the expansion of secondary education is doomed to failure. A research and development programme should be set up to investigate motivation problems and to develop teaching methods that can raise motivation and allow students to experience success. Current research and development programmes responsible for laying the foundations for the implementation of a comprehensive secondary (public) education system should be expanded and new ones launched. Workable solutions must be found and their effectiveness must be scientifically tested. Learning and teaching methods meeting the needs of students characterised by faster or slower than average progress should be developed for use in and outside the classroom. Out-of-school learning schemes should be devised ensuring an optimal workload for student populations substantially deviating from the average. Students showing slow progress should be given the opportunity to extend their study period and master the necessary knowledge over a longer period of time (but to a standard level of proficiency). At the same time, secondary school students who are ready for higher education should be permitted either to move on or to obtain "real" higher education credits counting towards their degrees while staying at secondary school.

4. The objectives of enhancing the affective domain should be set out on the basis of scientific evidence. An indicator system should be created to measure the effects of methods aimed at developing this domain. Research should identify those elements of the various school subjects which have the potential to be used

in a programme of affective education (e.g., visual arts, music or reading literature). Activities that may play a significant role in enhancing affective development (e.g., group work) should be given special emphasis. The development of psychomotor skills is a similarly neglected area in secondary education. Just as for the affective domain, a detailed psychomotor taxonomy capable of being put into operation should be drawn up and the benchmarks, indicators and assessment methods of psychomotor education should be established. The traditional concerns of fine motor movement (such as handwriting) should be supplemented with modern needs, such as computer keyboard skills. Subjects contributing to the systematic enhancement of motor skills may include drawing, visual arts, musical instruments, dance, physical education and a variety of sports.

5. The relationship between public education and vocational training should be reconsidered and a substantial section of vocational training currently embedded in public education should be gradually transferred to other educational systems, mostly to tertiary education. It is an unacceptable system where the student base of vocational training consists of students who have stopped making progress in their studies, experienced repeated failures and are hampered in a variety of ways. These students must receive the kind of support outlined above, which should be an issue entirely independent of vocational training.

6. The — by now functionless — two-tier structure of the *Matura* should be abolished and examinees' knowledge should be shown on a single, sufficiently differentiated scale. The *Matura* system should be improved to ensure that it both fulfils the function of a school leaving examination and satisfies higher education admission policies while at the same time preserving the positive outcomes of the earlier reform. Also, the *Matura* should be made concordant with the general trends taking place in higher education. It should motivate students and reliably measure genuine achievements but should not force a premature choice or impair equality of opportunity. Its function as a school leaving examination calls for criterion-oriented evaluation, whereby pre-defined standards must be attained. This means that a system of binary grading (pass vs. fail) would essentially suffice (similarly to the system used for driving tests). As an entrance examination to higher education, however, it needs a highly differentiated, many-valued evaluation scale that permits applicants to be ranked. To meet both conditions, the evaluation system must both assess whether the student meets the pre-defined criteria (standards) and show the level of performance above the minimum standards. Modern testing models (based on Item Response Theory) permit the development of scales of this type. The above conditions would be satisfied, for instance, by a scale where 200 score points are needed for a pass, 500 points mark the level showing excellent performance (Grade A) and further increasingly challenging tasks could be included leading, perhaps, to a thousand score points, thus allowing different levels of outstanding performance to be distinguished.

