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# Analyses & Opinions

Analizy i Opinie

## **The Reform of the Matura Exam - Evaluations and Recommendations**

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# The Reform of the Matura Exam - Evaluations and Recommendations

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- *The new Matura exam should fulfil three essential goals: effectively mobilise young people into meeting ambitious educational challenges, modernise higher education recruitment process and provide an efficient tool for controlling the quality of teaching.*
- *Efforts should be taken to develop a clear and detailed register of examination requirements, which will be integrated with the curriculum base. To this end, extensive work should be undertaken to develop new curriculum documents.*
- *Procedures for development of examination tools must be changed. Research has demonstrated a very low reliability of the existing systems for grading complex open-ended assignments (e.g. Polish papers or open-ended assignments in history).*

Poland and Poles need good education. The new Matura exam (the Polish equivalent of the General Certificate of Education Advanced Level), initially planned for 2002, has been moved to 2005 (in 2002 as few as 7000 students sat the new exam.). In just over a year the graduates of three-year secondary schools will sit the reformed Matura exams. In the successive years this change will encompass all the graduates of comprehensive secondary schools, that is about 80% of each year's students. What lessons has the experience of the 2002 Matura exams taught us? What preparations are being made today for the reform of the Matura exam? And what should

be done for the new exam to fulfil its primary task – which is to improve the Polish education system? The results of the study conducted by the Institute for Public Affairs at the request of the Ministry of National Education and Sport (MENiS) into the reform of the Matura exam incline us to formulate several important evaluations and recommendations. These may be divided into three basic groups: the structure and functions of the new Matura exam, the institutional preconditions for the success of the Matura reform, and the quality of examination tools.

## The structure and functions of the new Matura exam

### Functions of the Matura exam should be clearly defined

The Matura exam should become a routine event crowning the general education at the secondary level. With the exception of the shrinking segment of basic vocational schools, it is clear that the Matura exam will become wide spread in the near future. The selective function of this exam should be split into two sub-functions. Firstly, a positive exam result should confirm the graduate's attainment of minimum competencies needed to participate in the economic, cultural and political life. Secondly, the Matura results should be a major criterion of recruitment for university-level studies.

The reform of the Matura exam is introduced under the slogans of objectivity and comparativeness.

While being important, these values are of an instrumental character. Objectivity may support the rationalisation of decisions made on the basis of the Matura exam results. But objectivity should also become the starting point for improving the socialisation function of the Matura exam. As well as renewing the Matura exam in a moral sense, the reform should provide an opportunity to overcome such pathologies as the social acceptance of cheating, favouritism and quasi-corruptive private lessons. Finally, it must be an effective tool for mobilisation and encouragement of young people to undertake ambitious tasks. The control of the quality of teaching should also be a very important function of the Matura exam.

### The new Matura should modernise and rationalise the process of higher education recruitment

While the creators of the new Matura exam are attempting to blur or minimise differences between the above-mentioned selective sub-functions of the Matura exam, the representatives of academic communities are consistently emphasising those differences. The representatives of higher education

institutions typically express a lack of confidence in the goals and range of secondary school teaching, ways of teaching and methods of verifying the acquired knowledge. Educational goals are described as ambiguous and disintegrated, the scope of teaching is loosely connected with the imprecisely defined goals while the standards and methods of

teaching and verifying the acquired knowledge are focused on temporary memorising and recreating. The university studies require intellectual self-dependence which, academic communities claim, is not taught at the secondary school. There is a chance, just like in other systems, for the Matura exam in Poland to become a significant element of recruitment process for university-level studies. This calls for overcoming the mistrust of academic communities, which will be possible after we see to what extent the new formula of the Matura exam will

allow for differentiating between students according to the level of intellectual competence which constitutes a prerequisite for efficient studying and passing of exams at an academic level. This means that the extended exam should be constructed mainly in accordance with the logic of prognostic accuracy. The prognostic value is mainly an empirical issue and, therefore, many years of studies are needed to research the correlation between the Matura results and academic achievements.

## **The new Matura should be an effective tool for controlling the quality of teaching**

**T**he popularisation of comprehensive secondary schools implies a danger of a dramatic decrease in the level of education. While this is true that this process will entail a decline in average educational performance, it is important that the decline be kept as small as possible and does not result in a dramatic defragmentation of the education system at the secondary level. The improvement of education consists not only in enhancing the achievements of the best students but also in decreasing the disproportions between the weakest and best students and developing, through education, the social capital necessary for counteracting the phenomena of social exclusion.

A key issue in controlling the quality of secondary school teaching is the universality of the graduates sitting the exam. Adherence to the principle of the non-obligatory character of the Matura exam, while reasonable in the past, is irrational today. A

secondary school leaving exam – analogical to the test and exam in the gymnasium (lower secondary school) – should be obligatory. To avoid problems related to the ambiguous status of secondary school graduates who have not passed the Matura exam, it should be possible to adopt the French model whereby the type of secondary school completion certificate depends on the result of the Matura exam.

Combined with the popularisation of secondary schools at the level of nearly 80%, the educational revolution at a higher level creates yet another challenge for the new Matura exam. It appears that the Matura exam may have the function of minimising the decline in average performance at the level of higher education. The new formula of the exam should set the requirements sufficiently high to select the part of the population that can best profit from the advantages of higher education. Of course, this criterion should correspond to the

number of vacancies available at higher education establishments. Those requirements will ensure that the establishments of higher education operating on

a commercial basis will not be accepting the weakest secondary school graduates simply because they can afford tuition fees.

## Mathematics should be a compulsory subject

Compulsory external written exams should test achievements in the area of Polish language, mathematics and a chosen foreign language as well as a more in-depth and broader knowledge in at least one chosen subject. Compared with the 2002 new Matura exam, the formula adopted for the 2005 exam introduces four basic changes. Firstly, the mathematics exam at a primary level is no longer obligatory. Secondly, it will be possible to pass the Matura exam by passing just three exams at the primary level. Thirdly, the criterion of passing the exam at an expanded level has been abandoned. Fourthly, the Matura sitter will be able to decide whether or not to sit the exam at the expanded level while the exam is already in progress.

It is hard to find justification for the exclusion of the mathematics exam. While being supported by a relatively high number of secondary school teachers, this solution is not approved by the staff of higher education establishments, including those from humanities faculties. Taking into consideration the number of hours for teaching mathematics in primary to secondary schools, the results of PISA international school achievements tests, requirements of the labour market, the needs of the information society and the broadening of the digital divide, the decision to exclude mathematics from

the Matura exam must be assessed as irrational. From the point of view of education quality control, resignation from the obligatory mathematics exam means a significant limitation of the area common for all exam-sitters. This is a serious hindrance to assessing whether the schools satisfy the minimum teaching standards. The broad scope of diagnosis at the primary level would make it possible to identify schools with the highest percentage of graduates who do not fulfil the minimum requirements and to plan compensating measures.

## Try to be good at something – at least one exam at an expanded level

The exam at an expanded level should be obligatory with regard to at least one subject and should have a determined pass criterion. There has been a worrying change in the socialisation message of the exam. The formula for the year 2002 was the following: you must fulfil the minimum requirements in quite a broad range of subjects – you must be an efficient user of your native tongue, be proficient in using the language of mathematics at a level needed to participate in the modern society, be able to boldly cross the borders of culture and languages, i.e. have a practical knowledge of a foreign language. But this is not enough to gain the status of cultural maturity – in addition, you must be very good at something, you must feel that you are a specialist in some area of culture. This is why you must pass at least one exam at an expanded level. This was a message that could

have been convincing for many young people and could have mobilised many of them into an effort they would not have otherwise made.

The 2005 solutions have changed the interesting message of the 2002 Matura exam to something like: you don't have to be good at anything, you can be average. Many young people will "buy" this convenient message. The resignation from the criterion of passing the exam at an expanded level means also that the education system will not attempt to influence the standard of candidates for institutions of higher education. 70-80% of the young people in each successive year will be entitled to undertake university-level studies. They will all be "up for buying" on the market of candidates for institutions of higher education, most probably to the satisfaction of the weakest commercial schools.