7. The modernisation of the *Matura* system must involve the scientific establishment of a set of subject standards, which should be continuously improved, refined and updated. The agency responsible for the development of examination contents should be reinforced and a network of academic working groups (ideally affiliated to university research and training centres) should be set up, where the standards are continuously updated. Natural sciences should be made a compulsory examination subject (with a choice between integrated natural science and one of the sub-disciplines). With the introduction of a fifth compulsory subject, the endless row of option subjects can (and must — school leavers cannot be burdened any further) be cancelled.[17]

8. The new evaluation scale can be developed from the existing system. This technically involves the merging of the test banks pertaining to the current two levels and the parametrising of all questions on a common scale. The "pass" threshold should be specified with reference to performance criteria, i.e., pre-defined standards, while it is advisable to set the threshold for a grade A based on norm-referenced criteria. The above-excellent portion of the grading scale should be adjusted to the range of students' performance, i.e., the scale should be detailed enough to differentiate levels of performance even in the top range. To prevent *Matura* grading scales from depreciating and to protect scores from inflation, the mathematics and science scales should be linked to international survey standards (PISA, TIMSS). The new *Matura* should meet the standards of the current externally administered advanced level examination.

■ COSTS AND TIMING

The resources needed for the development programmes aimed at creating a unified school system are available to the comprehensive school model programme of the New Hungary Development Plan (ÚMFT). The desegregation programme may be funded by various ÚMFT resources. It must be ensured, however, that these programmes do not solely focus on resolving problems generated by the current dysfunctional system but also devote attention to the sustainable renewal of operation and the creation of a segregation-free comprehensive school system. The Hungarian Genius Programme offers funding opportunities for schemes aimed at nurturing the talents of gifted students. The goal of establishing a comprehensive secondary education system is clearly concordant with the approach of "everyone is talented" underlying the Genius initiative.

[17] Given that the *Matura* has just recently been reformed after a period of one and a half centuries during which no changes had taken place at all, it is probably difficult to see why further changes are needed and thus some voices are in favour of no change. Our view, in contrast, is that the positive elements of the reform must be reinforced while obvious mistakes must be rectified as soon as possible.

The ÚMFT also allocates resources for the improvement of the *Matura*. The standardised school-external examination programme proposed here will require more resources than the current standard level examinations do. The simplification of the system and the elimination of option subjects could, however, compensate for the increased costs. Also, current demographic trends predict a temporary reduction in the number of school leavers, which may also be a source of saving.

■ LINKS TO OTHER PROGRAMMES

The delivery of this programme is contingent on the success of efficient skills development programmes at the first stage of primary education and on the availability of an assessment system providing regular feedback. Given these prerequisites, the shortest reasonable time course of the full expansion of secondary education is 18–20 years.

The renewal of the final stage of public education builds upon the outcomes of programmes concerned with earlier stages of schooling. It is a widely recognised fact that the problems characterising secondary education can be traced back to previous stages, i.e., the viability of the uniform expansion of public education hinges on the successful renewal of pre-school and primary school education. A good start — an adequate level of development in basic skills and competencies needed for learning — is an indispensable precondition for successful education in later years of schooling and for a reduction in the incidence of students dropping out of school.

The proposed assessment and evaluation system can be assigned a specific function if educational advancement is viewed as progress towards the completion of secondary education. The evaluation scheme applied to students in years 8 and 10 could be built around the same principles as the new *Matura*. The renewal of the final stage of public education is consonant with the proposals concerning the reform of teacher training. As the final stage of public education is the target domain of Master's level teacher training, the renewal of the latter is a prerequisite for the expansion of secondary education.

■ EXPECTED GAINS AND RISKS

The objective of completed secondary education essentially consists in preventing students from dropping out. Higher levels of trainability and re-trainability bring direct benefits in the labour market. Other benefits include all those gains that the OECD (2007*c*) study interprets as the "social outcomes of learning."

The proposed development programmes do not have any known side effects. Given that the direct beneficiaries of the proposed programmes are among the most vulnerable layers of society with the least chance of enforcing their rights, the implementation of the programme cannot rely on their support.

A professional consensus is now emerging with regard to the need to reinforce the position of science education. The proposed inclusion of science among *Matura* subjects is expected to receive fairly broad support.

The implementation of these proposals is in short-term conflict with the interests of institutions benefitting from the current selective system. A large number of educators are involved in planning optional *Matura* subjects, among whom the proposal to abolish these subjects is likely to be unpopular.

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