## Choice of the Matura subject one year before the exam

The decision on choosing the subject at the expanded level should be made at least a year before the exam. Postponing the deadline for a final decision on the passing of the exam at an expanded level until the time of the exam is unacceptable. Firstly, it will mean a huge waste of paper and money. Secondly, it will be hard to assess the number of examiners needed. Thirdly, postponing the deadline for making the decision

will most probably have adverse psychological effects. We all know that it is much easier to undertake ambitious tasks when there is still a lot of time ahead. Postponing the decision lowers the mobilisational value of the exam. The student should choose the examination subjects at an expanded level not later than at the end of the school year preceding the Matura exam and undergo an expanded course on the chosen examination subject or subjects in the

last year of the school. This solution would call for a stronger connection between the exam and teaching, and would increase the school's responsibility for preparing students for the Matura exam.

## Several types of secondary school completion certificates

We believe that three types of certificates of secondary school completion should be introduced:

- Students who have attained graduation but have not passed the exam at the primary level would receive a certificate of secondary school completion without the rights resulting from the Matura exam.
- Students who have passed the exam at the primary level would be eligible for the Matura certificate without the right to enrol in institutions of higher education. This certificate would entitle the holder to apply for licences for jobs where the secondary education is required (e.g. driving instructor or soccer referee). The primary-level Matura exam would also entitle the student to continue education in post-secondary schools and at courses preparing for the Matura exam at an expanded level.
- Students who have passed at least one exam at an expanded level would receive the full Matura certificate, which would entitle the holder to enrol in institutions of higher education.

Of course, a possibility should also be left – although restricted – of repeating failed exams, or exams passed at an unsatisfying level. For economic reasons, the number of free repeats should, however, be restricted. The student should have the right to one free repeat.

## The institutional and organizational preconditions for the success of the Matura exam reform

### Need for changing the placing and structure of the Central Examination Commission

The present political placing of the Central Examination Commission (CEC) does not appear to be functional. The institution with a huge range of responsibilities has, in practice, the status of a second-rate state office. Efforts should be made to increase the status and autonomy of the CEC.

The most important change, which in our opinion is imperative for improving the tool-

making procedures, is the creation of subject teams. Such teams should include all the employees of the commission at the central and district levels dealing with the given subject. The team headed by a chairperson would be fully responsible for the quality of the created examination tools. The basis for the team's activity should be a long-term (at least 10-year) action plan. The team could, of course, be assisted by external experts.

### Training of examiners and teachers preparing students for the Matura exam

Examiners trained before the 2002 Matura exam should refresh and update their knowledge. Both the staff of the examination commissions and we ourselves believe there is a need for many more practical exercises for examiners. Such training is particularly important in the case of examiners working with tools such as open-end tasks (e.g. papers). Unless funds are procured for the training of examiners, the quality of the exams will be at risk. In the nearest future it would also be worthwhile to consider a large-scale recruitment of examiners from outside the teaching

community (mostly the staff of higher education establishments).

As many as three-quarters of teachers declare the need for training related to the new Matura exam. The teachers understand that the introduction of new regulations concerning the Matura exam has an impact on the entire school and hence they expect training on the secondary school educational programme, including the issues related to evaluating and preparing students for the new exam. This is also an important challenge for the network of teacher advisory centres.

## Rationalising the list of exam subjects

In accordance with the adopted formula of the 2005 Matura exam, the examination commissions are required to prepare external exams for 25 subjects, most of which must be available at two levels. If the languages of ethnic minorities are added, we can see how huge a task it is. Even though most teachers and deans of institutions of higher education believe the wide range of available exam subjects to be a good solution, we should analyse the flaws of this formula. The CEC expects that not more than 500 students throughout the country will sit exams in the following subjects: Slovak, Swedish, Portuguese, Spanish, Italian, Latin and ancient culture, Greek and ancient culture, and dance. High-quality examination tools are expensive. We cannot afford to create and develop a valuable examination system on such a large scale. The list of subjects for which examination tools are centrally created and developed should be drastically reduced and possibilities should be created for expanding the list of subjects for which examination tools could be created at the school level.

We have no doubts that there should be four obligatory subjects at the written external exam. The problem concerns the list of foreign languages and additional subjects. Let us begin with the foreign languages. In creating the list, we should take into account the scope of teaching foreign languages in the Polish secondary schools. Considering the latest data, the list should include: English, German, Russian and French. The scope of teaching foreign languages and the readiness of exam-sitters to pass exams in other languages should be systematically studied, and we should be prepared to expand this list at any point in time.

The CEC should be fully responsible for the quality of exams concerning a limited group of subjects to choose from (in accordance with our proposal – at an extended level). We believe that this group should include: the above-mentioned foreign languages, Polish, mathematics with elements of information science, physics with astronomy, chemistry, biology, geography, history and history of art.

The remaining exams should be made part of internal school exams. In such case, the examination commissions would take on themselves a limited responsibility for the quality of those exams. While the District Commissions (DEC) would supervise the creation and development of those exams, they would be prepared and implemented at the school level. The main tools available for the DEC to influence the quality of school exams would be training and accreditation of examiners, development of procedures for preparing exams and random supervision of the course and results of the exams, including in the form of random inspections of exam samples.

School exams should include exams in the languages of national minorities and, possibly, those languages that must be included in the Matura exam in accordance with international agreements.

The idea of graduation papers prepared in the last year of the secondary school and presented by exam-sitters at the school exam certainly merits our attention. But, in order for these papers to be a valuable element of the exam, it would be necessary to restore paid tuitions. Without a teacher's assistance and an examination board's supervision of assessment procedures, there is a risk that those papers will not fulfil the required standards.

## It is necessary to modify the schedule of Matura exams

In other countries, external exams which provide a basis for further education are held earlier than in Poland. In view of the fact that evaluation and control procedures are time-

consuming, a possibility should be considered to holding written exams in late March – early April.

## Study of acceptance of the new exam formula among educational communities

The success of an innovation depends not only on its objective value. The development of no matter how good solutions will not translate into a real social change if they are not accepted by those who will implement and use them. It is therefore worthwhile to systematically study the attitude of educational communities (particularly secondary and higher schools) to the new formula of the Matura exam. Regardless of even the most convincing pedagogical arguments, this attitude may be decisive for the fate of the new Matura exam.

In our study we have found a high level of acceptance of the new formula of the Matura exam among secondary school teachers as well as a cautious satisfaction with many of the proposed changes among the authorities of higher education establishments. A definite majority of teachers of the Matura exam subjects and deans of higher education establishments welcome the fact that the external written part of the Matura exam will be made uniform for all schools and accept the

principle whereby written assignments will be checked by external examiners. Most teachers and representatives of higher education establishments believe that, by applying procedures for standard grading, it is possible to accurately evaluate the quality of exam papers. The choice of a majority of Matura exam subjects is accepted. The teachers also say that they do not agree with the opinion that external exams undermine their position in schools or that they provide evidence of a lack of confidence in their knowledge and skills. For the deans, external exams are a condition for credibility of the Matura exam. In many major respects, the new formula of the Matura exam is much better assessed than the one currently in force. These declarations indicate that both the secondary school teachers and the academic communities are ready to take part in and support the reformed Matura exam.

## The quality of examination tools

### A detailed register of examination requirements is needed

The conflict around the information brochures prepared for the 2005 Matura exam and the accusation of the Central Examination Commission of curriculum-related usurpations have demonstrated the need for defining clear educational goals and establishing links between those goals and educational contents and examination standards. External exams are not a value in themselves. Their worth is in how well

they fit into the education system and help improve its quality as well as how accurately and reliably they evaluate student achievements. Work should be undertaken on creating a clear and detailed register of examination requirements. As the system of examination requirements should be integrated with the curriculum base, we need to undertake wide-ranging efforts to create new curriculum documents.

### It is necessary to change the strategy for standardisation studies

Adopted in 2002, the strategy for preparing examination sheets does not assure their sufficient quality. The examination tools may be developed using two strategies. Under the first strategy, the quality of examination tools is ensured by extensive standardisation studies. Under the second strategy, standardisation studies are much more limited and allow only for rough estimate of the major characteristics of the examination tools developed by experts. In this case, therefore, the burden is on post factum procedures. Having a complete set of raw data from the given edition of the exam, corrective procedures are applied, mainly with view to correcting the difficulty of scales and

harmonising the results of evaluations by different examiners.

The strategy for development of tools for the 2002 Matura exam was defective. In the preparatory stage the use was made of the expert approach supplemented by modest standardisation tests (in the case of Polish essays there were no such tests at all). However, the raw results of the exams were treated as complete and reliable evaluation of the school achievements of students sitting the Matura exam.

In the future it would be advisable to adopt a mixed strategy. The first strategy should be used in the case of tools based on close-ended tasks or well-structured short reply tasks, while the second

strategy should be used for complex open-ended tasks.

The development of examination tools is a long-term process. One cannot expect that a good tool will be created as part of a single idea – standardisation test – corrections – ready product cycle. Sometimes three or four cycles are needed to obtain a tool with

the desired characteristics. Bearing this in mind, the tool building process should be planned well in advance. Preparations for the 2005 Matura exam will, of course, be hasty, but we should already start preparing an action plan for each examination subject for at least ten years.

## It is necessary to introduce post factum control procedures

The conducted studies have demonstrated that the reliability of scoring systems for complex open-ended tasks (Polish essays, open questions on history) is very low. It is estimated that how the paper is graded depends as much on its quality as on the examiner to whom it has been allocated. The use of such grading systems would mean that the school teacher's partiality would be replaced by an equally serious problem of "randomisation noise" affecting the objectiveness of assessment of the Matura papers by

an external examiner. If the postulate of objectivity is to be treated seriously, it is necessary to change procedures for development of examination tools and introduce methods for post factum correction of grades awarded by the examiners.

\* \* \*

Finally, we propose to look at certain issues which should be discussed over the next few years with regard to the educational policy at the secondary and high school level.

## Development of the higher education system

In highly developed countries efforts can be seen to generalise the university-level education by means of a series of platforms - outside the main educational trajectory – for creating links between institutions of higher education and secondary schools and the labour market. Institutions of higher education organise programmes that enable supplementing the

knowledge or passing exams necessary to qualify for university-level studies. Some faculties prepare separate recruitment requirements for adults. On the other hand, institutions of higher education offer classes for secondary school students. Of course, care must be taken to ensure that an increased access to the university-level education (in accordance with the European directive for

creating a life-learning society) does not result in lowering academic standards. Yet the system should be as permeable as possible so that, after fulfilling given requirements, everyone can attain high professional and academic degrees. In the future it would be necessary to prepare a system of exams equivalent to the Matura exam, which could be taken outside of the main education stream. The period of work and professional experience would

then be considered as significant factors of maturity. In this way, the people who for one reason or another did not pass the Matura exam in the past would have a chance to participate in the system of occupational advancement and would be able to improve their occupational skills. The fulfilment of this postulate seems to be an important precondition for promotion of continuous learning.

## Promotion of the International Baccalaureate

From the point of development and competitiveness of the Polish educational system it seems important to increase the number of schools in which students can prepare for the International Baccalaureate exam (IB). It

would be particularly important to assist schools from the educationally neglected parts in Poland in obtaining the IB certificate and establishing a system of bursaries for students from impoverished backgrounds.

## Introduction of several types of the Matura exam

It is worth examining the possibility of introducing the following types of exams apart from the general Matura exam: vocational, technical and artistic for students from specific types of schools. The development of a formula for such exams is not a simple task. The French model may offer some inspiration here. The idea is to enable the largest possible group of students to pass the Matura exam in accordance with the chosen educational profile and interests. But, at the same time, the Matura exam should be

constructed to facilitate rather than restrict further education. There is a need for a debate in this respect among representatives of different types of secondary schools and institutions of higher education. Likewise, it is necessary to develop an optimal formula enabling a relatively broad access to university-level education for the holders of different types of the Matura certificates.

## **The Numerus clausus principle at certain faculties offering free education**

**T**he principle of numerus clausus, that is the principle of setting an enrolment limit, is applied in European countries with regard to certain faculties. In Poland these limits are set by the higher education institutions themselves. However, the enrolment limits for certain faculties may be determined at a central level in order to ensure a balance of the labour market and flexibly respond to its needs. The postulate is important in relation to free university-level studies, particularly those expensive and elite ones, e.g. art faculties. This would call for the introduction of a scholarship system, which would be the responsibility of higher education institutions (search for sponsors) rather than of the state.

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